

BEFORE THE
CALIFORNIA ENERGY COMMISSION

In the matter of:)
) Docket No. _____
California Carbon Capture and)
Storage Review Panel Meeting)

Final Panel Meeting

CALIFORNIA ENERGY COMMISSION
FIRST FLOOR, HEARING ROOM A
1516 NINTH STREET
SACRAMENTO, CALIFORNIA

WEDNESDAY, DECEMBER 15, 2010
8:30 A.M.

Reported by:
Kent Odell

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

2 DECEMBER 15, 2010

8:35 A.M.

3 MR. BAUER: Well, I'd like to welcome everybody to
4 the meeting of the Carbon Capture and Storage Review Panel.
5 This is the last meeting; this is the meeting in which we
6 are going to try to finalize our comments and
7 recommendations. And I want to thank everybody here, Co-
8 Chairman of the California Energy Commission, Jim Boyd, is
9 here. Jim, if you'd like to speak to us, I'd appreciate
10 that.

11 VICE CHAIR BOYD: Hello? It's working. We've got a
12 portable mic here, so I'm going to stand up here with not my
13 back to the audience, but apparently with your backs to me,
14 I apologize for that, I apologize for the room, although
15 it's cozy. You happened to pick the day when the Energy
16 Commission is going to be having a fairly weighty business
17 meeting. We usually start at 10:00, we're starting at 9:00
18 in our hearing room across the hall, which is why you're
19 over here in our secondary hearing room. But it's cozy. We
20 had a lot of fun times in this room here at the Commission.

21 Knowing this is your last meeting, I wanted to come
22 over here and express the appreciation of myself, in
23 particular, but the Commission, for all that you've done,
24 and I'm also, having talked to Mike and Mary the last couple
25 of days, want to, for them, the three of us kind of worked

1 with you to kick this issue off, I want to thank for them
2 also you for the services that you've rendered. We know
3 only too well, and you knew getting into this, and probably
4 know even more now, what a interesting issue this is, what a
5 weighty issue this is, what a complicated issue this is.
6 Like so much of what many of us do, there's no satisfying
7 everybody, and so, in the great American tradition of
8 seeking middle ground and compromise and resolution, I am
9 impressed with what you've done in the short period of time
10 that you've had to do it.

11 I also want to thank the Technical Advisory
12 Committee, who I know has worked behind the scenes mightily,
13 trying to provide the materials that you needed, and
14 wrestled with the subject, as well, and all those
15 representatives, some who are here, I appreciate very much
16 what you've done. I've followed it very closely since the
17 Energy Commission has kind of been the locust of activity in
18 the meetings, or housing for the technical advisory folks,
19 who are paying some of the bills that have supported a lot
20 of this, so I know what they've done and what they've
21 struggled with.

22 I, of course, want to thank all the other sister
23 State agencies who have been involved with this in the
24 Technical Advisory Committee, as well as waiting anxiously
25 in the wings and working with us, waiting for the outputs of

1 your efforts in order to guide us in the future. Tomorrow,
2 right down the street here at the Air Resources Board will
3 be a rather significant meeting of that Board on the subject
4 of Carbon Capture -- I'm sorry, of cap-and-trade, of which -
5 - I was going to say "carbon capture and sequestration --
6 one of these days will play, I'm pretty convinced, a
7 significant role. I've certainly had enough discussions
8 with Brian Nichols [ph.] and others about the fact that a
9 lot of people are looking towards the future of the CCS
10 projects as necessitating some kind of economic pay-back
11 that cap-and-trade may bring to provide enough incentive to
12 make projects cost-effective in the eyes of developers and
13 promoters, thus we can move forward here and perhaps a lot
14 of others will take that same subject into consideration.

15 It was not our desire, necessarily, to find
16 ourselves all collectively on the leading edge of this
17 subject, we're not a coal state, one would presume that is
18 where the action would be, but California just has a habit
19 of finding itself on the leading edge of the point of many
20 spheres in life, and activities, and this is yet another one
21 that I think will be meaningful to us and certainly
22 meaningful to others. While we won't be instantly jumping
23 into coal projects here in California, we are part of the
24 Western Climate Initiative, Western states who have vested
25 interests in coal. We, with our West CARB program have

1 already started an effort that was initiated while Carl was
2 still head of the NETL, for which we appreciate, on the
3 carbon capture and sequestration opportunities in natural
4 gas-fired power plants because they will be near the top of
5 the ladder in the natural gas power plants built in
6 California as it pursues its AB 32.

7 And I want to just give a special thanks to not only
8 all of you, but to Carl because he and I go back to his days
9 at NETL and discussions on West CARB and discussions early
10 on about the need to have a group like this to help
11 California if it's going to continue the efforts it had
12 underway in this area, and of course, Carl had the benefit
13 that I haven't realized yet of retirement, but we still
14 recruited him and he's been serving at no salary, so to
15 speak, for us on this subject, having been retired from
16 NETL, and I appreciate much his efforts, and I know what a
17 burden it is on all of you, not only just your time, but the
18 subject matter. And I can only imagine the number of people
19 who likely have approached you to talk about this subject.

20 So, again, we look forward to the results of your
21 efforts, I know you're going to have your last meeting
22 deliberations today, but you're going to continue to be
23 working on your report, and we look forward to receiving it
24 on or early next year, early next month, and we'll go from
25 there. And I hope you keep in touch with us, so to speak,

1 over time, and we may seek advice and counsel of you
2 individually if not collectively as we move into this next
3 future.

4 Next year is going to be an interesting year, and I
5 promised Carl I will join him in retirement at the end of
6 next year, since my last year of my second five-year term on
7 the Commission is over at the end of next year -- or, I may
8 have the desire to come back also, tired, I'd like to do
9 something else with life, so this is going to be the year
10 that many of us vigorously pursue this question, and I
11 desperately need the fruits of your efforts to carry that
12 subject on, so again, thank you for the Energy Commission,
13 thank you for the three State agencies who saw the wisdom of
14 this effort, thank you on behalf of all the State agencies,
15 and ultimately the people of California who have to
16 understand this issue as we talk about it more.

17 At 9:00, we will start our meeting across the way
18 and, at the end of our meeting, the Commissioners usually
19 give reports on special projects, and I'm going to give a
20 lengthy report on your efforts -- not the results of your
21 effort yet -- but just on your efforts and the fact you're
22 over here meeting in your last meeting, and all the work
23 that you have done for us.

24 So, in any event, hope to see you more in the future
25 on this subject. I know you're probably glad that you'll

1 have this behind you. Happy holidays to all, Happy New
2 Year, and thank you again for what you've done, and I wish
3 you a very productive meeting today. Good luck.

4 MR. BAUER: Thank you, Jim. And thank you to -- I
5 add my thanks to all those people that Jim recognized, the
6 Technical Advisory folks and all the hard work they've done,
7 the members of the various agencies and commissions that
8 have helped us, and especially to you, my fellow panel
9 members. While we don't all agree on everything, I think
10 we've had a very very collegial exchange on things, and
11 we've kept it focused on the issues and not on the
12 personalities, and I very much appreciated the dynamics of
13 how this panel has operated, not only the knowledge that
14 everybody brings, but the willingness to work for the common
15 good out of it, so I want to thank you again. And at the
16 end of the day, I hope I'll thank you if I survive this day.

17 Our goal today is to kind of get to the point that
18 our comments and recommendations are in final form, so that
19 we can finalize the report; as we all agreed, we would have
20 a short report of about 20 pages or less that would talk
21 about findings and recommendations, and then a larger
22 background report which would house all the white papers and
23 all the other things that we've done. The more immediate
24 need is to get the 20-page report out and we have a public
25 opportunity to speak at 9:15 for 45 minutes, and after that,

1 we're going to put the things up on the screen there to go
2 through them line by line, hopefully we're not going to --
3 we're going to look for what we want to say, but not
4 necessarily the detailed words in every case, I don't want
5 to get into a great editorial re-work unless it's a really
6 major flaw, and more likely we would want to delete some
7 things and rephrase some things, and so much is possible,
8 and then we'll get a final scrub out of it at the end of the
9 day, or end of the week as far as sending it back around for
10 everybody to sign up to.

11 So, any questions from the members of the panel?
12 Kip Coddington is on the line. Kip? I would ask you to
13 make one thing while we have a little time here. I think
14 it's important to recognize the recommendation out of
15 Cancun's Global Greenhouse Gas Meeting in Cancun, about the
16 importance of CCS. Kip, I didn't ask you to do this ahead
17 of time, but since you wrote some nice materials for us to
18 read, if you could just summarize that very quickly, I'd
19 appreciate that. Kip, you there? Kip, are you on mute?
20 Well, with that, we'll bring him back in when he comes back
21 around. Anybody have anything on the panel they'd like to
22 say while we have a little time here? Anything anybody
23 wants to bring to our attention, and then we'll get started
24 to put things up. Members of the panel? John Fielder, as
25 you know, is not here with us today, he's out of the country

1 for a couple weeks. He has made available both Mark Nelson
2 and Jennifer Hedrick from SCE, who worked with him on the
3 comments that he provided on the various recommendations, so
4 we can draw upon them for clarity as we need to.

5 MS. REHEIS BOYD: Carl, just one process question.
6 When we put the report together and we get a final, and
7 it's, you know, front to back final, will we be reviewing
8 that again? Or is it your intent that kind of that becomes
9 it or any ideas on -

10 MR. BAUER: I would hope that we would be done with
11 the review by this time, so unless there's something that
12 just jumps out that you thought didn't get caught, or wasn't
13 the way you anticipated that you want it called to
14 attention, I would just ask for those kind of "by exception"
15 comments. And that's most especially on the 20-page report,
16 which is going to be the one that gets the most amount of
17 circulation, I would suspect. They will all be publicly
18 available, of course. So, after today, we hope that we're
19 largely done with anything from the panel, other than
20 catching something that we thought we had agreement on, that
21 you don't think was lived up to, or needs to be corrected.

22 MS. REHEIS BOYD: And does that include the public
23 comments also, so people have the -

24 MR. BAUER: Yes, if there are no public comments in
25 after today, they're done.

1 MS. REHEIS BOYD: Okay, thank you.

2 MR. BAUER: All right, Kip, are you on the line?
3 We're going to begin to look at the material we have there,
4 and then we'll break from that to let the public hearing -
5 I'd like to try to move, we have a lot of ground to cover
6 today. Yes, please. Please identify yourself before you
7 talk. This is Carl Bauer, I'm sorry I didn't do it myself,
8 but... Okay, why don't we get right down to - I don't think
9 we need to go through that. Let's go through the issues
10 section first. Let's page over to the Issues section.

11 UNIDENTIFIED MALE SPEAKER: When you say "Issues
12 section?"

13 MR. BAUER: What are the key issues facing CCS
14 development projects, page 2 of the Executive Summary and
15 Recommendations Report. I just want to make sure -- yeah,
16 there we are -- who owns - does anybody have anything in the
17 issues that they've read through, I don't need to go line by
18 line unless we need to, but upon your perspective, I think
19 we've all had a chance to read them. Do any of the issues
20 that are there need some correction or clarification from
21 panel members?

22 MR. MURRAY: I do.

23 MR. BAUER: Kevin, go ahead.

24 MR. MURRAY: A couple of -- this is Kevin Murray. A
25 couple of sort of general points which pervade through the

1 thing is, and I think I sent this in an e-mail, but there
2 are a bunch of references to either carbon or CCS
3 technology, or something being a valuable and marketable
4 commodity. And I think, frankly, that's just outside of our
5 mandate and that's a marketplace thing, and I don't think we
6 need to recite that carbon is a valuable thing. Our job, I
7 think, is to reduce carbon output, not determine its value.
8 And then, the second thing, again, which sort of pervades,
9 is this idea referenced to cap-and-trade, which I think,
10 again, is outside our mandate. And so, should there be a
11 cap-and-trade program, should credits that are derived from
12 CCS be applicable? I would say yes. But there seems to be
13 this -- my word is "advocacy," which I know is an
14 exaggeration, but there seems to be this support for cap-
15 and-trade, which I don't think, again, without regard to
16 whether it's a good or bad thing is not part of our mandate.

17 MR. BAUER: Okay, do other members of the panel want
18 to respond or make input?

19 MR. SKOPEC: Well, the first time it comes up is
20 this number seven, which we can read only half of it, but
21 maybe if you pull that down and, Kevin, I would welcome your
22 suggestions on how to make it more neutral. Just for the
23 sake of the panel, and I think most people know this, and
24 Commissioner Boyd referenced it in his opening remarks,
25 tomorrow the Air Resources Board is going to adopt the cap-

1 and-trade program, and so, from my perspective, I think the
2 point we're trying to make is that, if we're living under a
3 cap-and-trade program, we want to make sure that, as you
4 capture carbon, you get credits. Now, I know someone made
5 the comment that, you know, credit is not a technical term.
6 We can figure out what the right term is, but you know, by
7 putting carbon underground, you are somehow acknowledged
8 doing so under the ARB program which, for many of us, is
9 going to be a cap-and-trade program starting tomorrow.

10 MR. MURRAY: Well, let me just walk through that
11 just for a second. So, you own a power plant, you scrub the
12 carbon, or scrub as much carbon as you can, and you utilize
13 CCS to store it. So, you have reduced your carbon output,
14 so how would you get a credit other than the fact that you
15 reduced your carbon output?

16 MR. SKOPEC: Well --

17 MR. MURRAY: What is there for you to get credit for
18 and trade?

19 MR. SKOPEC: It's somewhat of a complicated answer,
20 but I'll try to use a simple analogy. Let's say that you,
21 the power plant owner, emit 100 tons a year under the ARB
22 Program, and the ARB is asking you to reduce that to 90
23 tons; if you capture your carbon, and you emit zero, ARB is
24 asking you to reduce to 90 tons and you are now emitting
25 zero, you have then credited yourself with 90 tons that can

1 be then traded, that is the trade aspect of cap-and-trade,
2 to someone else who has to reduce their carbon, but may
3 choose to buy your credits. That's a very simple --

4 MR. MURRAY: If you reduce beyond your requirement,
5 you should get some benefit.

6 MS. REHEIS BOYD: Yeah, and the other piece is, if
7 you're not required to reduce and you do, you have that
8 credit to sell at market, as well, so it's an incentive for
9 those that aren't required to, that can take action, and you
10 know, engage in that trading program. So, it's kind of what
11 drives us to be involved, really.

12 MR. CODDINGTON: I completely agree with this
13 discussion.

14 MR. MURRAY: I guess from my perspective, in terms
15 of the advocating for if there's a proposed solution here, I
16 guess I would defer to the Technical staff and their writing
17 ability, just to make sure that, in each place where we have
18 mentioned cap-and-trade, that we recognize that we're
19 talking about credits for a potential cap-and-trade program,
20 as opposed to advocating for cap-and-trade. And there are
21 some places where it feels less like that, and there are
22 some places where it feels more like that, and I guess I
23 would accept direction to the writing staff to just make
24 sure that the wording does not advocate, necessarily.

25 MR. RUBIN: Can I --

1 MR. MURRAY: And -- oh, I'm sorry, and the other
2 thing is all of these references where we sort of assign
3 some magical value to carbon, I think, again, is also beyond
4 our mandate.

5 MR. BAUER: All right, so I understand your point is
6 we don't want to advocate for cap-and-trade, that's not
7 really the intention, but in a carbon valued system, though,
8 we'd like to recommend that CCS be fairly recognized.

9 MR. MURRAY: Yes, in fact, that's the best
10 recitation that I've heard.

11 MR. BAUER: All right, let Sally Benson have a say
12 here.

13 MS. BENSON: Yeah, I agree we don't want to be
14 advocating, you know, one technology vs. another, but I
15 think that the reason it's important to speak to whether CCS
16 should be considered under a cap-and-trade system is our
17 technical assessment, whether sequestration and capture can
18 be reliable technologies, so, to the extent that this is an
19 adequate technological solution to meet cap-and-trade
20 system, I think that's where we should come down, not as
21 advocates, but as commenting on the technical capacity.

22 MR. BAUER: I think we're all saying the same thing,
23 I just didn't read all of the wording in the document to say
24 that. You know, for instance, if you say credit for CCS
25 should be part of a cap-and-trade program, are you

1 advocating for cap-and-trade? Or are you just advocating
2 that the credit - so, as long as it's clarified throughout
3 the document. And, by the way, I think it would be better
4 for consistency sake, too, because in some places it felt to
5 me at least like a little bit of advocacy, and in some
6 places it felt just like what Sally was saying, that we
7 believe that credits for CCS should be applicable in a cap-
8 and-trade program. Yeah, and I think that's - Ed, and then
9 George Peridas has something he wanted to say.

10 MR. RUBIN: Thanks, Carl. Just to comment on these
11 key issues. First, an apology to you and the staff for not
12 having been able to comment on this prior to this meeting,
13 my pesky day job gets in the way of these kinds of things
14 and this has been a particular crunch time. So, let me just
15 offer some comments on the key issues. There are 10 issues
16 here, but reading them, it seems to me we need to do a
17 better job in organizing these to tell an effective story
18 and have some logic to them. It didn't look to me like it
19 was all the right issues, but it was kind of a haphazard
20 list, why was this one first, and other things. It seems to
21 me there are fundamentally three or four key issues facing
22 California that we've talked about before, so I will offer
23 some edits to this, but in order of priority, I think the
24 first key issue, going to CCS, is -

25 MR. BAUER: If I may ask you to wait because, I

1 think, George, you were on point on the cap-and-trade theme,
2 you wanted to say something? Let me have George before we
3 go to the more broader --

4 MR. RUBIN: It has to do with the cap-and-trade
5 issue because I think the first key issue is, is CCS
6 recognized as a method under AB 32, which is basically a
7 cap-and-trade policy. That's fundamentally the issue that I
8 think drives this. Without AB 32, CCS would have a
9 different profile in the state. So, issue number one is, is
10 CCS recognized as a viable strategy to comply with AB 32?

11 MS. REHEIS BOYD: It's in the Scoping Plan, at
12 least.

13 MR. RUBIN: Sorry?

14 MS. REHEIS BOYD: It's stated in the Scoping Plan as
15 such.

16 MR. RUBIN: Issue number two is, is there in
17 California a clear regulatory path and authority to allow
18 that to happen? Issue three is, are there clear rules and
19 regulations to get a CCS operation permitted and operating?
20 And issue number four is, are there other considerations,
21 particularly with issues like pour space, that need to be
22 addressed in order to make CCS viable? It seems to me those
23 are kind of the overriding issues and these various
24 questions are really subsets of those four. So, I think
25 structuring this list will tell a more coherent story when

1 somebody looks at it.

2 MR. BAUER: George.

3 MR. PERIDAS: Thank you. I think the issue is more
4 general -

5 MR. BAUER: Which issue?

6 MR. PERIDAS: The cap-and-trade issue. I think what
7 we're getting at here, and correct me and the rest of the
8 panel if I'm wrong, is that you should get recognition under
9 state laws and policies for the carbon that is sequestered
10 through CCS. This could be under a cap-and-trade system, or
11 it could be under a different state law and policy, and cap-
12 and-trade is an example of that. But the findings should
13 not limit itself to cap-and-trade. And I think, that way,
14 we also avoid the optics of advocating for cap-and-trade,
15 which this panel isn't doing. The only other thing I would
16 add on this point, and I do have some other comments on this
17 section, is that this should be done provided projects
18 comply with the appropriate rules and regulations and
19 protocols. So, you should get recognition for the tons
20 sequestered, but, as long as you comply with the necessary
21 greenhouse gas accounting and other protocols. So, I think
22 with some gentle rewording of point number seven here, we
23 can achieve that.

24 MR. BAUER: Okay, good. Any other - Sally.

25 MS. BENSON: This is slightly related to that. I

1 think that what is absent is any discussion of whether the
2 power plant, or industry with -- well, power plant,
3 particularly -- could meet the emission performance standard
4 if CCS is deployed. So, I think it goes beyond just AB 32,
5 I think there should be explicit acknowledgement. So, if
6 somebody in another state wanted to generate power with CCS,
7 that should be interpreted to comply with the emissions
8 performance standard.

9 MR. BAUER: George.

10 MR. PERIDAS: Yes, I was going to reply to that
11 thing, this is already in place through the CEC and the CPUC
12 implementing rules to SB 3068, and geologic sequestration is
13 recognized as a technique that can be used by the load
14 serving entities, and you have to file a plan that meets
15 certain requirements, but I don't think that, if we
16 recommend it, it will be conflicting, but to put your mind
17 to rest, this is already the case.

18 MR. RUBIN: But the issue is, are there clear rules
19 and regulations to do that now, and it seems to me that --

20 MR. PERIDAS: Yes, there are.

21 MR. RUBIN: -- the last couple months basically have
22 said no. So we need to separate issues from other findings
23 and recommendations. If we're talking here about issues,
24 the issues are whether these things currently exist.

25 MR. PERIDAS: For the compliance with EPS, they do,

1 yes.

2 MS. REHEIS BOYD: But to Sally's point, I think
3 recognizing it in this document would be good, but George is
4 right, it's pretty clear, but I think it's good to recognize
5 it in this document, as well, for the linkage.

6 MR. BAUER: Okay. Kevin has something he wants to
7 add.

8 MR. MURRAY: Yeah, again, I think two things that
9 are missing, one of them is stated elsewhere in the - but I
10 think it would behoove us to state at the outset that there
11 is - I'm not sure how to phrase this, but that some
12 community educating is an issue because the public is
13 somewhat unaware of this. And I know when we talk about
14 education, we've all agreed about it, but I think addressing
15 it at the outset as an issue behooves us. And the other
16 thing is, I just don't think you can do this without
17 mentioning environmental justice as an issue because, again,
18 I think, as I've said before, without it, we just subject
19 ourselves to attack.

20 MR. BAUER: No, I think we are basically in
21 agreement. The panel, there have been some other exchanges
22 on that, and of course you've also put that in, and we need
23 to bring that up as a recommendation and a recognition, but
24 we probably need to maybe put it in the issues areas?

25 MR. MURRAY: Yeah, I would think we need to put in

1 environmental justice as an issue because, in every case,
2 it's going to come up, and we might as well address it and
3 outline it as an issue right up front.

4 MR. BAUER: Yeah, and I think we have some good
5 material written on that already that we can -

6 MR. MURRAY: Yeah -

7 MR. BAUER: In fact, Kevin, if you have a statement
8 you think should be appropriate, I'd appreciate you
9 providing that. You don't have to do it this -

10 MR. MURRAY: I'll think about that, but, yeah.

11 MR. BAUER: Okay.

12 MR. MURRAY: I think I did submit some early on, I
13 don't know where they are.

14 MR. BAUER: We have those.

15 MR. MURRAY: I could certainly look for them also.
16 I think it needs to be put in the issues.

17 MR. BAUER: Yeah, I think we should put it in the
18 issues and the recommendation can be made to meet the -

19 MR. MURRAY: Okay.

20 MR. BAUER: Let me just try again, Kip? Are you
21 able to communicate back with us? I know you can hear us.

22 MR. CODDINGTON: Yes. Can you hear me?

23 MR. BAUER: Yes, we can hear you. Do you have
24 anything you want to add to this discussion?

25 MR. CODDINGTON: No, I generally agree with

1 everything that has been said.

2 MR. BAUER: Okay, I just wanted to make sure you
3 were on the line and able to get to us.

4 UNIDENTIFIED FEMALE SPEAKER: Can he talk about
5 Cancun?

6 MR. BAUER: Could you make a statement on - I know
7 you already answered, but we couldn't hear it, and if you
8 would just make a brief statement on Cancun recommendations
9 on CCS?

10 MR. CODDINGTON: Yeah, certainly. Coming out of the
11 recently concluded International Climate Negotiations in
12 Cancun at the end of last week was a reaffirmation by all
13 the member countries participating in that process of the
14 importance of carbon capture and storage, in particular,
15 carbon capture and storage was put on a path in which it
16 would be eligible to generate carbon credits, and here I'm
17 using that term loosely for purposes of generating offset
18 credits for projects -

19 MR. BAUER: Can you speak up, please?

20 MR. CODDINGTON: That carbon capture and storage was
21 recognized as a technology that was eligible to generate
22 carbon credits for projects that are conducted in the
23 developing world.

24 MR. BAUER: Okay. Thank you. George.

25 MR. PERIDAS: Yeah, I had three more issues on this

1 section. Kevin just covered two of them. One is inclusion
2 of environmental justice, I think this is imperative. The
3 second one was a finding that is education and one is on CCS
4 needs to be tackled, and also communities need to have
5 access to reliable information should they choose to pursue
6 that, so there needs to be someone that you can go to, to
7 find out reliably what this is about. And so, Kevin already
8 mentioned those two, thank you. And the only other comment
9 I had was one of tone. I think in the eyes, speaking of the
10 public, in the eyes of the public, some question that I
11 suspect people generally do have is, well, what is CCS
12 about? We launch in this action straight into the
13 intricacies of regulation and policy, but I think we should
14 start from a more general platform of, you know, what is
15 this about, is it safe? How is it going to affect me? So,
16 I think point number two covers that, but I think we should
17 articulate it a little bit better. I'm on page 2, what are
18 the key issues -

19 MR. BAUER: No, I understand you, but in this first
20 page of this summary, we have "What is Carbon Capture and
21 Storage Technology?" Do you not think that provided a
22 sufficient introduction?

23 MR. RUBIN: The key issue is, maybe it can be
24 rephrased as a question, "Is CCS capable of permanently
25 avoiding carbon emissions to the atmosphere?"

1 MR. PERIDAS: Yeah, "Is it safe?" And, "Is it
2 effective as a...?"

3 MR. RUBIN: Yeah. "Is CCS a safe and effective
4 method of avoiding carbon emissions?" That's the first
5 question, question two is, "If so, is it recognized and
6 viable?" And so on.

7 MR. PERIDAS: Thanks. So, I would recommend a minor
8 change of tone in point number two, and maybe even putting
9 that first.

10 MR. RUBIN: Carl, if it's agreeable to you, perhaps
11 after all of these get done, we can spin off a little
12 editing committee to kind of reorganize these things and
13 make sure we're all on the same page.

14 MR. MURRAY: Yeah. I do agree with George, you
15 know, one of the things we sort of repeatedly talked about
16 is safety and that, in terms of importance to the community,
17 that sort of thing, but we've kind of lost that in our sort
18 of address of the technical issues. So, just addressing the
19 idea of safety, and there also really isn't a discussion of
20 why are we doing this, other than to meet AB - you know, in
21 very technical terms. There maybe needs to be a paragraph
22 that's a little less technical and a little more touchy
23 feely, as it were, on why we're doing this because if I'm a
24 community person and I pick up this document, you
25 immediately launch into some technical thing which I may or

1 I may not understand, and you lose me at the first page.

2 MR. PERIDAS: Right, and I think --

3 MR. RUBIN: The reason is to avoid greenhouse gas
4 emissions to the atmosphere.

5 MR. MURRAY: You would still lose me -- if I'm a
6 community person. I think if we have one short paragraph
7 that was a little more touchy feely and a little less
8 technical, our document would be better received.

9 MR. BAUER: All right, so your suggestion is the
10 introductory front page on this needs to be further
11 expanded?

12 MR. MURRAY: Yeah, just a couple of sentences, you
13 know, to clean up the atmosphere, more general terms than
14 "greenhouse..."

15 MR. PERIDAS: Okay.

16 MR. MURRAY: And the idea of safety and using the
17 word "safety" somewhere. [Inaudible]

18 MS. REHEIS BOYD: So maybe, Carl, maybe right up
19 front under "Executive Summary," we start with why are we
20 doing this, and there's just a short paragraph. Then, you
21 can go into what is it and why were we formed, but why are
22 we even doing this.

23 MR. PERIDAS: And we shouldn't create the impression
24 that this panel did not consider issues of safety. I think
25 this is something that we've delved very deeply into in all

1 of our jobs and careers, and we should portray that in this
2 report, that this is based on extensive findings, it's not
3 just our best guess as to how CCS will perform, that we have
4 substantial evidence as to its safety.

5 MR. RUBIN: If you expanded the first heading to
6 say, "What is Carbon Capture and Storage Technology and why
7 is it important to California," I think you could bring
8 those issues up. Then you might even have a separate
9 heading that says, "Is it both safe and effective?" That
10 could be one of our findings, or it could be in the
11 preamble.

12 MR. BAUER: Okay, Sally.

13 MS. BENSON: I think another issue that is missing
14 here is that it's well known that early mover projects are
15 likely to be more expensive, and the issue of how do you
16 accelerate deployment of this technology so that we can get
17 on the learning by doing curve, and I think that's an
18 important issue that we acknowledge, that early projects,
19 you know, will need some kind of financial assistance or
20 other assistance to get going.

21 MR. BAUER: All right, so does everybody agree that
22 that should be a statement in the issues section? Okay.
23 Are there any other things on the issues section that
24 anybody would like to bring forward? Everybody clear from
25 the Technical Advisory Council, on the statements that were

1 made up here? Because we're going to need your help to make
2 this smooth out, okay? Very good. What I'd like to do is
3 now open it up before we go to the next section of
4 discussion to the public for comment, for the next 45
5 minutes. It's a little bit earlier, but if anybody is on
6 the line who would like to speak, or in the room that would
7 like to speak, please let us know. Anybody on the line from
8 the public who would like to make a comment, or an
9 observation or input for the panel to consider in this final
10 meeting? Anybody in the room? Be careful, if you comb
11 yourself or something like that, I'll call on you. Okay,
12 well, during this time, I will ask a couple more times to
13 see if someone has come on the line, but in the mean time,
14 I'm going to ask us to continue to do our work, and in about
15 10 minutes I'll try again to see if anybody would like to
16 make a public comment about anything. So we're going to
17 move over to the next portion of this paper, which is the
18 Findings section. And just so everybody understands, one of
19 the reasons that maybe the order isn't quite as pristine is
20 because the things were put out in such a way to allow us
21 all to not be prejudiced, but to kind of sort through them,
22 as Ed has, to see, what is the right place? This was not to
23 be a fete accompli given to the panel, but because of our
24 conversations and our various recommendations all along the
25 way, it was set up this way. So, we can smooth it out; that

1 is certainly part of the objective of today. With that, I'd
2 like to turn to the section on Notional Findings, and turn
3 them from Notional to the Findings we want to record.

4 MR. MURRAY: My only comment is I don't know that we
5 need to declare that carbon dioxide is a valuable and
6 marketable commodity. I think that is in our charge and to
7 marketplace.

8 MR. BAUER: Well, I think that statement is in
9 there, in part, to recognize it is not just a hazardous or
10 other form of pollutant, it is a commodity because there
11 were some statements along the way where people didn't even
12 realize CO₂ is traded as a commodity, even now.

13 MR. MURRAY: Well, a) I think it's not our place to
14 necessarily say that, b) the whole point of our panel is to
15 reduce carbon dioxide as harmful to the atmosphere, so,
16 then, the idea that we're saying it's a valuable and
17 marketable commodity seems to be at odds with that. But,
18 more importantly, I think just not our charge to say it's
19 valuable. I mean, we could say it's a commodity and we can
20 say it is a tradable thing, which I don't think you need to
21 say, but we certainly don't need to declare that it's
22 valuable and marketable.

23 MR. RUBIN: Kevin, I would strongly agree with you.
24 I had a very strong allergic reaction to that. I think that
25 actually weakens the findings, so I would strike all the

1 words up to and including the "and" and begin that Finding
2 with the word "there," "There is a public benefit from...,"
3 and before "geologic storage," I would insert "long term,"
4 or "permanent long term" might be best. "There is a public
5 benefit from long term geologic storage of CO₂ in reducing
6 GHG emissions to the atmosphere." I think that Finding
7 would be consistent with the first key issue, if it was
8 rephrased, which was, "Is CCS a safe and effective method of
9 avoiding greenhouse gas emissions?" It affects the issue.
10 The Finding is, "Yes, there is." So there really ought to
11 be a parallel, I think, between the key issues raised and
12 the order we raise them in the Findings, relative to those
13 key issues. And from that, we'll state some
14 recommendations.

15 MR. BAUER: Do other members of the panel have
16 input?

17 MS. REHEIS BOYD: Has this finding been made by any
18 other State? I mean, it came from somewhere, so what was
19 the basis for it?

20 MR. BAUER: I'm sorry? Do we have somebody?

21 MR. CODDINGTON: This is Kip. Can you hear me?

22 MR. BAUER: Yeah, go ahead, Kip.

23 MR. CODDINGTON: I think I heard Sally ask have
24 other states made this finding --

25 MR. BAUER: Actually, that was Cathy.

1 MR. CODDINGTON: Cathy, I apologize. The answer to
2 that question is yes, if you look at some other states that
3 have adopted Carbon Capture and Storage regulatory regimes,
4 North Dakota would be one, they have explicitly declared
5 that CO₂ is a commodity. I'm just noting that, I'm not
6 saying that's relevant for California. It's also true that,
7 in President Obama's Task Force Report on Carbon Capture and
8 Storage, they recount the commercial uses of CO₂ and EPA, in
9 its recently released rules, has also said that CO₂ in a pure
10 form is neither a hazardous waste, nor a hazardous
11 substance, so I think those are some of the legal
12 underpinnings for that claim, and I just wanted to make that
13 point.

14 MR. MURRAY: I think, even with that, it doesn't
15 necessarily say that it's valuable and marketable, okay?
16 It's not purely hazardous, okay, it's a commodity, none of
17 which I think we need to say anything about, but we
18 certainly know those things would support the idea of
19 declaring it valuable or marketable.

20 MR. BAUER: I would suggest that, maybe in our
21 discussion of safety, the recognition that it is traded as a
22 commodity, and these other statements may be useful in that
23 section, to be recognized as part of why safety is a
24 reasonable expectation. Sally?

25 MS. BENSON: I think the way its written really

1 weakens the statement and I think the statement we'd like to
2 have is that there's a public benefit from long term
3 geological storage of CO₂ in reducing greenhouse gas
4 emissions, I think that's a clear - it's a bold,
5 straightforward sentence. Once you combine that other part,
6 you know, it makes you sort of wonder what the intent of
7 this sentence is. If people think that it's important to
8 talk about the truth, the true fact that it is valuable and
9 marketable, or there are markets, then that should just be a
10 separate finding that has some other main point of why we're
11 even bringing that up.

12 MS. REHEIS BOYD: Yeah, I think that's a good way to
13 separate them. I guess I'm not totally -

14 MR. BAUER: Do we agree with that language, if you
15 look on the sheet up there, we're taking out the lead-in
16 statement and just starting up at, "There is a public
17 benefit from geological storage of CO₂ in reducing greenhouse
18 gas emissions to the atmosphere?"

19 MR. RUBIN: Yeah, I would just insert the term "long
20 term" before "geologic storage."

21 MR. BAUER: Everybody okay with that? Add that to
22 the statement, then, John, if you could, please.

23 MR. RUBIN: Before "geologic," the words "long
24 term."

25 MS. REHEIS BOYD: I do think, Carl, it does make

1 sense to -- I mean, Sally was also suggesting perhaps
2 bifurcating it and adding a separate notation that CO₂ is a
3 marketable commodity, it's not -- I think, Ed, what did you
4 say? It's not hazard -- or whatever Kip said, it's not
5 hazardous, it's not --

6 MR. BAUER: I was thinking perhaps in the safety
7 discussion, that would be a reasonable place to point out
8 that it is a -- there is a lot of experience around it
9 because it is a commodity that is traded, is part of why the
10 potential for safe handling is reasonable.

11 MS. REHEIS BOYD: Just so we don't lose the thought.

12 MR. BAUER: Yeah. Okay, I'm going to ask again, are
13 there any people who would like to make a public statement
14 this time, either on the line or here in the room? Do we
15 have somebody? Please identify yourself and speak. Robert
16 Vaughn, I understand you want to make a statement?

17 UNIDENTIFIED FEMALE SPEAKER: Robert did make the
18 comment. The important point here is to make a distinction
19 between CO₂ as a commodity that has value, and CO₂ emissions
20 that we want to avoid. This is an important distinction.

21 MR. BAUER: Thank you for that comment and I think
22 the panel has already kind of stated that, as well, so I
23 think there's no problem or need for further discussion. Do
24 we all agree with that comment? And I think we're making
25 the correction to recognize that properly.

1 MS. REHEIS BOYD: Yes, as long as it goes in the
2 safety section.

3 MR. BAUER: Yeah, I think it's part of how the
4 safety section helps to explain the reasonableness of
5 working with CO₂ this way. Are there other public comments
6 from anybody who would like to call in? Or anybody in this
7 room? Do we have anybody else? Okay, we're going to
8 continue on. Let's go to number two on the Findings.
9 Sally?

10 MS. BENSON: I think this is basically a good
11 finding, but I think that, instead of saying that they're
12 the primary barriers of this list, I think we should say
13 that they are significant barriers to near term deployment
14 of commercial scale CCS projects. And I also think that we
15 need to add one more item there, and that would be public
16 acceptance, so cost and related lack of economic drivers,
17 regulatory uncertainty, public acceptance, and an inadequate
18 legal framework are significant barriers to near term
19 deployment of commercial scale CCS projects.

20 MR. CODDINGTON: Just on this point, and this is Kip
21 again if you can hear me, I do think, and maybe it doesn't
22 go in the Findings section, but I think at some point it
23 behooves us to take note of the fact that the Federal
24 Government has done a lot to provide Federal regulations for
25 storage sites, and those will apply in California. So, I

1 think if we don't take note of that, we're sort of saying
2 the same old mantra, that there are legal hurdles to
3 sequestration sites. And I think that was true two years
4 ago, I think it was less true a year ago, I think as of
5 three weeks ago, the Federal Government has filled a lot of
6 these gaps and there is work remaining for California to be
7 done, but I don't think, as a legal matter, it is accurate
8 to say there is no longer a legal framework for conducting
9 geologic sequestration, at least huge chunks of it, within
10 the State of California.

11 MR. BAUER: Thank you, Kip. Other panel comments on
12 that? George.

13 MR. PERIDAS: Yes, thank you, Carl. I agree with
14 Sally that we should list public acceptance as an issue on
15 this line, and I also wholeheartedly agree with Kip here,
16 that a good deal of the regulatory questions that were
17 hanging two years ago are no longer hanging, as of two weeks
18 ago, when EPA promulgated two separate rules, one on the
19 greenhouse gas reporting, and one on the Underground
20 Injection Control Program. And I don't think that completes
21 the checklist of legal and regulatory questions that a CCS
22 developer might have, and as we go into more detail into
23 some of them, such as pour space, and pipeline siting, and
24 so on, but I think there is a clear permitting structure for
25 injection wells, and we should recognize that. And the only

1 other thing I would add to the sentence is that we mention
2 what the barriers are, we should, I think, explicitly
3 mention that it's not technology that is the barrier, and
4 this is the finding of the AB 1925 report to the Legislature
5 made a couple of years ago, and we should echo it. It's
6 legal, regulatory, economic, but not technological.

7 MR. BAUER: Yeah, and we did not say "technology"
8 here, either.

9 MR. PERIDAS: Yeah, but I think we should clearly
10 say that it's not technology.

11 MR. BAUER: Yeah, but that goes somewhat similarly
12 to the previous statement of why do we want to say something
13 that is already obvious, so I guess it's a question for the
14 panel. Let me just add another question with that, so
15 decide whether we want to say "not technology," and the
16 other question is, while the EPA rulemaking is done and out,
17 as we all know that usually ends up being interpretation
18 into regulations at the State level, and whoever is going to
19 write the permitting how that is done. And that isn't done
20 yet. So, I don't think "inadequate" is proper, but there
21 may need to be some recognition that the EPA issuance has
22 taken place. Whether the State is going to file for
23 primacy, how they're going to permit it within the State, or
24 are they going to permit it purely by EPA needs to be
25 resolved for the State's benefit. So, that would still be

1 an area around there that needs clarity, I think.

2 MR. RUBIN: Yeah, and I think, Carl, that's easily
3 fixed by just rephrasing it to say "uncertainties in the
4 regulatory and legal framework," just make "uncertainties"
5 because that includes uncertainties, for example, in legal
6 issues related to liability, which are not explicitly
7 mentioned. Sally, could I ask you to repeat your
8 suggestion? I was looking at yesterday's draft, so I didn't
9 see this current version for number two - "primary,
10 significant," yeah.

11 MS. BENSON: And then to add "public acceptance"
12 after "regulatory uncertainty" as one of the barriers.

13 MR. RUBIN: Okay.

14 MS. BENSON: As a significant barrier.

15 MR. RUBIN: Okay.

16 MR. BAUER: We need to remove "inadequate legal
17 framework," but make a modification on it, I think it may
18 add some good --

19 MR. RUBIN: So, you might be able to say
20 "uncertainties in regulatory and legal frameworks and in
21 public acceptance," right, "for CO₂ storage projects," or
22 "significant barriers." Would that work? So we can make it
23 uncertainties of public acceptance."

24 MR. BAUER: And we'll -- Sally, go ahead.

25 MS. BENSON: I think that there should be someplace

1 where we very clearly state that the technology is fairly
2 mature and well understood, so I think that would be sort of
3 a corollary to "here are the barriers," well, here are the
4 things that we're more certain about.

5 MR. RUBIN: Yeah. That's a good idea.

6 MR. BAUER: Why don't we add another finding to that
7 statement -

8 MR. RUBIN: Prior to this one, just make it prior to
9 this one.

10 MR. BAUER: Yeah, make it prior to this one -

11 MR. RUBIN: The technological capability of CCS --
12 how do you want to phrase it, Sally?

13 MR. BAUER: We'll add it and we'll put it ahead of
14 this statement, yes, thank you, John.

15 MR. RUBIN: The technology to capture and store CCS
16 from power plants and other large industrial sites is --
17 George, what words are you comfortable with -- well
18 established?

19 MR. MURRAY: I think well established seems to be a
20 better term. I think with "well established" you make this
21 an opportunity to include the word "safety" here, too. I
22 think that's part of [inaudible] [off mic].

23 MR. RUBIN: How about "technology currently exists
24 for the safe and effective capture and storage of carbon
25 dioxide?" Okay?

1 MR. BAUER: But then we make the point in this
2 statement that the economics is the challenge, it is
3 technology, but the technology still has a very big economic
4 challenge, so there is a need for improvements from the
5 standpoint of economic performance. And we had that covered
6 in this statement, so I think those two together make a very
7 complete statement, two sentences.

8 MR. PERIDAS: And transportation. I would add
9 transportation, so capture transport and storage.

10 MR. RUBIN: So, "Technology currently exists for the
11 safe and effective capture, transport and geological storage
12 of carbon dioxide from power plants and other large
13 industrial facilities."

14 MR. BAUER: Okay. Any other comments on those
15 statements from the panel? Including you Kip?

16 MR. CODDINGTON: No.

17 MR. BAUER: Okay. I'm going to ask again, are there
18 any other public statements from any call-in members? Or
19 people who may have joined the room here, who would like to
20 make a public statement? Anybody call in or e-mail in?
21 Okay, let's move to the next finding. That would have been
22 Finding 3 -- it's the one that basically, "There is
23 presently no single state or Federal agency responsible for
24 admitting CCS development projects?" Sally?

25 MS. BENSON: Again, I think that there needs to be

1 an acknowledgement that there's been tremendous progress on
2 the regulatory issues related to CO₂ storage, so the way I
3 would think this would be a stronger statement is to say
4 that, you know, recently the EPA has promulgated new rules,
5 however, uncertainties remain in the implementation because
6 there is no single state or federal agency responsible,
7 something like that. I mean, I think that this makes -
8 these findings, it wouldn't be clear that, in fact, the EPA
9 has done a lot of work on this issue.

10 MR. CODDINGTON: Yeah, I think the question here,
11 this is Kip, and I think the ambiguity here is what is meant
12 by a CCS development project. If you look at it in pieces,
13 under California law, I would say in most instances it is
14 probably already clear where you would go to get your air
15 permit, number two, it's probably already clear where you go
16 to get your pipeline approval, although that authority may
17 need to be amended to make clear that a CO₂ pipeline is under
18 the authority of the appropriate agency. On the
19 sequestration piece of it, it is now unambiguously clear
20 that, for the bulk of the storage rules, it's either going
21 to be conducted by the Federal EPA region or a state agency
22 if it seeks delegated authority to implement those new
23 rules. So, I think it's ambiguous to refer to a project
24 when it actually may be view in pieces, and if you view it
25 in pieces, I think it's easier to understand and present.

1 MR. RUBIN: So, can I suggest some wordsmithing on
2 this, costs and related economic drivers, where "regulatory"
3 is struck and insert the word "remaining uncertainties."

4 MR. BAUER: [off mic] [inaudible]

5 MR. RUBIN: Right, so the suggestion is to qualify
6 that there are just remaining uncertainties in regulatory
7 and legal issues, and then perhaps insert some examples,
8 e.g., with respect to liability and welcome to other
9 suggestions as to what some of those remaining uncertainties
10 are. Let's say with respect to long term liability. For
11 the moment, I just put "etc."

12 MR. MURRAY: [off mic] findings into one sentence.

13 MR. BAUER: Yeah, which is not what I think we want
14 to do. We want to have some clear statements that are easy
15 to look at.

16 MR. MURRAY: I think we're [inaudible]

17 MR. RUBIN: The remaining uncertainties and
18 regulatory and legal issues that are barriers.

19 MR. BAUER: We actually have a statement on that
20 later on, I think, don't we?

21 MR. RUBIN: Yeah, I thought that was the idea was to
22 distinguish --

23 MR. BAUER: Statement number nine of the proposed
24 findings did speak to the long term -

25 MR. RUBIN: Yeah, so maybe we don't need specific

1 examples, we could just say "in general, remaining
2 uncertainties in regulatory and legal issues and in public
3 acceptance..." And then we could strike everything up -
4 yeah, strike "and inadequate legal framework."

5 MR. MURRAY: Why -

6 MR. RUBIN: Because it's been brought up, it's been
7 moved up. Regulatory and legal framework - uncertainties in
8 regulatory and legal framework, and in public acceptance.

9 MR. BAUER: All right, and we need to get rid of the
10 inadequate legal framework statement there.

11 MR. RUBIN: Right, take that, yeah.

12 MR. MURRAY: Why are we doing that? I'm sorry.

13 MR. RUBIN: Let's finish the edit and we'll -

14 MR. BAUER: That was supposed to have been gone
15 already.

16 MS. REHEIS BOYD: They moved it up right after
17 regulatory and legal framework -

18 MR. MURRAY: Oh, I see, all right, all right.

19 MR. RUBIN: And take out for CO₂ storage, I think
20 that will work.

21 MR. BAUER: Public acceptance for what?

22 MR. RUBIN: And in public acceptance, so uncertainty
23 and public acceptance.

24 [UNIDENTIFIED MALE SPEAKER]: [Off mic] Before we
25 start doing all these word and [inaudible], I want to make

1 sure that the panel is comfortable with all of the things
2 [inaudible] because, otherwise, we're going to be screwing
3 around with this one thing the whole day.

4 MR. MURRAY: I sort of like the original sentence
5 with Sally's addition of public acceptance. I'm not sure
6 why we're fixing it.

7 MS. BENSON: Because I think the comment was made -

8 MR. RUBIN: Kip brought up the point that a lot of
9 these things have, in fact, been resolved.

10 MS. BENSON: I think the issue, Ed, was -

11 MR. MURRAY: I thought Kip made that in reference to
12 the next statement, which is that there is no single Federal
13 -

14 MS. BENSON: The word was "inadequate," Ed. Kip did
15 not feel "inadequate" was proper because EPA has taken some
16 pretty definite actions, so -

17 MR. MURRAY: That doesn't mean that they're
18 adequate.

19 MS. BENSON: It doesn't mean that they're inadequate
20 either.

21 MR. MURRAY: Well, if we don't believe they're
22 inadequate, then let's strike the word "inadequate" and not
23 re-write the whole thing.

24 MS. BENSON: Right, that was the intent.

25 MR. MURRAY: So we're adding "public acceptance,"

1 and we're striking the words "inadequate," and why do we
2 need to do anything else?

3 MR. BAUER: Yes, I don't think we need to do
4 anything else on this particular sentence.

5 MS. BENSON: That's good.

6 MR. BAUER: So, John, we need to restore the legal
7 framework for CO₂ storage and just take out "inadequate."

8 MR. MURRAY: And add "public acceptance."

9 MR. BAUER: "Public acceptance" has already been
10 added.

11 MR. MURRAY: Okay. You're better off just going
12 back to the original sentence.

13 MR. BAUER: John, do you know what we're talking
14 about?

15 MR. PERIDAS: One second, Carl.

16 MR. BAUER: All right. Now, the next statement we
17 looked at was, "There is presently no single state or
18 federal agency," and that, Sally had a suggestion for
19 clarifying that a little more, and do you want to restate
20 that, Sally, please?

21 MS. BENSON: Yeah, my point was to acknowledge that
22 there is a rapidly evolving legal framework for regulating
23 these projects, so I think we need to acknowledge that, then
24 the next part of it is, then I think we should say,
25 "However, there is presently no single state or federal

1 agency responsible...." Right. So this just makes it sound
2 too open-ended. I mean, in fact, there is a lot of work on
3 the regulatory framework.

4 MR. MURRAY: Well, I would also say, is this really
5 what we want it to say, or are we really getting at the fact
6 that there needs to be some kind of streamlined permitting
7 process. In the end, when we first started this discussion
8 in the early panels, what we were really talking about was
9 not that there's no single place, but that we need a
10 streamlined permitting process. So, why don't we say a
11 streamlined permitting process would be beneficial, rather
12 than say there's no single agency?

13 MR. BAUER: We actually have a recommendation that
14 does address that.

15 MR. MURRAY: Right, so -

16 MR. BAUER: This was more a finding that the
17 recommendation hopefully contributes to addressing, so think
18 about it that way.

19 MR. MURRAY: I mean, the finding really is that
20 there's no streamlined permitting process, rather than -
21 it's sort of a second part of the analysis to say there is
22 no single state agency. I mean, there's never going to be a
23 single state or federal agency, so that --

24 MR. RUBIN: Is there currently a process --

25 MR. MURRAY: Well, yeah, that's what we're lacking.

1 MR. RUBIN: -- not streamlined? My sense is -

2 MR. MURRAY: We're lacking more in process than we
3 are a single state agency.

4 MS. REHEIS BOYD: Well, I think it's both. I mean,
5 you could say there is presently no State or Federal agency,
6 or process. I think it's both.

7 MR. MURRAY: I mean, there's never going to be a
8 single agency.

9 MR. BAUER: No, but it's a statement of fact that
10 there isn't.

11 MR. MURRAY: All right.

12 MR. BAUER: And then we address what we recommend is
13 a way forward. So, say again what you suggest, Cathy,
14 please?

15 MS. REHEIS BOYD: I said there is presently no
16 single State or Federal agency, or process -- or streamlined
17 process, I think Ed said, or streamlined process responsible
18 for permitting. I mean, you can wordsmith it, but...

19 MR. MURRAY: Okay.

20 MR. BAUER: Dan.

21 MR. SKOPEC: Just a question because I see this
22 issue coming up over and over again. Do you want to
23 distinguish between what should be a finding and what should
24 be a recommendation? Because it seems like there are some
25 recommendations in the findings.

1 MR. MURRAY: And findings in the recommendation.

2 MR. BAUER: Yeah, and I think we need to try and
3 clarify that as we go along, which may mean we need to drop
4 some out. I mean, again, my view in trying to get this to
5 everybody was to try and take and be able to put lines
6 through things we want to drop, rather than just pre-judge
7 it without the panel's full involvement, so we have more
8 here than we possibly need, that's fine, better than not
9 having what we need. If you want to drop something, please
10 recommend. Sally?

11 MS. BENSON: I would actually recommend we just drop
12 number three. I think we've already talked in the previous
13 paragraph that there are regulatory uncertainties. And I'm
14 not sure - it just seems like a detail.

15 MS. REHEIS BOYD: You're talking about the one
16 above, Sally, number three, the cost and related?

17 MR. BAUER: No, she's talking about the old number
18 three, there is presently -

19 MS. REHEIS BOYD: The one that says there is no
20 single or state -

21 MS. BENSON: Yeah.

22 MS. REHEIS BOYD: And why would we drop that?

23 MS. BENSON: It just seems like a detail - we've
24 already made the finding in the one above it that cost-
25 related economic drivers, remaining uncertainties and

1 regulatory and legal framework, inadequate legal framework,
2 I mean, we've already basically said that that's a barrier,
3 is permitting. Maybe we want to just add specifically
4 something in number 1.3, or whatever, 2.3, that speaks to
5 permitting.

6 MS. REHEIS BOYD: That would be fine. I don't want
7 to lose that concept, though, because I think that's pretty
8 accord with a lot of things we've talked about. I mean,
9 we've made a big issue and a finding about what the
10 jurisdiction and oversight should be.

11 MR. SKOPEC: I wonder if we could distinguish,
12 Cathy, between number three and number four because, to me,
13 number four gets the point that I think is important to
14 make.

15 MR. RUBIN: Old four or new four?

16 MR. SKOPEC: The old four.

17 MS. REHEIS BOYD: The old four. The new five!

18 MR. SKOPEC: The new five. There is a need for
19 clear and consistent regulatory requirements, that point, is
20 I think the point that needs to be made, and I could live
21 with dropping the other one.

22 MR. MURRAY: Do we even need to say "first of its
23 kind?" I mean, we need clear and consistent regulatory
24 requirements, period.

25 MR. SKOPEC: Before we wordsmith that, does that

1 statement supersede the need for the previous one?

2 MS. REHEIS BOYD: Is your mind regulatory
3 requirements the same as streamlined process and single
4 point of contact?

5 MR. RUBIN: I think you're right. I don't think
6 there's a need for the current four if we keep the current
7 five, or modify it a little bit.

8 MR. MURRAY: Well, I think they state two separate
9 things. I believe Cathy is right about that, whether or not
10 you really need the statement in four, I don't know, but I'm
11 - as much as I'm for taking it out, I'm kind of also leaning
12 towards Cathy's -

13 MR. RUBIN: My suggestion would be to combine them
14 into a single finding. So, you could make the statement in
15 number 5, I think there is a need for this, and then, in
16 that same finding, add the sentence that, presently, it
17 doesn't exist.

18 MR. MURRAY: I would disagree with that. I would
19 say, if you're going to keep them, just let them be the two
20 separate simple one sentence -

21 MR. BAUER: I don't think they do any harm to be
22 there, I don't think they add confusion, I think they add
23 clarity. George, I think you had a comment?

24 MR. PERIDAS: Yeah, I think - where are we, old
25 number 3, CCS Development Projects, something - we need to

1 specify the entire chain of operations of a CCS project, not
2 to specify what we mean. I would support dropping the whole
3 thing. I think it's true that there is no single agency,
4 but I think this is true for most types of projects, even
5 non-CCS ones, with very few exceptions. So, it's no news
6 that you need to go to many different agencies to get many
7 different permits.

8 MR. CODDINGTON: Exactly.

9 MR. MURRAY: Well, I agree with that, but I do agree
10 with Cathy, and I think, as I stated a few minutes ago, the
11 single state or federal agency was never the issue, the
12 issue is a streamlined permitting process. So, the question
13 is how do we incorporate the idea of a streamlined
14 permitting process, and if it's not the re-done number three
15 or number four, whichever it is, then maybe we just have a
16 sentence that says it would be beneficial to have a
17 streamlined permitting process and forget about that they
18 are a single state or federal agency.

19 MR. BAUER: John, speak, please.

20 MR. KING: This is John. I do note that, in the key
21 issues, we've already talked about which agency should be
22 the lead, and we've identified this whole agency question as
23 a key issue; perhaps if we restate here and say there are
24 multiple federal and state agencies involved in the entire
25 chain of a CCS project, as George described, then we're

1 making a finding -

2 MS. REHEIS BOYD: That's right.

3 MR. KING: -- that there are multiple -

4 MR. BAUER: How does everybody feel about that?

5 Does that provide clarity and adequacy?

6 MR. MURRAY: Sure.

7 MR. BAUER: Okay, let's do it that way. John, do you
8 want to re-state it - Dan, do you have a statement on that?

9 MR. SKOPEC: No, I just wanted to add, there are
10 multiple and regulatory uncertainties that continue to
11 exist.

12 MR. KING: Yeah, that fits together, then, I think
13 with the other part of the finding, is that it complicates
14 and potentially becomes not streamlined.

15 MR. BAUER: All right. Now Sally has something to
16 add, and keep that thought, John, and then, based on what
17 Sally has to say, let's try to nail this down.

18 MS. BENSON: I thought that was an excellent
19 suggestion for how to modify the old three. I think we can
20 solve the problem of the idea of streamlining by adding to
21 the old number four that there is a need for clear efficient
22 and consistent regulatory requirements, so we add the idea
23 of efficiency in getting a permit.

24 MR. MURRAY: Did we add the idea of efficiency -
25 clear and consistent, do we want to say "streamlined" there?

1 MS. BENSON: Well, we could say "streamlined" or
2 "efficient." I worry a little bit that people see
3 "streamlined" as a bypass to appropriate regulatory process,
4 so that is why I think "efficient" sort of says what we
5 really mean.

6 MS. MURRAY: I agree with you, but if I'm on the
7 business side, I view "efficient" as not adequately
8 streamlined.

9 MR. SKOPEC: Carl, I just wanted to bring up the
10 point that, now that we're on this one, you could plausibly
11 say that all the rest of them should be recommendations,
12 except for maybe 13, and I don't know about 14. Yeah, so, I
13 mean, maybe you should make a ruling, or do we want to argue
14 five through 12 in the findings when they're really
15 recommendations? Because we're just going to argue them
16 again in the recommendations.

17 MR. RUBIN: The question is whether you want to turn
18 some of these into findings to support later -

19 MR. SKOPEC: Because we're on the Findings section,
20 but we're about to have a lot of recommendation arguments in
21 5 through 12.

22 MR. MURRAY: Yeah, and like, for instance, 14, I
23 don't get at all. So, I left out 13 and 14. And number 10,
24 again, has that problem with cap-and-trade, and I think it's
25 solved, by the way, if you just insert the word "proposed"

1 there for A.

2 MR. SKOPEC: Yeah, but let's decide if we're going
3 to leave these in Findings. And I don't have a strong
4 opinion, I just - they're all recommendations to me.

5 MR. RUBIN: As a matter of English, you cannot leave
6 those in Findings, they are not findings, they are
7 recommendations.

8 MS. REHEIS BOYD: I think the intent, Carl, was
9 that, whether it's written right or not, was that we would
10 have a finding to which our recommendation would address the
11 finding.

12 MR. MURRAY: Well, actually -

13 MS. REHEIS BOYD: It may not be written that way,
14 but I think that is what we were attempting to do.

15 MR. BAUER: What he is really trying to do is to
16 nail the jello to the tree for more than other previous
17 meetings and conversations and exchanges, so we could have
18 just what we're having here and get done. So, Sally -

19 MS. BENSON: I agree with you that these are sort of
20 recommendations, but we sort of recommend something, but we
21 don't say how to do it. It's, okay, this should be done. I
22 think what we try to do later is say, well, and this is how
23 you could do it. So, I don't think it's adequate just to,
24 you know, move these over to the Recommendations section
25 because they're not very useful the way they're in -

1 MS. REHEIS BOYD: That's how I'd write them, Sally.

2 MR. BAUER: If you heard what Ed said, for example,
3 when we said there is a need in each of these ones, it would
4 be a finding, there is a need for something, and the
5 recommendation hopefully provides a little bit of an
6 expansion on what should be done.

7 MR. MURRAY: Yeah, but the difference between there
8 is a need to do X and you should do X, is not that great.
9 But to Sally's point, it is significant to say, "This is how
10 you should do X." So, the Findings are things that should
11 be done, the Recommendations are how they should be done.

12 MR. RUBIN: No, first the Recommendation is to do
13 it, and the second part of the recommendation is to do it
14 this way.

15 MR. MURRAY: Yeah, I think you could read it the
16 other way, too, and it would be just as logically valid.

17 MR. SKOPEC: Okay, well, then let's go through them,
18 but we're going to have, I mean, it's going to be an
19 interesting debate because we're going to argue about them
20 here and then we're going to turn the page and argue again.

21 MR. BAUER: I would submit that, let me just ask one
22 more time, is there any public comment before we go racing
23 into this and chewing it up? Any public comment? Any call-
24 ins or written public comments we need to hear? We have
25 one? Please.

1 UNIDENTIFIED FEMALE VOICE: There is an additional
2 comment by Robert that says, "Why not say gaps that remain
3 in the legal and regulatory framework? This is more
4 accurate than uncertainties."

5 MR. BAUER: Panel, are you okay with that? Do you
6 like the word "gap?"

7 MR. MURRAY: I like the way we have it.

8 MR. BAUER: Okay. Other comments, either call-in or
9 write-in, or from the people in the room here?

10 MR. RUBIN: In some of those cases, I would also add
11 the words "in California" to be specific to our mission.

12 MR. BAUER: Okay, at this point, I am willing to
13 close the public comment period, it's 9:45 by my watch.
14 Okay, thank you for those who gave comments, we appreciate
15 them, we are considering them in what we do with the report
16 here. Ed, go ahead.

17 MR. RUBIN: I was just going to say, Carl, that in a
18 couple of these, if we can go back to - I think it's the
19 current number three, just adding the phrase "in
20 California," to make some of these specific.

21 MR. MURRAY: Are we talking the old number three or
22 the new?

23 MR. RUBIN: I think it was now the new number three.
24 Just to bring it home. This would be the new number three,
25 "its deployment of commercial scale CCS projects in

1 California." I think that's really the thing that - and the
2 same under the new number four, this is all California
3 specific. And we're not making -

4 MR. BAUER: Well, the intent of this section is
5 California, but -

6 MR. RUBIN: So let's just add those words,
7 explicitly.

8 MR. BAUER: George?

9 MR. PERIDAS: Yeah, a process question, Carl. Am I
10 right that, in today's meeting, we have to discuss the
11 substantive issues and then do minor clarifying wordsmithing
12 after the end of the session? So, to that effect, I think I
13 would recommend to the panel that we restrict comments to
14 things that we should debate and discuss between us, but
15 leave the minor clarifications for later.

16 MR. BAUER: Yeah, I agree, and all I want to do is
17 make sure that we basically feel that what we have here does
18 represent the thought, where we have to clarify it to ensure
19 that we all have the same idea what the thought is, as we
20 have been trying to do, I think that's fine. When we start
21 really mincing words, I think we're probably going beyond
22 our wherewithal to get through to the end of the day and
23 have something meaningful out there.

24 MR. LEVIN: Carl, can I make a suggestion as to how
25 we might proceed with regard to Dan's comment on Findings

1 and Recommendations to the rest of this? Personally, I
2 found the most - we are in now a section called "Executive
3 Summary." I actually found the most coherent and, I think,
4 acceptable solutions in the details of our report starting
5 on the page that is headed AB 32, in its Applications, which
6 ends up with a recommendation. My suggestion would be that
7 we skip past the Executive Summary, start talking about each
8 of the main pages where we have recommendations -

9 MR. BAUER: Yeah.

10 MR. RUBIN: -- see if we agree on the
11 recommendation, and be sure we have a finding that is
12 consistent with that recommendation, mainly start in the
13 body of the report, and then write the Executive Summary,
14 rather than starting with the Executive Summary. I don't
15 think the Executive Summary does as good a job of reflecting
16 what is actually in the report as it could.

17 MR. BAUER: Actually, the Recommendations are part
18 of the Executive Summary.

19 MR. RUBIN: Yeah, but with regard to the Statement
20 of Findings, my suggestion is we just stop where we are now
21 and then look at the recommendations, starting on the AB 32
22 page, and make sure we have a finding that supports each of
23 those recommendations, in other words, work backwards.

24 MR. BAUER: All right, Sally?

25 MR. RUBIN: And then we won't have any excess

1 language.

2 MS. BENSON: I would argue against having to deal
3 with that much detail. I think, if we can't have a clear
4 set of findings and a clear set of recommendations that are
5 represented by sort of one sentence, or paragraphs, that we
6 will have, you know, not done our job. So, I'm actually in
7 favor of continuing to work on these very concise
8 statements, making sure that it covers all the main points,
9 tells a clear story, and so I think that, you know, this is
10 where the rubber meets the road, and this is what people
11 will read, so I think we should just work on trying to do a
12 good job of this.

13 MR. RUBIN: Yeah, just to be clear, I was also
14 thinking in terms of bullet points. There's a lot of Texas
15 as a preamble on this stuff, but looking at the
16 recommendation, you would have to say, "What finding would
17 support that recommendation? What bullet point finding
18 would support that bullet point recommendation?" That would
19 be the process I'm thinking of.

20 MR. BAUER: Okay, so where are we on the panel?

21 MS. REHEIS BOYD: I kind of agree with Sally.

22 MR. BAUER: So you want to stay the course of what
23 we're doing?

24 MS. REHEIS BOYD: I think we should stay the course,
25 just get through it, let's try not to be too wordsmithy, but

1 if we don't have a good basis to have the recommendation
2 discussion, we're going to have the same kind of discussion
3 in the next section.

4 MR. BAUER: Well, I think that was Dan's point
5 earlier.

6 MS. REHEIS BOYD: Yeah, so...

7 MR. BAUER: Okay. George, okay? Everyone, I know
8 Kevin had to step out. Kip, anything from you on this? Are
9 you okay to continue on?

10 MR. CODDINGTON: I am happy with continuing on.

11 MR. BAUER: All right, then we are going to continue
12 on. I would suggest that we're moving down now to what
13 would be number five on consistent reporting requirements,
14 that was the old number five, now it would be number six.
15 George?

16 MR. PERIDAS: Well, again, in the spirit of a
17 previous comment, I don't think we should limit this to AB
18 32 compliance. There could be other laws and regulations,
19 or there could be future laws and regulations. I think we
20 would say, "States, laws and policies to reduce greenhouse
21 gases."

22 MR. BAUER: So, what is the suggestion? Delete
23 this?

24 MR. PERIDAS: Strike "AB 32 compliance" and put
25 "compliance with state laws and policies to reduce

1 greenhouse gases.”

2 MR. BAUER: I’m okay. How about the rest of the
3 panel? All right.

4 UNIDENTIFIED MALE SPEAKER: George, would you repeat
5 that?

6 MR. PERIDAS: Yeah, strike “AB 32,” and say,
7 “protocols necessary for compliance with state laws and
8 policies to reduce CO2 emissions.”

9 MR. CODDINGTON: Here again, I would just note this
10 is a situation where the subpart (rr) rule, I think, is
11 heading towards this outcome already. So, I think the way
12 this is worded, it leaves open the fact that a fair amount
13 of ground has already been seized by the Federal Government
14 on this point. It may not be sufficient, but I think this
15 leaves the impression this particular territory is more
16 unsettled than it already currently is.

17 MR. BAUER: Again, I think the state laws and
18 policies are important, although even the Federal Government
19 comes up with the laws, it’s the usual process of State to
20 recognize and to understand how they comply, and usually
21 issues, laws and regulations and policy around doing that.
22 So, George?

23 MR. PERIDAS And, Kip, I agree with you, I think
24 it’s okay if we list this as is in the Findings, and then,
25 in the Recommendations itself, where we expand further, we

1 could say we acknowledge current efforts by EPA to do blah,
2 blah, blah, and the remaining gaps are as follows.

3 MR. CODDINGTON: Okay.

4 MR. PERIDAS: But I think this, as a General
5 Finding, still stands.

6 MR. RUBIN: In fact, we should add the word, before
7 "State," we should also say Federal and State laws apropos
8 of that. Could we back up to the previous one? So, the
9 suggestion here, this says that there's only a need for
10 efficiency, etc. for permitting first of a kind plants. I
11 think the need exists for any plants, and so it suggests
12 that there's not a problem for other stuff. So I would say
13 for permitting CCS projects in California, especially first
14 of a kind demonstration projects.

15 MR. BAUER: I think, while that's a good
16 observation, I think part of the intent of this recognition
17 here, or finding, was that, for early movers, there still
18 isn't clarity as they're trying to go through the process,
19 if you followed some of the efforts on projects in the state
20 to date.

21 MR. RUBIN: Oh, I agree, but there isn't clarity for
22 late movers either.

23 MR. BAUER: Right, I understand. But if you ever
24 want to get to the clarity, the early movers need some help
25 to find their way through the woods.

1 MR. RUBIN: Is to say there is a need for that for
2 permitting CCS projects in California, especially first of a
3 kind demonstration projects.

4 MR. MURRAY: I agree with Ed on this one. If I
5 remember correctly, in most of our discussions, there was
6 some talk about first of its kind, but it was around
7 economic incentives. The reality is you need permitting for
8 a first mover, as well as longer movers, we're trying to get
9 them to create a scenario for everyone. I just don't think
10 that's necessary.

11 MR. RUBIN: So the suggestion would be to add after
12 the word "permitting," add "CCS projects in California,
13 especially first of a kind projects."

14 MR. MURRAY: I would just add a period.

15 MR. KING: This is John. I think - I would say
16 there is a current need for getting after this, and it's not
17 anything to do with the longer term projects, so if we say,
18 you know, there is a current need - and I'm not really - I
19 like "early demonstration projects" better than "first of
20 its kind," "first of its kind" has a lot of other
21 connotations to me, that it's experimental, somehow. But if
22 we say there is a current need, I think the need and the
23 urgency is around the early projects, it really is.

24 MR. MURRAY: Why don't you just say "an urgent
25 need," and then put a period after "permitting?"

1 MR. BAUER: I'm okay with that. George?

2 MR. RUBIN: If we solve that, that will fix the
3 longer term? Is that the idea?

4 MR. PERIDAS: I disagree with the statement that we
5 do not have sufficient laws and regulations in place to
6 permit a project right now. I think existing authorities
7 can be used to permit a project, I don't think it's ideal
8 and I don't think they were designed for the broad
9 deployment of CCS out of scale, but I think they are
10 sufficient to do what they're meant to be doing, so to
11 ensure safe and effective deployment of the technology, and
12 the necessary accounting, reporting and verification, I
13 think we do have Regs in place that agencies could
14 administer, so I don't want this to imply that you cannot
15 move a project until all this is changed.

16 MR. BAUER: Well, that's true, but if you remember
17 some of the input to us at some of the meetings from some of
18 the members of some of the agencies, they would like a
19 brighter line, a clearer articulation, even though some of
20 the laws that exist would allow them to make interpretation,
21 or an inference, they would like a bright line from the
22 legislative side, or the regulatory development, and that, I
23 think, is part of what we're trying to suggest here. Also,
24 as John just pointed out, for those projects that are trying
25 to go forward now, they are basically having to deal with

1 the uncertainty of authority to write certain permits or
2 applications amongst the agencies. So, I think that is part
3 of what it was trying to get at, it may not have done that,
4 but that is part of what it was trying to address.

5 MR. PERIDAS: Right, but I don't want to rule this
6 out as a possible pathway, which is far from my deal, in the
7 mean time, and I think we should be making the
8 recommendation that these things should be clarified for the
9 broader scale of deployment of CCS, but I don't want to -

10 MR. BAUER: What would you say here?

11 MR. MURRAY: See, your argument is that us saying we
12 need a clear and efficient thing somehow denigrates the
13 current process, and I don't know that you can say something
14 needs improvement without saying that it's inadequate, so
15 it's not adequate or else we wouldn't be saying it needed
16 improvement.

17 MR. KING: Yeah, George, you make a good point, that
18 there is a regulatory pathway, maybe tortuous, and
19 impossible to navigate. And I'm not trying to be sarcastic,
20 there is a possible path, and I think there's a couple key
21 bits that are missing around getting credit for what you've
22 done, that are lacking. But there may be a way to word this
23 better that doesn't imply that regulations are completely
24 lacking.

25 MR. MURRAY: Do we want to go back to the word

1 "streamline?"

2 MR. PERIDAS: No.

3 MR. RUBIN: Let me endorse Kevin's suggestion about
4 just putting a full stop after permitting CCS projects. And
5 then perhaps having a separate finding about a need for -

6 MS. REHEIS BOYD: George has an idea, why don't we
7 hear -

8 MR. RUBIN: -- a need for additional incentives or
9 issues related to -

10 MR. MURRAY: I just want to point out that I went
11 outside and made two phone calls and responded to the same
12 sentence.

13 MR. BAUER: We were just waiting time to give you
14 opportunity. George, you had a recommendation. Let me get
15 the panel under order here. George, if you would put forth
16 your recommendation.

17 MR. PERIDAS: Yeah, it would read something like,
18 "Although current authorities allow for the permitting of
19 CCS projects, there is a need for clear and consistent
20 regulatory requirement for further permitting of CCS
21 projects in California."

22 MR. BAUER: See, my understanding from what we heard
23 at some of the meetings didn't suggest that the agencies
24 felt they had clear authority on CCS projects, they felt
25 they needed - and we had several people we asked directly

1 questions about that, and it was -

2 MR. PERIDAS: I don't agree with that legal
3 interpretation.

4 MR. BAUER: Well, I'm just going by the people that
5 have to write the permit. If they don't feel they have the
6 license to write the permit, then part of our panel has got
7 to recognize that, while some would suggest, in fact, there
8 is a recommendation from the HECA Project, if you remember,
9 that they gave us, that they thought there was authority,
10 but the agency didn't feel they could avail themselves of
11 the authority, the legal interpretation that HECA had.

12 MR. MURRAY: But some of what you're saying, George,
13 is that we have adequate permitting authorities, but they
14 need to be tweaked. It's sort of this judgment between we
15 need this major change, or we need just - we have existing
16 things that are adequate and we just want to make them a
17 little bit better, and I think it's a little -

18 MR. PERIDAS: Well, no, they haven't been asked to
19 consider a particular permit. I think the problem that the
20 agency had was that it hadn't been presented with an
21 application.

22 MR. MURRAY: Well, but they did say that, in some
23 scenarios, I think I was right, they did say, "We don't
24 think we have the authority to do this."

25 MR. PERIDAS: No, they said they don't have the

1 authority to permit a pure sequestration project, which is
2 true.

3 MR. RUBIN: It seems to me, for purposes of
4 Findings, we don't really need to characterize the current
5 situation so much as the need going forward, which is really
6 what that is saying. There is a need for a clear,
7 efficient, and consistent regulatory -

8 MR. BAUER: Let me ask this question to maybe cause
9 a clarification. You know, were any of the rules or
10 regulations or laws that are in effect in the state, did
11 they have CCS in mind when they were written?

12 MR. PERIDAS: No.

13 MS. REHEIS BOYD: No.

14 MR. BAUER: So, while there are rules about, you
15 know, injecting and doing certain things, they weren't
16 written with specifically CCS in mind, and the issues around
17 that, so the need is, now that this is a potential
18 technological answer to part of the problems, to provide
19 that clarity from the intent of the original regulations,
20 whether that means a new legislative decision, or going
21 through the Court system to argue through it, which is
22 probably what would happen at this particular juncture,
23 because many would bring forth the point that these laws
24 were not written, nor the regulations that sprung from them,
25 with CCS in mind. And so I think, as part of what we're

1 trying to say here, now how we say that, I think, is the
2 argument.

3 MR. PERIDAS: Right, and I think this is entirely
4 analogous to what happened at the Federal level with EPA
5 three years ago, EPA said, "Well, we have existing injection
6 well classes which we can use to permit the project in the
7 mean time, but these were never specifically designed with
8 CCS in mind, and for that reason, we will draft a new
9 injection well class." But it didn't mean that no one could
10 permit a project in the mean time.

11 MR. MURRAY: Well, neither does that sentence say
12 that. And frankly, that's the most straightforward sentence
13 in the whole thing, so if we've got problems with that,
14 we're going to be here a long time.

15 MR. PERIDAS: Well, I think it could be implied from
16 that sentence that that is what we're saying, that no one
17 could permit a project until such time -

18 MR. MURRAY: Well, but I don't think that's a
19 reasonable - if "there is a need for clear, efficient, and
20 consistent regulatory requirements for permitting." If you
21 stopped right there, I don't think that infers that things
22 are inadequate, it just says we want them to be better.

23 MR. BAUER: Could we agree to make that statement?
24 Sally?

25 MR. PERIDAS: Well, the first of a kind -

1 MR. MURRAY: No, I'm saying take that part out.
2 Permitting, period.

3 MR. PERIDAS: It's still in there, though.

4 MS. BENSON: I agree with Kevin's approach to this,
5 I think that's fine, just get rid of -

6 MR. RUBIN: "For permitting CCS projects," take out
7 "first of a kind demonstration."

8 MR. BAUER: CCS projects in California, that's it.
9 All right?

10 MR. RUBIN: I think for purposes, to support a
11 recommendation, I think this is the finding we need.

12 MR. BAUER: All right. I would like to suggest that
13 we take a break for 10 minutes right now if it is within our
14 schedule to do that right now. Please be back at a quarter
15 after 10.

16 (Off the record at 10:05 a.m.)

17 (Back on the record at 10:23 a.m.)

18 MR. BAUER: Okay, we're going to move on to the old
19 number six. John, can you move us to the old number six,
20 which would now be number seven, I guess? "Performance
21 standards are needed for geologic storage," etc.

22 MR. MURRAY: I would make one comment, that you
23 should never anywhere in this report put the words in
24 "acceptable levels of leakage."

25 MR. BAUER: Okay.

1 MR. MURRAY: I would say just "performance standards
2 are needed," but you lose going in if you say there are
3 acceptable levels of leakage.

4 MR. BAUER: So we just say "performance standards
5 are needed for geologic storage projects?"

6 MS. BENSON: Well, I have a suggestion to say
7 "performance standards are needed for geologic storage
8 projects to ensure that permitted projects are safe and
9 effective."

10 MR. MURRAY: All right, I'm sold with that.

11 MR. BAUER: Are we all good with that?

12 MR. CODDINGTON: This is Kip. Can you hear me?

13 MR. RUBIN: I have something similar, I have
14 "standards and/or procedures are needed to establish," yeah.

15 MR. KING [presumed]: And we're going to drop the 99
16 over 1,000 years?

17 MR. BAUER: Yeah, because that's saying what the
18 standards should be, maybe we'll do that in the
19 recommendation, or maybe not. George.

20 MR. RUBIN: But the word "performance," it has to
21 basically say standards. You need standards or procedures
22 to ensure that they're safe and effective. "Performance
23 standards," that would be a recommendation that it be a
24 performance standard as opposed to something else.

25 MR. BAUER: So what would you say, "standards are

1 needed?"

2 MR. RUBIN: Yeah, just say "standards and/or
3 procedures are needed for geologic storage projects," then
4 Sally's words are shorter than what I have, to ensure that
5 they're safe and effective.

6 MR. BAUER: George. Kip?

7 MR. CODDINGTON: Can you hear me?

8 MR. BAUER: Yeah, can you speak into the mic a
9 little harder?

10 MR. CODDINGTON: Okay, yeah, I'm fine with this. I
11 do think the word "performance standard" has special legal
12 meaning, and if you say a "performance standard," it leads
13 you back, I think, to necessarily the box of what an
14 acceptable leakage rate is. So, I would be happy with
15 dropping the word "performance."

16 MR. BAUER: All right. George, and then we'll go to
17 you, Dan.

18 MR. PERIDAS: Yeah, the debate that we've had here
19 is, should you hold a project accountable throughout its
20 lifetime to a standard like 99 percent over a thousand
21 years, given that the operations will not be around for that
22 for a thousand years, or you don't necessarily have to
23 monitor them for a thousand years. And we have a precedent
24 already in that this is not a strict performance standard in
25 the sense that people commonly understand it, but it is a

1 design standard. I think there is a belief that projects
2 can achieve that degree of performance, but that they should
3 be designed, so you should pick a site, and you should
4 operate and monitor the site such that you aspire to that
5 level, but you don't necessarily need to do it for a
6 thousand years to achieve that, and Washington State has
7 regulations that says site selection and so on, project
8 operation has to be such that the project can achieve that
9 standard with a reasonable degree of competency. It's a
10 design and expectation standard.

11 MR. BAUER: That would be in a recommendation,
12 though.

13 MR. PERIDAS: Yeah.

14 MR. BAUER: That is fine, we need standards, and in
15 the recommendation, we would elaborate on some of what you
16 were just saying, I would suggest.

17 MR. PERIDAS: Yes, so I'm saying it to appease some
18 of Kip's worries, so we can say standard here, we're going
19 to strike the e.g., 99 over 1,000, and then we're going to
20 elaborate in the recommendations.

21 MR. CODDINGTON: I just want to put a placeholder
22 here. I'm still not entirely comfortable with what we might
23 later say on this point, but we can cross that bridge when
24 we come to it.

25 MR. RUBIN: So "standards and/or procedures are

1 needed for geologic storage projects to..." -

2 MR. BAUER: That would be period.

3 MR. RUBIN: -- no, "...to ensure their safe and
4 effective operation." It's saying what the standards and
5 procedures need to achieve.

6 MR. BAUER: And then we want to make sure people
7 wouldn't think we want standards to make it unsafe.

8 MR. RUBIN: Exactly.

9 MS. BENSON: So I think we should just leave it as
10 "standards are needed for geologic storage projects to
11 ensure that they are safe and effective." To say
12 "processes," I mean, process could be a standard, there are
13 all different kinds of standards, so I think standard is the
14 general term.

15 MR. RUBIN: If "standard" includes procedures, I'm
16 happy with it.

17 MR. BAUER: So you want to take and/or procedures
18 out and just say "standards are needed for geologic storage
19 projects to ensure their safe and effective operation." Is
20 that the - all right. John, if you -

21 MR. SKOPEC: And remove everything else after that.

22 MR. BAUER: Yeah, everything else is coming off and
23 we'll deal with whatever more detail we want to go in the
24 recommendation at the Recommendation point. All right, I'd
25 like to move to the next one, Post-Closure Monitoring.

1 Sally.

2 MS. BENSON: I suggest we eliminate this altogether,
3 it's way too detailed. It's basically part of number 5.

4 MR. BAUER: Yeah, I was going to say I think it's
5 inherent in what we just did.

6 MR. MURRAY: It requires us to agree on [inaudible].

7 MR. BAUER: Let's drop it. All right, drop old
8 number seven. Number eight was "a fee-based structure
9 should be established for long-term stewardship of the CO₂,
10 that's kind of a recommendation.

11 MR. MURRAY: Is that really what we meant? Or is
12 this the idea that there's a painting into a fund for
13 liability? Is that really what we're trying to say here?
14 Because the fee means -- then what does this mean?

15 MR. BAUER: Use you mic, please, George.

16 MR. MURRAY: So, again, I don't understand what this
17 one means.

18 MR. PERIDAS: Well, I think this is different from
19 liability. We split stewardship and liability. One means
20 who takes care of a site after the operator no longer has a
21 duty to monitor, and who remediates if necessary; the other
22 liability means, if something goes wrong, who can you go and
23 chase in the courts and under what authority.

24 MR. MURRAY: So, again, walk me through - I'm an
25 operator, I have a site, I close the site -

1 MR. PERIDAS: They you stop monitoring, a state
2 agency comes in and performs those duties for you, using
3 revenues from this fee-based fund that we're talking about,
4 but if something is discovered during that state
5 administered -

6 MR. MURRAY: When you say "fee-based fund," that's
7 different than the insurance fund we're talking about, so
8 I'm -

9 MR. RUBIN: Well, first of all, seven and eight as
10 they're currently written really are recommendations,
11 they're not findings. The question is whether we need a
12 finding different from what we already have that addresses
13 issues of essentially the post-closure period, the long term
14 stewardship period. For example, we might have a finding
15 independent of one we just crafted, is that regulations or
16 procedures are needed to ensure that geologic storage sites
17 remain safe and effective subsequent to completion of
18 injection, or something of that sort. Basically, that
19 highlights the period after the injection stops.

20 MR. MURRAY: So, after the injection stops, somebody
21 has to have long term stewardships, so who is paying the fee
22 and to whom under the covenants -

23 MR. PERIDAS: Actually, they wouldn't be paying into
24 that fee.

25 MR. MURRAY: The who?

1 MR. PERIDAS: The owner/operator of the project.

2 MR. MURRAY: So they'd be paying a fee during the
3 lifetime.

4 MR. RUBIN: Yeah.

5 MR. PERIDAS: Yes.

6 MR. MURRAY: So it seems to me this is still the
7 same concept as the fund for both long term stewardship and
8 to remediate any issues, so -

9 MR. RUBIN: Yeah, but that's part of a
10 recommendation. Again, first there would need to be a
11 finding that there is a need to - maybe the finding simply
12 is there is a need to address the long term stewardship of
13 closed geologic storage sites.

14 MR. MURRAY: Right, so I would say there is a need
15 to address the long term stewardship -

16 MR. RUBIN: Of closed - I think that would be the
17 way to put it.

18 MR. MURRAY: -- and leave it at that. [Inaudible]
19 fee structure or some other -

20 MR. BAUER: All right, so is everybody okay with
21 that recognition here in the finding, that we delete just
22 one and replace it with "there is a need?"

23 MR. RUBIN: "There is a need to address the long
24 term stewardship of closed geologic storage sites."

25 MR. BAUER: All right, then that would also

1 encompass number nine, then, too.

2 MR. RUBIN: That would replace the current -

3 MR. MURRAY: Yeah, number nine is a problem for
4 different reasons, is that the idea, if you have in a
5 sentence, "State or Federal government assume risk," that's
6 going to be a red flag.

7 MR. BAUER: Well, until suggested, it may never
8 happen, as well, though.

9 MR. MURRAY: Well, a better term of art, then,
10 assume the risks.

11 MR. RUBIN: That would replace the current eight and
12 nine.

13 MR. BAUER: Which would?

14 MR. RUBIN: The statement I just offered. So, the
15 finding was "there is a need to address the long term
16 stewardship of closed geologic storage sites."

17 Mr. BAUER: Okay and get rid of eight and nine.

18 MR. RUBIN: And then get rid of the one that
19 follows.

20 MR. BAUER: Are the other members of the panel
21 comfortable with that?

22 MR. CODDINGTON: This is Kip. Can everybody hear
23 me?

24 MR. BAUER: Yeah, go ahead, Kip.

25 MR. CODDINGTON: Yeah, and again, this is probably

1 not the right time, but I do think there is a critical need
2 for everyone to have an understanding and to use the same
3 language regarding the phases of a storage site, and there
4 is now sort of agreed upon recognition of what's called the
5 post-closure stewardship phase. And that actually begins at
6 some time after injection has stopped. And a lot of this
7 language which is now existing in the Federal EPA rules, and
8 the reason why not only is it important that we be very
9 consistent about our use of language, but there are already
10 the financial mechanisms under the Federal Rules. So, for
11 example, under the Federal Rules, there are what's known as
12 financial responsibility and financial assurance mechanisms
13 that the private parties already have to comply with. And I
14 think at some point we just need to acknowledge all of that,
15 so I'm just reserving the right that, at some future date
16 when we actually get, you know, definitive words down on
17 paper, there probably is going to still need to be some
18 wordsmithing to make sure that we're being entirely
19 internally consistent and also consistent with what the
20 Federal Programs are.

21 MR. BAUER: Okay, Sally, you had something?

22 George,, and then John.

23 MR. PERIDAS: Yeah, Kip, you're right, but the EPA
24 requirements cease at the point when the administrator
25 grounds the certificate of closure. What we're talking

1 about here is stewardship post-closure.

2 MR. CODDINGTON: I just think we need to use - we
3 just need to make sure that we're using the same language
4 that they're using in the Federal Rules, that's all, just so
5 we're all drawing the same line and everyone knows where
6 those lines are. That's all.

7 MR. BAUER: Carl. So, the term of art you suggest
8 we use here, Kip, is post-closure?

9 MR. CODDINGTON: I would need to go back and see
10 what the Federal Rules say. The phrase I'm used to hearing
11 is the post-closure stewardship period, and that is at the
12 time that George just indicated, when the appropriate
13 Federal or State regulator says to the private parties,
14 "You're done." And that's a critical legal date.

15 MR. RUBIN: So replace the words "long term" with
16 "post-closure."

17 MR. MURRAY: No, I wouldn't. I would not use legal
18 terms of art that have a meaning somewhere because we're
19 just in a kind of - we're just sort of making findings here,
20 we are not determining the legal language that would go in a
21 statute somewhere. So, I think we're way over-analyzing
22 this. In fact, I would argue that, in this section of this
23 report, we need to be more general in terms of not using
24 legal terms of art so that we don't lock the eventual people
25 who draft regulations and/or legislation into some language

1 which may, by that time, have a different meaning.

2 MR. BAUER: I think that's a good point, Kevin.
3 John, you've been patient. Please.

4 MR. KING: So, I think - this is John - I think
5 there's some logic to the way seven, eight and nine were
6 laid out in terms of sequential periods of time, that maybe
7 we could capture in one finding that, you know, "Issues
8 around financial responsibility for the following periods of
9 time need to be addressed:" and bullet one would be post-
10 injection monitoring, bullet two would be some intermediate
11 period for stewardship and maintenance of that reservoir,
12 and period three would be the very long term, beyond the
13 period that it stabilizes -

14 MR. BAUER: Yeah, this would be somewhat in keeping
15 and Kevin's suggestion of being a little more general, we
16 would just say that we would recognize that there are
17 various phases that need to be addressed.

18 MR. KING: That need to be addressed. And I would
19 be remiss if I didn't say -- I think we talked about the
20 opposite of this, actually, that there was a need for
21 government to have a role, but it may be just the way this
22 is read that I'm slightly misinterpreting what is intended
23 here.

24 MR. BAUER: Well, I don't think the panel came to
25 closure, as Kevin indicated, on recommending the

1 government's role, but recognizing there may be the
2 potential for the government to have a role.

3 MR. RUBIN: Okay, let's discuss that when we get to
4 recommendations.

5 MR. BAUER: So we need to - Sally, go ahead.

6 MS. BENSON: Yeah. Yesterday, I got a new set of
7 draft guidance from the EPA that deals with long term
8 stewardship, and I don't know if any of the rest of you have
9 seen it, but I was actually quite interested that they seem
10 to be taking a much more flexible approach, that it
11 appeared, at least, that the operator could choose to self-
12 insure, it could, yeah, so it was far less proscriptive than
13 some of the suggestions that perhaps have been leading up to
14 this point. So, Kip, maybe you were on top of that, but I
15 certainly think we should inform ourselves about this very
16 new report. I just had time to briefly skim through it.

17 MR. CODDINGTON: Yeah, again, George, correct me if
18 I'm wrong, that's an excellent point, Sally. Again, though,
19 I think all of that deals with the "financial assurance"
20 [quote unquote] or financial responsibility mechanism of the
21 UIC Rule, and those do say you can use Letters of Credits,
22 insurance policies, none of which -- and, George, correct me
23 if I'm wrong -- deals with this post-closure stewardship
24 period about which we are discussing now.

25 MR. PERIDDAS: You're right, Kip. These apply up

1 until the point of closure, so then again we're in the dark.

2 MS. BENSON: I just think we should look at it
3 because my quick read of it was not that they had limited
4 themselves to that discussion, but...

5 MR. CODDINGTON: No, that actually -- just, actually
6 on that point, it's very clear, and EPA has stated on the
7 record that it has no responsibility, it has no legal
8 authority, to impose or address stewardship responsibilities
9 when the post-closure certification is issued. So, I think
10 EPA has been very unambiguous, that it's only taken it so
11 far and that's up to the post-closure period, and then its
12 responsibility is under the law and it can do no more, and
13 that is the critical gap going forward.

14 MR. BAUER: This is Carl. The problem we have is
15 that we need to close our particular set of investigations
16 that is taking place over this year, and these things are
17 coming forward now. We may need to revisit this report if
18 the agencies desire to have it done, but trying to read
19 emerging things and stay ahead, we will continue to have
20 this iteration going on, and we need to come to closure on
21 this. So, I think we may want to note this emerging report
22 needs to be considered in the implementation, but to try to
23 review that and inject it into this report at this juncture,
24 I think, extends us further out that we have been authorized
25 to operate. If you all accept that, I would just suggest,

1 Sally, if you can give us a statement referencing, or Kip,
2 on that report that's out and that there are some
3 indications that should be considered in implementing our
4 recommendations. With that, we need a statement that covers
5 those three findings, as John indicated. Does anyone have a
6 statement they want to share on that? The statement was
7 basically, in taking Kevin's suggestion of being a little
8 more general, that the stewardship over the various phases
9 of carbon capture and sequestration, including post-closure,
10 need to be addressed and provided for.

11 MR. RUBIN: Are we saying that current EPA Rules do
12 provide for clear financial responsibilities during the
13 operation and closure period?

14 MR. CODDINGTON: Yes.

15 MR. RUBIN: So, if that is in fact the case, then it
16 would seem to me the only remaining issue here is in that
17 long term stewardship phase, the post-closure, for which EPA
18 does not have responsibilities, which would leave this
19 statement the way it was. So, I mean, it sounds, John, that
20 EPA has covered those other phases. Is that right? Yeah,
21 that's my understanding of the current rule. And then, the
22 only other thing to add, again, is "in California."

23 MR. BAUER: Okay. So where does that leave us,
24 then?

25 MR. MURRAY: For that new number nine, it takes care

1 of eight, nine, and 10.

2 MR. RUBIN: Yes.

3 MR. BAUER: Are we all okay with that?

4 MR. SURLES: [off mic]

5 MR. BAUER: Yes, go ahead, Terry.

6 MR. SURLES: [inaudible] everybody was always quite
7 careful about the [inaudible] stewardship and liability - so
8 as you're collapsing, as you're collapsing these three,
9 you're somehow merging the monitoring requirements to
10 stewardship requirements and the liability requirements.
11 That's okay, but to leave just the word "stewardship" in
12 there, I think you're losing the monitoring and the
13 liability issues. That's why I kind of asked John to put it
14 in the financial responsibility -- in the parens there for
15 you to consider. So, I think "stewardship" doesn't actually
16 get at these other two points, that you lose when you
17 collapse --

18 MR. RUBIN: Terry, I think we were arguing - Sally,
19 as well - that the current number seven at least implicitly
20 covers all that, to ensure the safe and effective operation,
21 I could argue, includes a requirement for financing any
22 remediation measures that might be needed, and a whole host
23 of other, including MM&V requirements, during the operation
24 and closure period. The question is whether we want to have
25 an explicit finding about that. My sense was that it would

1 be overworking it at this stage.

2 MR. SURLES: Sure. I'll leave it that, in the
3 findings, you're dropping the point of liability, so if
4 you're doing that with malice aforethought, that's fine.

5 MR. BAUER: Well, I think Kip's suggestion, and
6 correct me, Kip, please, but you suggested that the EPA's
7 recent rulings have incorporated some of those
8 responsibilities. Is that true?

9 MR. CODDINGTON: During periods up to what is known
10 as the post-closure stewardship period, yes.

11 MR. KING: So, a suggestion would be, kind of going
12 back to my suggestion of three bullets that make clear there
13 are three phases to projects, in the finding, that these
14 need to be addressed, and then, in the recommendations,
15 recommend for California that we look at the EPA
16 requirements for those first two, so that it's clear what
17 we're talking about when we make recommendations on the
18 third phase.

19 MR. BAUER: So, we take the statement we have and
20 put three bullets under it of the three phases.

21 MR. KING: Yep.

22 MR. BAUER: Okay.

23 MR. KING: And then we alluded in the
24 recommendations to where things had been covered off by
25 recent EPA UIC rules.

1 MR. RUBIN: It might be helpful, actually, to expand
2 the finding, or put a separate one, simply to say that our
3 finding is that a CCS project has three phases, and we could
4 call them operation, post-closure, and long term
5 stewardship, or whatever -

6 MR. BAUER: I think for us to have that finding when
7 EPA has already come out and declared it is - I don't know
8 whether we really need to do that, or is it just redundant
9 to what already exists now?

10 MR. MURRAY: My experience with both California
11 regulators and the Legislature is that they tend not to care
12 what the Federal Government did, so -

13 MR. BAUER: You can say that - so let's come to a
14 resolution on it because we still have to get to the
15 recommendations today and we're running out of hours.

16 MS. REHEIS BOYD: So we just put three there? Is
17 that what you're recommending, John? Can you just read them
18 so we can type them in and move on?

19 MR. KING: So, what the three would be?

20 MR. BAUER: Yeah, state the three.

21 MR. KING: So the first would be "Operating Phase,"
22 the second would be "Post-Closure Monitoring," and, well,
23 the Operating Phase is probably really Phase zero, so the
24 three we talked about were "Post-Closure Monitoring," the
25 second would be an intermediate phase when the monitoring

1 has ceased, but you're still - I had it in my head, but I'm
2 struggling. So, let's start from the bottom, the third
3 phase is the very long term, after all activities, including
4 monitoring have ceased. Sally, help me here, you have
5 these.

6 MS. BENSON: Yes, I would call the last one "Post-
7 Closure," so the site is completely closed, but there's some
8 kind of ongoing, you know, infrequent oversight. And then,
9 the closure means basically, okay, you finished injecting,
10 but you're closing up your wells, you're doing your final
11 monitoring, you're comparing it to your model to make sure
12 that everything is going as expected. So I think this is
13 fine the way it is written.

14 MR. BAUER: So those three would be just three
15 bullets underneath that statement of finding.

16 MS. BENSON: Right.

17 MR. KING: Right, and this is around financial
18 responsibility, it needs to be addressed in those three.

19 MR. MURRAY: So this gets rid of eight, the previous
20 nine, and ten?

21 MR. BAUER: I believe so. George, you had a
22 comment?

23 MR. PERIDAS: Yeah, I don't think it makes sense the
24 way it's written because in the main body, it says "long
25 term stewardship of closed sites," and then it says -

1 MS. BENSON: Yeah, the heading needs to be changed.
2 It says there is a need for monitoring, liability -

3 MR. MURRAY: There is a need to address -

4 MR. KING: Financial responsibility, and just delete
5 everything up to that.

6 MR. BAUER: We could just say financial
7 responsibility and -

8 MR. MURRAY: What about safety and all the other
9 things that someone has to look at when the site is closed?
10 Or just financial responsibility?

11 MR. KING: Well, this is a finding about financial
12 responsibility.

13 MR. MURRAY: Is it? Because it is also taking away
14 post-closure monitoring and -

15 MS. BENSON: I think it is financial responsibility
16 for stewardship and stewardship means safe and effective.

17 MR. MURRAY: I just still think we're better using
18 the word "safety" and

19 MR. BAUER: Number seven has "safety," but number
20 seven above already addressed safety, "to ensure safe and
21 effective operation."

22 MR. MURRAY: Well, those are the performance
23 standards, then the responsibility, financial and otherwise
24 --

25 MR. KING: And delete the word "closed" related to

1 geologic storage sites.

2 MR. BAUER: Okay.

3 MS. BENSON: How about we say there is a need for
4 clear financial responsibility for safety and storage
5 assurance throughout the lifecycle of the project, including
6 operating phase, post-closure monitoring, and whatever?

7 MR. BAUER: All right, that sounds good.

8 MS. BENSON: Because we just want to know who is
9 responsible.

10 MR. BAUER: All right. Can you give that statement
11 again so that John can catch it?

12 UNIDENTIFIED SPEAKER: [off mic]

13 MS. BENSON: Yeah, I think that works.

14 MR. BAUER: All right, then the next one goes away?

15 MR. KING: How about if we call that "Post-Injection
16 Monitoring?" Would that be good? Okay. So, Post-Injection
17 Monitoring. And then, once you finish that phase, you've
18 closed the site, so it's "Post-Closure Monitoring" after
19 that.

20 MS. BENSON: And there might be some action such as
21 remediation, so I think that monitoring is too narrow, so it
22 should say "Post-Closure Monitoring and Remediation, if
23 needed."

24 MR. KING: Or just "Post-Closure."

25 MS. BENSON: Right, and not say -

1 MR. KING: Hopefully nothing is happening post-
2 closure, so, yeah.

3 MR. BAUER: All right, and then the next statement,
4 does that still remain? "Response to long term financial
5 liability should rest with..." Do we still want to say that?
6 Okay, well, I just want to make sure we are agreeable to
7 that. So, the next one goes out. All right, the next one,
8 then, is the "Carbon credits for CCS Development." George.

9 MR. PERIDAS: Carl, before we leave that, could we
10 clarify the word "developer" a little bit further? Since
11 there could be an entire host of operators and owners
12 involved in the whole chain, I don't think we want to single
13 out any particular one.

14 MR. MURRAY: I think we deleted that whole sentence,
15 so why do we need to -

16 MR. PERIDAS: Oh, deleting the whole thing?

17 MR. MURRAY: We're deleting the whole thing.

18 MR. BAUER: But if that word crops up in other
19 places, which I think it does, I agree with George's point.
20 The developer shouldn't be -

21 MURRAY: I agree.

22 MR. BAUER: The next one, the carbon credits for CCS
23 development projects.

24 MR. MURRAY: I would be happy if we just put the
25 word "proposed" in front of State administered cap-and-trade

1 program." So we're acknowledging that these credits would
2 apply, but we're not advocating. And that same suggestion,
3 wherever else that cap-and-trade is referenced.

4 MR. BAUER: So you got that, John? Number ten up
5 there as part of a proposed State administered cap-and-trade
6 program?

7 MR. KING: Proposed or potential.

8 MR. BAUER: George.

9 MS. BENSON: Is that a finding or is that a
10 recommendation? It sounds to me like we're recommending
11 that it should be part of the proposed cap-and-trade
12 program.

13 MR. BAUER: Okay, so do we want to recognize a
14 Finding there?

15 MR. PERIDAS: I think the finding, even if it's sort
16 of a - they should be more general. Again, it shouldn't
17 just be limited to cap-and-trade, I think it should be
18 limited to State laws and policies to reduce CO₂ emissions.

19 MR. BAUER: That's fine. Let's do away with cap-
20 and-trade and State laws and policies.

21 MR. MURRAY: That works for me.

22 MR. PERIDAS: And I'm not sure the carbon credits is
23 the term of art. I think emission reductions are - avoided
24 emissions.

25 MR. MURRAY: -- credits, yeah.

1 UNIDENTIFIED MALE SPEAKER: But, still, the question
2 is, is this a Finding or a Recommendation?

3 MR. MURRAY: I think it's a Finding if you make it
4 more general.

5 MS. BENSON: I think it's a finding if our conclusion
6 is that we're confident that CO₂ capture and storage will
7 reduce emissions; consequently, it should be - you know, it
8 could be allowed as a part of an emissions reduction scheme.
9 I think that Finding is a statement of confidence in the
10 technology.

11 MR. BAUER: So, what is the panel's pleasure on
12 this?

13 MR. KING: I think it's a recommendation.

14 MR. RUBIN: Can we back up to see if there was
15 something earlier that covers this? Or, did we - this is
16 the problem I have with the logic with the order in which
17 some of these are presented.

18 MS. BENSON: We said it is safe and effective in the
19 second sentence, or the second main finding.

20 MR. RUBIN: Permitting -

21 MS. BENSON: It's the second one there.

22 MR. RUBIN: Yeah, okay. So, basically, actually,
23 logically, I think up front is where you need to say
24 something - if it is safe and effective and the technology
25 exists, it seems to me, after that, you want to say

1 something about there is a need to -

2 MR. BAUER: Well, let's fix the same, we -

3 MR. RUBIN: Yeah, we can always - but basically

4 there is a need to -

5 MR. BAUER: Go back to the statement, John, please.

6 MR. RUBIN: There is a need to ensure that CCS can

7 be used to comply with California greenhouse gas -

8 MR. BAUER: Number ten.

9 MR. PERIDAS: It poses a question in number two
10 under key issues, so the previous section, I think we had
11 the exact same discussion.

12 MR. BAUER: Yeah.

13 MR. PERIDAS: So, what did we write back there,
14 point two in the previous section? We made some edit there.

15 MR. RUBIN: It's basically the same issue, now
16 stated as a finding.

17 MR. PERIDAS: Right.

18 MR. BAUER: [off mic]

19 MS. BENSON: Do not go back.

20 MR. PERIDAS: Let's scroll back to the previous
21 section and see what we -

22 MS. BENSON: I really think this is a -

23 MR. RUBIN: We have an alarming way of repeating
24 things, and you state it once as a question, and second as a
25 statement.

1 MS. BENSON: I think this is really a
2 recommendation.

3 MR. BAUER: Yeah. Or do you just want to have a
4 recommendation out of the blue on something?

5 MR. KING: Can we just look at how we resolve this?
6 Like George suggested, if we could scroll up the document, I
7 think it was number seven before, I don't know where it
8 ended up.

9 MR. RUBIN: Is there a finding that CCS is not -

10 MR. KING: All the way up to Key Issues.

11 MR. RUBIN: Is there a finding that would say that -

12 MR. KING: All the way up, another page.

13 MR. RUBIN: Is there a finding that would say that
14 at the present time, emission reduction from CCS would not
15 receive credit under California's policy? George?

16 MR. BAUER: Maybe the finding was something along
17 that line, that the present implementation is unclear about
18 how CCS would be credited.

19 MR. RUBIN: At present, it is not clear how or
20 whether emission reductions from CCS would be credited under
21 California policy.

22 MR. PERIDAS: Just to whether tomorrow this might
23 change, so...

24 MR. BAUER: I know, but we can't deal with what
25 tomorrow is going to be, we're supposed to be dealing with

1 what it could be, or should be.

2 MR. PERIDAS: All right. I'm saying maybe we
3 shouldn't spend too much time on this now when the situation
4 might change tomorrow. By "tomorrow," I mean literally
5 tomorrow.

6 MR. BAUER: Unless you're suggesting we're all here
7 tomorrow to re-work it, we better figure out what we want to
8 do today.

9 MR. RUBIN: So, let's refine the Finding. As of
10 December 15th, it is not clear whether or how CCS would
11 receive credit under AB 32.

12 MR. CODDINGTON: This is Kip. I actually - I
13 disagree with this because I think we're making the comments
14 all general, when we actually have a lot more specific
15 information in front of us. The Technical Advisory
16 Committee provided us with a superb white paper precisely on
17 this point, and what they said was that carbon capture and
18 storage is not included under AB 32 because there was not a
19 mechanism, it is not specifically included under the MRR,
20 and unless you're in the MRR system, you cannot report your
21 emission reductions and get [quote unquote] "credit" for it
22 under AB 32. So, we actually know it's not included under
23 AB 32 now because it's not under the MRR.

24 MR. MURRAY: What is MRR?

25 MR. BAUER: Mandatory Reporting Requirement

1 MS. REHEIS BOYD: But you said -

2 MR. CODDINGTON: And if we wanted to fix it, all we
3 would just say is that include CCS under the MRR, period.

4 MS. REHEIS BOYD: But I think the finding is what
5 you just said. The recommendation is to go do it.

6 MR. BAUER: Yeah, I agree.

7 MS. REHEIS BOYD: So, actually, whatever you said on
8 the finding, that was great. It's not included in the MRR
9 and it's not included under AB 32 right now.

10 MR. BAUER: So that would be the finding. Are we
11 okay with that? Kip, can you just send an e-mail to her
12 with the statement?

13 MR. CODDINGTON: Absolutely.

14 MR. BAUER: You know, just send -

15 MS. REHEIS BOYD: Yeah, it's very factual.

16 MR. BAUER: And then, John, you can insert it when
17 you get it over there, okay? We're going to replace number
18 ten -

19 MR. RUBIN: I would suggest we move that up front
20 because those are -

21 MR. BAUER: Well, I understand, that is a different
22 subject. Let's get the statement and then we can move them
23 around in the order later on, but we don't have to do that
24 here. So, Kip will give us a replacement statement for
25 number ten. All right, everybody okay with that? And we'll

1 move on to number eleven?

2 MS. COOMBS: This is Mary Jane Coombs from the Air
3 Resources Board. I would add that it not just under
4 reported regulations, it has to be included also under the
5 cap-and-trade [off mic].

6 MR. BAUER: Okay, did you get that, Kip?

7 MR. CODDINGTON: No.

8 MR. BAUER: Give Mary a phone.

9 MR. MURRAY: The proposed cap-and-trade.

10 MS. COOMBS: This is Mary Jane Coombs from the Air
11 Resources Board. I would just add, Kip, to your statement
12 that there would need to be allowances made in the cap-and-
13 trade program specifically for CCS to be reported as
14 emissions reduction, not just the MRR.

15 MR. CODDINGTON: Agreed.

16 MR. BAUER: Okay, thank you for that clarity.

17 MR. SKOPEC: This is Dan Skopec. Before we go on to
18 the next one, you know, we've talked about this not being -
19 I mean, this is possibly the final public meeting of this
20 group, but that there will be some changes to the report
21 before it's published, and then, other times we've talked
22 about we have to do what we know today, not what's going to
23 happen at the Air Resources Board tomorrow. But if this
24 report is published post-December 16th, then we should be
25 prepared, maybe not today, but after tomorrow, to align it

1 with what the Air Resources Board does tomorrow because,
2 otherwise, I think it just makes us look silly that we've
3 got a report dated December whatever, or January whatever,
4 and it's not acknowledging what the Air Resources Board has
5 adopted. So, we can work on that later, we don't have to
6 fight about it now, but I just wanted to make that
7 statement.

8 MR. MURRAY: Just one other process question, Carl.
9 When we started the day, we made some general statements and
10 changes, but we didn't do line by line like we've been doing
11 for the last little bit, so I just wanted to make sure those
12 things that were mentioned earlier in the meeting -

13 MR. BAUER: How to capture -

14 MR. MURRAY: -- so we don't end up stuck with this
15 line by line and forget the other general things that we've
16 talked about.

17 MR. BAUER: Everything that is being said today is
18 being recorded, so we have all that to glean through and -
19 yeah, well, I think that will happen. Eleven.

20 MR. SKOPEC: I would ask that we delete the last
21 sentence and we can talk about it in recommendations.

22 MR. BAUER: Yeah, I agree.

23 MR. MURRAY: And, again, we have the term
24 "developer." Why don't we just say, again, this is one of
25 those things - why don't we just say "Ownership of pour

1 space could either be - should be clarified and -

2 MR. RUBIN: Stop, stop, we're still talking about
3 something that is a recommendation. If we want to have this
4 as a finding, there needs to be some finding about pour
5 space, this is not a statement of findings.

6 MR. MURRAY: Ownership of pour space should be
7 clarified.

8 MR. RUBIN: There is a need to clarify - okay.

9 MR. MURRAY: Ownership of pour space should be
10 clarified, period.

11 MR. BAUER: George.

12 MR. PERIDAS: Well, I have a question. I'm not sure
13 the ownership should be clarified, I think the mechanisms
14 for aggregating the rights should be clarified.

15 MR. MURRAY: Yeah, but that's the same thing.

16 MR. PERIDAS: It's not the same thing.

17 MR. MURRAY: You aggregate by -

18 MR. BAUER: But George - I think the - let's say the
19 finding needs to be clarified. In the recommendation, we may
20 have to recognize that not only the ownership, but the
21 aggregation potential, whether we would recommend that, as
22 with a gas or something else where they have the marching
23 rights, or do we have -

24 MR. MURRAY: I think we're making it too
25 complicated. Aggregation is the conglomeration of either

1 ownership or right to use, so I don't think you need to say
2 aggregating. You need to say "right to use." But so, we're
3 making this more complicated by a factor by going beyond
4 just we need to clarify ownership and use of pour space.

5 MR. PERIDAS: That's different, though. The
6 ownership of pour space could be taken as a question as to
7 who owns it, and right now there's established common law
8 that says that the surface owner owns it.

9 MR. MURRAY: It could be taken that way, and it also
10 could be taken -

11 MR. BAUER: But if we say the finding is it needs to
12 be clarified, the recommendation would be we suggest how it
13 would be clarified.

14 MR. RUBIN: No, but the need in the context of CCS
15 is not solely to clarify who owns it, the need in the
16 context of CCS is how -

17 MS. REHEIS BOYD: I think it's right to use is the
18 key issue.

19 MR. RUBIN: -- is how pour space -

20 MR. MURRAY: So let's say right to use pour space -

21 MR. RUBIN: -- there is a need to clarify how pour
22 space becomes available for use in CCS projects.

23 MR. BAUER: All right, let's say that. Let's say
24 that.

25 MR. RUBIN: It could be said a little bit more

1 elegantly, but -

2 MR. MURRAY: The right to use it should be
3 clarified.

4 MR. RUBIN: There is a need to clarify the
5 procedures by which - or processes by which CCS can be made
6 available -

7 MR. MURRAY: You're adding more words, I'm trying to
8 use less words.

9 MR. RUBIN: Yeah, well. So help me, but that's
10 basically the essence of what we need to say.

11 MR. MURRAY: So we're not talking about ownership,
12 we're talking about right to use.

13 MS. BENSON: Right, because ownership is just one
14 aspect of right to use. So the big heading is the right to
15 use.

16 MR. MURRAY: -- one aspect.

17 MS. BENSON: George, does right to use capture your
18 concern? Or is that not broad enough?

19 MR. RUBIN: The right to use pour space for CCS
20 projects must be clarified.

21 MR. MURRAY: Right.

22 MR. RUBIN: How's that?

23 MR. BAUER: Everybody okay with that, then? Let's
24 move on to the next one. Number twelve, further research is
25 needed - this is almost like a course.

1 MS. BENSON: I think we should eliminate this.

2 MR. MURRAY: Yeah, I agree.

3 MR. KING: An academic person said eliminate further
4 research is needed?

5 MR. RUBIN: I second the motion.

6 MR. BAUER: All right, then. Thirteen now 12?
7 There was general agreement on the need - that's not a
8 finding statement, but -

9 MR. MURRAY: -- thirteen, so public education on the
10 technical - I would not say on technical and financial risk,
11 I would just say there is a need for public education on
12 CCS.

13 MR. BAUER: CCS, okay.

14 MR. MURRAY: Period.

15 MR. BAUER: George?

16 MR. PERIDAS: Yeah, I think we want to be careful
17 here in that we don't create an impression that a group
18 knows best, the rest has to swallow. I think we also need
19 to mention access to reliable information, should a
20 community or someone else choose to go seeking that
21 information.

22 MR. MURRAY: Well, that's encompassed in public
23 education. We can recommend specific methods of public
24 education.

25 MR. BAUER: I think your observation, and, George,

1 it probably does fit in the recommendation of how one does
2 address this finding.

3 MR. PERIDAS: Access to reliable information are
4 words I'm willing to use. Education means, "I know best, I
5 teach you."

6 MR. MURRAY: Well, I would say access to reliable
7 information is you deciding what reliable information. I
8 mean, I would argue the exact opposite of that sentence.

9 MR. BAUER: Well, it's so far the question, who is
10 the source of reliable information.

11 MR. MURRAY: Right.

12 MS. BENSON: But, I think the finding is that,
13 because CCS is a new technology, the public has not had the
14 opportunity to become informed, and access to reliable
15 information is needed, or something like that. Because,
16 really, the finding is that people just don't know about
17 this.

18 MR. MURRAY: So public education, I think,
19 encompasses everything we could possibly decide that they
20 need to know.

21 MR. KING: But how about we say there's a need for
22 the public to be informed? Because I think that's subtly
23 different, but George makes a good point that education sort
24 of sounds like we're going to teach you.

25 MR. MURRAY: You could say there is a need for

1 public information.

2 MR. BAUER: On CCS.

3 MR. MURRAY: Same thing as public education. Or
4 same thing as reliable sources, they're all -

5 MR. PERIDAS: No, education is -

6 MR. RUBIN: Think about the finding that will be
7 needed to support whatever recommendation we're going to
8 make, so if we start with the recommendation, think about
9 what that might look like, and then work backwards to craft
10 the finding and support -

11 MR. MURRAY: Or work forward from - all our
12 discussions have been that one of our problems with this is
13 going to be a public relations problem, and that we needed,
14 in order to get these projects approved, we needed to have
15 the public understand the benefits and risks.

16 MR. BAUER: Maybe that public understanding is the
17 finding. The finding is that we need more public
18 understanding of CCS.

19 MR. MURRAY: I'm okay with that.

20 MS. BENSON: Yeah, that's good.

21 MR. BAUER: Then the recommendation would be about
22 the education and how to address that.

23 MR. MURRAY: That's good.

24 MR. BAUER: So if you're okay with that, that
25 there's a need for increased public understanding of CCS,

1 that's the finding; then, the recommendation is how we deal
2 with that. The last one here is -

3 MR. MURRAY: Solomonic in your decision there. I'm
4 very excited to hear your explanation.

5 MR. BAUER: Basically, what 14 was trying to say was
6 that the problem is, when you try to look at the economics
7 of CCS, and especially with EOR, as part of the early mover,
8 or the early opportunities, the economic benefits for EOR
9 really accrue more to the state, in general. The
10 informational understanding gained by doing CCS goes beyond
11 just the first performer, and so the point was, with the
12 high cost, one of the economic incentives for someone to do
13 it if they are really not the major beneficiary, other than
14 meeting the AB 32 requirements of CO₂ offset, or avoidance,
15 that someone would make the investment. So, that was kind
16 of thrown up there to try to say, you know, there's a lot of
17 benefit to the state, there's a lot of benefit if you do EOR
18 from the standpoint of state revenues, both by separation
19 taxes, as well as revenues of the materials that come in,
20 domestic oil supply, and all that. But those don't accrue
21 to the person doing the capture of CO₂ and moving it
22 someplace, and so they really don't underwrite their costs
23 because they're going to get paid the standard whatever it
24 is, \$20.00 a ton for CO₂. The point of the finding is that
25 the economic incentives for an entity to do CCS at this

1 particular juncture do not really drive them that way.

2 MR. MURRAY: I'm not sure that -

3 MR. BAUER: So we could delete this gobbled gook of
4 words, but the point was, it doesn't stimulate it happening.
5 If you look at what's happened with projects across the
6 country over the last three years, all the large entities
7 that are pushing projects forward are backing away from them
8 because it just doesn't work out economically for them.

9 MR. RUBIN: So let me suggest a finding along - that
10 I think captures the spirit. The finding would be that the
11 availability of incentives for early CCS projects would help
12 accelerate the introduction of this technology in
13 California.

14 MR. MURRAY: I disagree with that, and I think I've
15 said this before, to the extent that you get into this idea
16 of suggesting subsidies somewhere, you're going to get a
17 cold reception.

18 MR. BAUER: My problem is this, I don't know if we
19 have a recommendation based on what you just said, Kevin.
20 The problem is, without - let's put it this way - if CCS is
21 really an essential component, as the Cancun report and
22 recommendations now suggest, to get to the greenhouse gas
23 reduction that we need in the future, we aren't doing the
24 right things to cause it to happen because, even with all
25 the regulations and everything else, it's very challenging

1 economically for any entity to go up and do it.

2 MR. RUBIN: Kevin, my statement - I'll change the
3 words if I need to, but it is still correct to say as a
4 finding, and I think we heard it from a number of folks
5 here, that the availability of incentives, and I'm not
6 saying what types of incentives they are, for early
7 projects, would help accelerate the introduction in this
8 state. That is, I think, a correct statement of fact.
9 Whether there's any recommendation following from that, we
10 could choose to accept the finding, but then decide not to
11 recommend anything in the way of introduction. But, as a
12 statement of findings, I think that captures the spirit of
13 what Carl is trying to do here. And then, when we get to
14 the recommendation, we can argue whether there's a
15 recommendation fluent -

16 MR. MURRAY: I actually disagree. I think that, for
17 anything in the world, you could say "incentives" will spur
18 it along. So, that's a statement of fact for every possible
19 thing in the world. I would just argue that, you know,
20 under the current model, maybe some of that is true, but
21 remember, AB 32 is a hammer, it's not a carrot, so the fact
22 that it doesn't make economic sense for you now, but
23 compared to some fines you might get for not complying with
24 AB 32 and, again, I know people don't like to hear it that
25 way, it would be. So, I think this whole "let's try and

1 make the economics work thing" just doesn't fly, and if I
2 read this report, and said, "Gee, CCS is an interesting
3 technology, and it's a good technology, and it's a safe
4 technology, but it doesn't make financial sense, then I stop
5 reading the report and I say forget it. So, us saying -
6 basically saying it's a great thing, but it doesn't make
7 economic sense, so then we're wasting our time here.

8 MR. BAUER: Sally.

9 MS. BENSON: I mean, I think the main point is that
10 CCS is not economical today, and that unless we gain the
11 needed experience, it won't be economical in the future. I
12 think that's the finding. You know, if we don't do these
13 projects, we'll never be able to get down that cost curve.
14 So, if we looked at what the recommendation would be that
15 would flow out of that, is you know, one possibility is a
16 low carbon generating standard, so if you got below the
17 emission performance standard, if you had a plant that put
18 out half as much, one can imagine that there would be low
19 carbon generation center just like we have a portfolio
20 standard for renewable energy. So, that would be a remedy.
21 I'm not suggesting we add that, but that would be an
22 outgrowth of a conclusion that it's not economical today
23 because we don't have enough experience.

24 MR. MURRAY: I don't think we have enough experience
25 to say it's not economical.

1 MR. BAUER: Let Dan -

2 MR. SKOPEC: Well, I do think that we do have enough
3 experience to know it's not economical, and I do think this
4 is an important statement to make and, Kevin, you know,
5 you're right in one sense, that if you say it seems to lead
6 into the point that you have to have all kinds of subsidies
7 and whatnot, but you know, in my mind, you could make that
8 statement about almost any new energy technology that we've
9 experienced, and many of them have been the beneficiaries of
10 subsidies for decades, not just years, not only here in
11 California, but on the Federal level. And they were
12 justified for other public goods, other than just the
13 economic benefit that they may or may not bring. And I
14 think many of the programs that we run here in California,
15 you know, still contain subsidies of some sort or another,
16 whether it's the California taxpayer, or the Federal
17 taxpayer, or the California ratepayer, you know, there are
18 subsidies imbedded in a lot of things we do, but we've
19 justified those for the greater public good. I think that
20 this technology has the potential for much greater public
21 good, and I think that's the point that this statement is
22 trying to make, is that there is a greater public good that
23 doesn't flow to the person who is developing this product,
24 or this project, and that we have to recognize that. And in
25 the recommendations, we can argue about whether we think it

1 should be subsidized or not, but I think it's a fair finding
2 to make.

3 MR. MURRAY: So what is the finding for - I think
4 economics -

5 MR. RUBIN: Kevin, let me suggest a different kind
6 of a recommendation that could flow from this. If we put
7 that finding in, the question is what kind of recommendation
8 might flow from that. I'm sympathetic with you and I'm
9 probably prepared not to suggest a monetary incentive for
10 this, but there is, in fact, if you look ahead in the draft
11 package, one of the recommendations that we'll discuss later
12 is one that says that California PUC should establish a cost
13 allocation mechanism for early CCS projects that spreads
14 broadly across California ratepayers and the market costs of
15 projects. This is kind of the argument that has come up in
16 the context of the HECA project. So there are those kinds
17 of things which are not direct subsidies, but which can help
18 get some of that experience base, and which we could
19 consider that could flow from that.

20 MR. MURRAY: Moving toward the finding, I would be
21 less inclined to say the economics are not there, whatever
22 was said, as a general statement that says the economic
23 benefits should be clarified, or should be in line with the
24 economic burdens, or something like that. I mean, if you
25 want to say we need to look at the economics and make sure

1 that the economic landscape allows for such projects, I'm
2 okay with that. But this sort of blanket statement that
3 either leads towards subsidies or says the economics don't
4 make sense, I just don't agree with.

5 MR. BAUER: Okay, let me let Judith give a statement
6 that may -

7 MS. IKLÉ: This is Judith Iklé of the PUC. I think
8 maybe something that would be supportive of that later work
9 is something like examining carbon capture and sequestration
10 through a total resource cost perspective, which is what we
11 use for some of our energy efficiency programs and some of
12 our DG programs made focus analysis on societal benefits, so
13 a total resource cost perspective allows you to do some
14 broader analysis. Now, it's, you know, the benefits of the
15 demonstration project is probably more than we usually do,
16 but -

17 MR. MURRAY: I actually agree with that, but I don't
18 think it gets towards Dan's point, which is, you know, is it
19 for a developer -- however we're defining that term --
20 economically feasible to do a project?

21 MR. BAUER: But that's part of what Judith's
22 statement is about, looking at it more broadly than just by
23 the single -

24 MR. MURRAY: Okay, I mean, I'm okay with that, I
25 just don't think -

1 MR. BAUER: Dan, can you live with that as a
2 starting point?

3 MR. SKOPEC: I think so. Now, I'm going to get a
4 little bit too far in the weeds, but as Judith known, you
5 know, the PUC's priority is not to reduce greenhouse gas
6 emissions, and so I wonder, Judith, if that statement would
7 take into account the fact that this technology is primarily
8 being used not just to provide energy, but to reduce
9 greenhouse gas emissions?

10 MS. IKL: Well, I think it could - I mean, that
11 sort of prism can be, you know. I think it goes beyond the
12 normal application of total resource costs and the energy
13 efficiency program now, but I think that's kind of the sort
14 of tools that are needed and that would support it. It's
15 not cost-effective from the participant perspective is what
16 you're - I mean, but using total resource cost analysis, we
17 may be able to highlight the societal benefits -
18 demonstration project --

19 MR. RUBIN: I would be inclined to not have a
20 statement that has the word "not" in it. Rather than saying
21 this is not cost-effective, it's not clear what that means,
22 I think the positively worded statement that I would favor
23 would be a statement that would be something like,
24 "Mechanisms to - I just had the word - Mechanisms to share
25 the cost burdens of early CCS projects could benefit the

1 introduction of this technology in California," something of
2 that sort.

3 MR. MURRAY: I would look for even something more
4 neutral than neither positive or negative, which is that
5 we'll examine the cost structure which provides incentives
6 or disincentives.

7 MR. RUBIN: But this would have to be a statement of
8 finding, so -

9 MR. MURRAY: A finding we need to examine the cost
10 structures to make it - in order to make CCS feasible.

11 MR. BAUER: Mechanisms to share -

12 MR. RUBIN: Mechanisms to share the cost burdens of
13 early CCS projects in California.

14 MR. MURRAY: See, I disagree with that concept
15 because that's a different concept, saying about early
16 movers.

17 MS. IKL: I guess "mechanisms" supposes that, if
18 you do a total resource cost analysis, there is positive,
19 you know, so to me that is the next step after a finding
20 that there is a societal benefit of this project. I mean, I
21 think that kind of is -

22 MR. MURRAY: So the finding is we should do a total
23 resource analysis and why don't you just leave it there,
24 period?

25 MS. IKL: Well, emphasizing societal -

1 MR. MURRAY: No, no, no, period. We should do a
2 total resource cost analysis -

3 MR. BAUER: That would be a recommendation.

4 MR. RUBIN: If you want to use those words, although
5 I would expect you to object to that because it's jargon.

6 MR. MURRAY: Well, but I just think it should be we
7 should look at these costs should be the finding. And the
8 recommendation of the details of what costs we're looking
9 at, and whether we think they are beneficial or not, is a
10 recommendation.

11 MR. RUBIN: A total resource cost perspective for
12 early CCS projects -

13 MR. MURRAY: I would take out the words early CCS, I
14 just disagree with that concept.

15 MR. BAUER: I agree.

16 MR. RUBIN: Okay, for CCS projects, would maximize
17 its benefits to California, or something of that source. I
18 don't like the word "maximize" either.

19 MS. IKL: Would support.

20 MR. RUBIN: Would support the introduction of this
21 option in California.

22 MR. KING: We're getting quite far down the
23 direction of recommendations and I kind of get back to
24 Sally's summary, which I wish I had written down, but
25 basically that currently CCS projects are challenged on

1 economics in order to come down the cost curve in time for
2 CCS to play the role we believe it needs to play. We need
3 to have early projects so we learn by doing.

4 MR. MURRAY: I disagree with that because I think
5 we're making a statement of fact, which I don't really agree
6 with.

7 MR. KING: Well, that's a finding that I think is
8 firmly true.

9 MR. MURRAY: I'm not sure that it's true. You would
10 need to go way further down the AB 32 framework and find out
11 whether there were fines for not complying, to say that it
12 is not cost-effective.

13 MS. REHEIS BOYD: How about something simple like
14 there is a lack of analysis of the economic viability of CCS
15 projects? And then, the finding could be go do your
16 recovery cost analysis.

17 MR. BAUER: George.

18 MR. PERIDAS: I don't think there's a lack of
19 analysis. I think we're getting way too technical here. I
20 think there's a key recognition that the technology now
21 faces economic barriers, early projects are going to be more
22 expensive than the later ones, and I hope you can agree with
23 that, and that they will need to find a way to address these
24 barriers in order to get deployed. I don't think we need to
25 go into cost sharing and -

1 MR. MURRAY: So we need to address economic
2 barriers. I can live with that.

3 MR. BAUER: Okay, so there is - now, we had an
4 earlier statement on number two -

5 MS. REHEIS BOYD: Does that go to Dan's point,
6 though?

7 MR. BAUER: If you go back up to number two, John,
8 we kind of swept this altogether, cost and related economic
9 drivers, it's kind of inherently in there, but the reality
10 is, and the reason I put this last one is just because the
11 discussion we just had, that's just too vanilla to cause -
12 you know, this way, why are we here? We're here because
13 someone believes that CCS has to be a serious consideration
14 to get to the goal of the greenhouse gas reduction at the
15 State and the nation and the world needs. That being the
16 case, what's in the way? One of the biggest issues, if we
17 say technology can do it, and we think regulatory certainty
18 is becoming more clearly defined through EPA and, of course,
19 the derivatives, you just have a huge cost for any entity
20 trying to do this, and we need to do it to understand what
21 needs to be improved upon. So, we have this huge hurdle,
22 and just saying it's economically challenged doesn't get the
23 point.

24 MR. MURRAY: Well, but if you're saying cost and
25 related lack of economic drivers is a problem, why do you

1 need 14 at all? Because you've already said costs and lack
2 of economic drivers is a problem.

3 MR. BAUER: The point about 14 was really about it's
4 worse than even that number two says, in that, other than
5 compliance with AB 32, which is of importance, of course,
6 for an entity to do this, there really isn't an economic
7 upside for the entity based on the cost. They just should
8 go into some other resource if there was enough of the other
9 resource, they'd be doing that.

10 MR. MURRAY: That's what it says in number two,
11 related lack of economic drivers. I think I'm in the
12 minority here, but I don't think we should say 14 at all.

13 MR. RUBIN: No matter how you say it, so, another
14 way of saying that in taking this is that policy mechanisms
15 are available to reduce the economic burdens of CCS
16 projects.

17 MR. BAUER: All right, let Sally - we may come out
18 with the recommendation that Judith had as a recommendation,
19 as number her number two.

20 MS. BENSON: This is a suggestion for a finding.
21 "Economic barriers to early CCS deployment are likely to be
22 significant, thus delaying the learning needed to drive down
23 the cost of CCS." That's a finding, it's expensive and if
24 we don't do it, then we're not going to learn how to do it
25 more effectively.

1 MR. RUBIN: That's fine.

2 MS. BENSON: Do you want me to say it again?

3 MR. MURRAY: No. I don't like it, but it feels like
4 I'm in the minority, though.

5 MR. RUBIN: It's true.

6 MR. MURRAY: We need to have a finding on
7 environmental justice in this section.

8 MR. BAUER: Do you have a statement?

9 MR. MURRAY: I remember e-mailing one around, which
10 is kind of my best take on it. I don't know where that is
11 or if the technical staff still has it, that's why I e-
12 mailed it around, so they would get it incorporated. But
13 I'll have to find it in my e-mails and send it again.

14 MR. BAUER: All right, we will find the statement or
15 you can do a search on your own e-mail and send us a
16 statement, but I know it's there. I probably can do it on
17 my own computer, but I don't have it with me.

18 MR. MURRAY: And essentially, the gist of it was
19 that -- and I don't know whether -- remember we talked about
20 having this also in our first section, what are we calling
21 our first section? Issues. But that a statement be made
22 that environmental justice is important in that no
23 particular socioeconomic demographic or geography bear more
24 of the burden. George, of course, found it. "It's a policy
25 of the State of California that burdens and benefits of

1 carbon capture and sequestration be shared equally among all
2 Californians. The permitting authorities shall endeavor to
3 reduce as much as possible any disparate impacts to
4 residents of any particular geographic area, or any
5 particular socioeconomic class." That paragraph actually
6 has both the findings and the recommendation. If you split
7 them up in two, you would have a finding and a
8 recommendation. Thanks, George.

9 MS. BENSON: I think one difficulty with a statement
10 like that is that there are only certain locations where CCS
11 can be done, where if there are not the right can of rocks,
12 we can't do it everywhere.

13 MR. MURRAY: That's why it says "reduce as much -

14 MS. BENSON: All right, as long as it's clear. It's
15 like saying, "Okay, well, we should put one under San
16 Francisco." Well, San Francisco doesn't have the right kind
17 of rocks to do that.

18 MR. MURRAY: Yeah, yeah, well, mostly it's that they
19 shall do it as close as they can. People can understand
20 that it's not going to be perfect. And it's basically also,
21 to me, less about geography than about socioeconomic class
22 and that these things all don't end up, you know, next to a
23 housing project.

24 MR. BAUER: Could you forward that to Terry Surles?

25 MR. MURRAY: Thank you, George.

1 MR. RUBIN: Is it clear there's a separate finding?

2 MR. MURRAY: I think the first half of it is a
3 finding and the second half of it is a recommendation.

4 MR. BAUER: All right, yeah, we can sort that out.
5 All right, we'll go back to that to get the second half for
6 the recommendation when we're in the recommendations.

7 MR. MURRAY: Right.

8 MR. BAUER: All right, everybody ready to tighten
9 your seatbelts and get into the Recommendations.

10 MR. MURRAY: Actually, this should flow pretty
11 easily from the findings, I would think.

12 MR. BAUER: Well, the short Recommendations are
13 fine. We still need to look through the more detailed
14 build-up behind this page, but let's look at the short
15 recommendations and go back and forth and see what we can do
16 with it. So, starting with number one, Recommendation:
17 "They should clearly identify CCS as a measure that can -

18 MR. MURRAY: We should go back to kind of - I think
19 it was Sally who came up with a great sentence about
20 allowing the credits under proposed - we sort of fixed that
21 sentence, which I was very happy with, in the -

22 MR. RUBIN: So, one of the things, Carl, since this
23 is an Executive Summary, the words in the Executive Summary
24 must be identical to what is in the body of the report.
25 Quick check is that these words are not identical, okay, but

1 it looks like just one word is changed. So we have to be
2 careful about that. So this one says "the State," and the
3 other one says the ARB.

4 MS. BENSON: I think, once we get them fixed in the
5 Executive Summary, we just need to put them in the end so
6 they're absolutely consistent.

7 MR. RUBIN: Yeah, the question is, which is the most
8 up to date?

9 MR. KING: Yeah, there are a lot more
10 recommendations in the text than there are that made the
11 Executive Summary there, so -

12 MR. RUBIN: That's right. I thought the text was
13 actually the more complete, at least the draft I saw
14 yesterday.

15 MR. MURRAY: Well, I think the text should flow from
16 the summary.

17 MR. BAUER: The summary here has what we would
18 suggest are the strongest recommendations out of the text,
19 and we have to go back and clarify the text.

20 MR. MURRAY: In the first one, I would say the State
21 should state clearly as a policy that CCS is a valuable tool
22 for GHG. And, again, we've had this whole "are we
23 advocating cap-and-trade" issue in that sentence, which I
24 think is a wordsmithing issue.

25 MR. BAUER: Okay.

1 MR. RUBIN: Carl, I had some wordsmithing, this one
2 hasn't changed, so here is some wordsmithing. "The State
3 should clearly identify CCS as a measure that can reduce
4 carbon dioxide emissions to the atmosphere, period. To that
5 extent, the ARB should allow carbon credits under State
6 administered cap-and-trade program, and develop GHG
7 reporting protocol." So, it's basically some wordsmithing
8 that moves a part of the current statement and adds a couple
9 of words. I can read it again and, if it sounds right, I
10 could give it to whoever is doing the typing. So, let me
11 try reading it. "The State should clearly identify CCS as a
12 measure that can reduce carbon... -

13 MR. MURRAY: If I can interrupt, I think Sally
14 suggested these words earlier, but "...that can safely and
15 effectively reduce carbon?"

16 MR. RUBIN: "...can safely" and "identify," that's
17 fine. "...carbon dioxide emissions to the atmosphere."

18 MR. MURRAY: And that allows carbon credits under a
19 proposed state administered cap-and-trade program." Made by
20 tomorrow in what we propose -

21 MR. RUBIN: Let me suggest that it will read a
22 little better if we go - if we move that phrase "allows
23 carbon credits under State administered..." It's basically
24 "the ARB should allow carbon credits," in other words, I
25 would remove -

1 MR. MURRAY: And the ARB -- now one line above -

2 MR. RUBIN: It's basically taking the statement above
3 and moving it to after "ARB should." Yeah.

4 MR. CODDINGTON: This is Kip. This is another
5 situation where I think the use of the term "carbon credit"
6 here is not accurate. I think, if I was rewriting this, I
7 would say, "The State should clearly identify CCS as a means
8 of compliance with AB 32," if this sentence is focused on AB
9 32, and then I would break it then down into two further
10 subsets: "For sources that are tapped under AB 32, carbon
11 capture should be recognized as a non-emitting event for
12 which allowances are not required to be held." And then the
13 second sentence, "For sources that are not capped under AB
14 32, they should be eligible to generate offset credits for
15 use in compliance markets under AB 32." Something like
16 that.

17 MR. RUBIN: Yeah, Kip, that's much better and much
18 more specific.

19 MR. MURRAY: I would agree with that one.

20 MR. BAUER: Okay, Kip, send an e-mail with that one?

21 MR. CODDINGTON: Yep.

22 MR. BAUER: With number two, everybody comfortable
23 with that as a recommendation? George, do you still have a
24 comment on number one?

25 MR. PERIDAS: Yeah, I think we need to be careful

1 because we don't know what will be proposed. I think there
2 are cases where offset programs only allow a certain set of
3 activities in, and without knowing what the scope of an
4 offset program will be, I'm not comfortable proposing to -

5 MR. BAUER: Well, but I think the ARB would have
6 figured that out. The recommendation is that they do that.
7 We're not going to tell them, you know, factors and all
8 those things, I would think that would be something inherent
9 to their responsibility.

10 MR. CODDINGTON: I think, George, you are exactly
11 right. The point is that maybe a compliance entity can only
12 use CCS offset credits for five percent of a compliance
13 obligation, and I didn't mean to imply anything other than
14 that, but we either sort of get that specific, or just kick
15 it back to ARB and say, you know, sort that out.

16 MS. COOMBS: This is Mary Jane Coombs with the Air
17 Resources Board. It's actually eight percent of a
18 compliance obligation for offset credits. But I am glad,
19 first of all, to hear the distinction between offsets and
20 capped facilities, I think that's commonly misconstrued.
21 Most of any emissions reductions that would ever be counted
22 under CCS would be a capped facility. Speaking as the State
23 agency you're talking about, if you want to send a strong
24 message, I think you need to be specific about a protocol
25 like you are here. I think, to use the term "reporting

1 protocol" is too narrow. And I do think getting specific
2 about offsets can be difficult. We're only hearing about
3 tomorrow our board is going to be hearing about four offset
4 protocols, and we're very strict about what counts as an
5 offset, so just food for thought.

6 MR. PERIDAS: So to that, I propose that we mention
7 AB 32, but we not mention the words "cap-and-trade" or
8 "offsets." I think we should leave it to ARB to recognize
9 CCS as a compliance mechanism, as needed, and then, instead
10 of saying "develop protocols," we should say "adopt." There
11 could be things that have been already developed and we
12 don't want to be duplicative.

13 MR. CODDINGTON: Exactly.

14 MR. PERIDAS: And I think "reporting" is too narrow,
15 it should be "monitoring, verification and reporting."

16 MR. BAUER: Okay. Everybody okay on the panel with
17 this?

18 MR. CODDINGTON: Yes.

19 MR. BAUER: Okay, very good. Kip is going to send
20 you an e-mail with the proper language.

21 MR. PERIDAS: AB 32.

22 MR. BAUER: Dan.

23 MR. SKOPEC: I just wanted to respond. It's our
24 indication that ARB has indicated to several of us that they
25 are going to be working on a protocol for carbon capture and

1 sequestration going forward, so I'm not sure I totally
2 understood your recommendation, to state it narrowly. I
3 understand they are adopting certain offset protocols
4 tomorrow, I don't think we're asking them to adopt the
5 protocol, but we are asking them to work on it. And I would
6 oppose backing off from that recommendation. I think that's
7 one of the most important things that is going to come out
8 of this report.

9 MR. BAUER: Yeah, I don't think we're backing off.
10 Did you sense that we were?

11 MS. COOMBS: To clarify, I was not saying don't
12 recommend anything about protocol, in general. I was saying
13 that offset protocol, we're very conservative about offset
14 protocols at ARB. A protocol, in general, you could use a
15 protocol for compliance under the cap-and-trade program, in
16 terms of allowances, not offsets, so at capped facilities.
17 I understand, there's a nuance to it.

18 MR. SKOPEC: Yeah, but that nuance is important and
19 an offset, however we want to define it, is very important
20 to the coalition that I represent. So, you know, ARB may
21 ignore our recommendation, but I think that this panel needs
22 to be recommending that CCS projects have a clearly defined
23 protocol for how you get credit, and that they be counted as
24 offsets.

25 MR. BAUER: Panel members, on Dan's statement?

1 MR. KING: So I'm not sure I understand why you want
2 to count them as offsets because I guess my mental model has
3 always been that offsets would be confined to particularly
4 cost-effective alternatives that would be outside the capped
5 source, and so CCS would be unlikely to play a significant
6 role in that universe.

7 MR. SKOPEC: If you were - and I don't know if I
8 have the example of what this would be, but if you were a
9 developer that was not, or a project developer, injector,
10 whatever you want to call it, that was not - that did not
11 have responsibility for reducing emissions under the cap-
12 and-trade program, then you would have nothing to comply
13 with. So, if you were credited under a protocol, let's say,
14 with injecting CO₂, but you had no compliance burden, then
15 what does it matter unless you can then, you know, sell
16 those credits and, to do so, it would have to be included as
17 an offset. At least, that's my interpretation of it.

18 MS. REHEIS BOYD: That's similar, yeah.

19 MR. BAUER: I think that's an important point
20 because there are some entities that would suggest, let's
21 say, a large ethanol plant, that they don't really need to
22 capture CO₂ because presently that's considered neutral.
23 They may choose to do it if there is a value proposition
24 that incentivizes them, but if there is nothing out there
25 for them to get a recognized credit for doing that, they may

1 or may not join in a pipeline or some other way of dealing
2 with the CO₂, which would benefit the whole issue of trying
3 to reduce greenhouse gas. So, we're back into how do you
4 cause the market to recognize value, rather than just a
5 punitive issue of "these people have to do something, and
6 the rest of you can do what you want, but it won't count."

7 MS. REHEIS BOYD: Yeah, I think we want to make sure
8 we provide an opportunity for both. Now, what ARB does with
9 that when they develop the protocol, I mean, who the heck
10 knows? But we would be limiting ourselves to not have a
11 protocol for both capped sources and somebody's ability who
12 is not regulated to generate offsets. You'd be limiting the
13 program, I think.

14 MR. KING: So, just to clarify, are we advocating
15 that a ton reduced in China should count as an offset in
16 California? Because that's what an offset is, right?

17 MR. BAUER: Well, and there is the issue of
18 international offsets, and the question is of verifiability
19 of it, too.

20 MR. KING: It has to be verifiable.

21 MS. REHEIS BOYD: And CARB would have to debate that
22 in their offset development.

23 MR. BAUER: George had something he wanted to add to
24 this, so let me hear what he has to say.

25 MR. PERIDAS: Yeah, I'm assuming you're talking

1 about in-state offsets, not out-of-state offsets, but I
2 think we don't know enough about the program in its offsets
3 to be able to make - at least, I don't - to be able to
4 support the statement, and maybe I will in a few days, but
5 an offset is also something that a capped entity can use in
6 place of allowances to comply. If we suddenly widen the
7 pool of offsets, then this could affect the direct emissions
8 reductions that capped entities have to undertake. So I
9 think this could be nothing, but I just don't know enough
10 yet to be able to get behind such a recommendation.

11 MR. SKOPEC: Well, I mean, the way I would structure
12 the recommendation, and first maybe an explanation, ARB, in
13 what they're going to adopt tomorrow, is going to limit the
14 number of offsets. Now, I could go into further detail as
15 to what that limit is because there is a trigger if certain
16 things happen, the limit can be increased. But we're not
17 talking about changing or recommending changing the amount
18 of offsets that ARB will allow, it's just what qualifies as
19 an offset. Because I think what I've suggested -

20 MR. CODDINGTON: Exactly.

21 MR. PERIDAS: That's one of my questions, the other
22 one would be, I think some types of allowable offsets are
23 chosen strategically in order to spread the development of
24 some technologies, so the CDM, for example, has focused on
25 small sustainability-based projects, in order to incentivize

1 things like landfill gas and some sustainable bios, and so
2 on, so there is a policy decision there that has to be made
3 and account for this, to take it into account. And I think
4 something that could be as large scale as CCS could suddenly
5 flood a whole bunch of much smaller compliance techniques
6 that could be used. So, I think before we recommend
7 something like this, we should see what the details are like
8 and that we could say for now it should be used as a
9 recognized emissions reduction under AB 32, as appropriate,
10 or something to that effect.

11 MS. BENSON: I guess this whole discussion, to me,
12 is seeming, you know, very vague. So, I appreciated the
13 example that you gave, that some unregulated entity could
14 generate credits through offsets, but I can't imagine, what
15 would be an example of a large emissions source that would
16 go unregulated, other than maybe an ethanol plant, that
17 would be an example of this? If I had a concrete example, I
18 think it would be a little clearer to me what we're talking
19 about.

20 MR. SKOPEC: Well, you know, if you had - and,
21 again, this goes to the point of who is a developer and who
22 is an injector, but you may have a project in which the
23 person that has the compliance burden under AB 32 has all
24 the allowances they need for a certain period of time for
25 their emissions, but the person that is taking the financial

1 responsibility for the CO₂ and injecting it wants to get
2 credit, financial credit, offset credit, for injecting it.
3 And so you may have two different entities.

4 MS. COOMBS: I think that's actually a separate
5 issue that runs into who owns - or who has a compliance
6 obligation and who is injecting the CO₂, which I think is a
7 separate issue. But, back to this issue of who would not
8 have a compliance obligation, and who could potentially
9 develop offset credits, I think that's probably going to be
10 limited to biomass facilities where their total facility
11 emissions are less than the cap threshold, which is 25,000
12 metric tons of CO₂ per year, so it's going to be a rather
13 small facility. That includes all emissions at the
14 facility.

15 MR. PERIDAS: Everything else would be a regulated
16 entity?

17 MS. COOMBS: That's correct.

18 MR. RUBIN: So a biomass facility that captures and
19 sequesters its CO₂ - help me understand - would not have a
20 compliance obligation, but the captured and sequestered CO₂
21 could be used as salable offsets. Is that right?

22 MS. COOMBS: If CCS were allowed as an offset
23 protocol, potentially that's - that is the only one I can
24 imagine.

25 MR. KING: So, perhaps a better specific example

1 might go to the over-controlling analogy, so if you have a
2 major source that is regulated, that has millions of tons of
3 emissions and their compliance obligation is a 10 percent
4 reduction, but they do a project and get 50 percent
5 reduction, is that - can they monetize that through the
6 system somehow? And does that have to be an offset to be
7 monetized? That's probably a more - I don't think it's an
8 offset -

9 MS. BENSON: But how would that be different than
10 something that would be under the cap-and-trade program?

11 MR. KING: Yeah, I think it's a reduction to the -
12 it's an allowance.

13 MR. BAUER: Let's hear the ARB perspective on that.

14 MS. COOMBS: An offset is a reduction that is not at
15 a capped facility. Capped facilities are your refineries,
16 your electricity generation, etc. -

17 MR. KING: So this is an allowance.

18 MS. COOMBS: -- yeah, so there are no facilities
19 that would have to provide allowances for their emissions,
20 and so offsets only allowable - I will just repeat again -
21 at non-capped facilities and offsets have to be approved -
22 reductions approved, ARB approved protocols, and right now
23 we are not looking for most of our offset protocols at
24 international reductions. We are starting to for
25 deforestation and forest degradation issues, but that's

1 pretty preliminary right now. The only international we're
2 probably thinking about including would be through potential
3 linkage to another emissions reduction program, for example,
4 through the Western Climate Initiative with our partners in
5 Canada.

6 MR. BAUER: But a clarifying question on that,
7 that's an important point and thank you for being here. So,
8 if an entity is a capped facility, and they found that,
9 economically, because an entity has several capped
10 facilities, they would better do sequestration at one of the
11 facilities and gather a great deal more than a cap requires,
12 and they can't share that with the other facilities and try
13 to meet the overall requirement?

14 MS. COOMBS: Well, through a cap-and-trade program,
15 you can sell your allowances.

16 MR. BAUER: Okay, so I wanted to make sure I was
17 clear either that I didn't understand it, which I didn't -

18 MR. KING: It is called an allowance because it's
19 inside the cap.

20 MR. BAUER: Yeah, but so my whole point is, I think
21 it's important to have that flexibility because the
22 economics you do in CCS doesn't mean you just do 10 percent
23 of one facility because that's all you need to do, you may
24 pick a facility that you would do a big investment on, and
25 that's important to allow that flexibility. Okay, thank

1 you.

2 MR. RUBIN: Carl, can I suggest that we get a draft
3 of Kip's statement, or whatever would be up there so we can
4 look at it and maybe come back to that after that is typed
5 in?

6 MR. PERIDAS: And can I say just a word and maybe
7 we'll be able to agree to, the ARB should consider the use
8 of, rather than strongly recommend that they do it? I don't
9 think that we have enough details to be able to make a
10 recommendation like this.

11 MR. BAUER: We'll see what Kip gives us and we'll
12 look at that when we come back after lunch. Let's try to
13 get one more - Dan, do you have anything else on this point?

14 MR. SKOPEC: I was just going to say that, to me,
15 the term "offset" is not the most important part, it's that
16 ARB established a protocol and give credit.

17 MR. BAUER: Yeah, I think that's important. Okay,
18 let's look at number two. This is the one about the eminent
19 domain and it goes into kind of how do we actually allow for
20 this. Go ahead.

21 MR. SKOPEC: I don't know where the phrase "that are
22 not owned and operated by public utilities" came from, and I
23 would recommend that be struck [sic]. The reason is that,
24 while public utilities have eminent domain for natural gas,
25 they do not have it for CO₂, so we would need the same

1 treatment.

2 MR. BAUER: All right. Jerry, do you have a
3 clarifying statement on that? Let the microphone go to
4 Jerry Fish, please.

5 MR. FISH: Thank you. Jerry Fish on the Technical
6 Advisory Team. Well, I'm not absolutely sure, I know with
7 respect to natural gas, you're correct, there's a specific
8 authorization for condemnation for natural gas storage
9 facilities. But - general condemnation authority, eminent
10 domain authority for facilities of a public utility
11 [inaudible].

12 MR. SKOPEC: Our lawyers disagree 100 percent, and I
13 think probably for the sake of the group, we should take
14 this offline. But they felt very strongly that we did not
15 have the authority for CO₂ pipelines.

16 MR. FISH: And I do think it's clear that
17 condemnation authorities are construed narrowly, but in an
18 analogous situation, the public utilities condemnation
19 authority is - it is construed broadly enough to condemn for
20 natural gas storage before going to specific gas storage
21 tanks.

22 MR. RUBIN: Carl, I want to try again and see if I
23 get beaten down again, to suggest a change in the agenda. I
24 think, from here on out, is where I find a major disconnect
25 between the Executive Summary and what the report being

1 summarized actually says. In the body of the report, after
2 the first recommendation, the next recommendation has to do
3 with permitting of CCS facilities, and the recommendation is
4 that the Energy Commission be established, etc. I don't
5 find that recommendation anywhere in this Executive Summary.
6 I think the Executive Summary we're looking at is out of
7 date and inconsistent with the body of the report. I would
8 strongly urge, because I think it will be a lot easier to
9 look at the key recommendations in the body of the report in
10 the order they appear, but it's not even close to the same
11 words.

12 MR. SKOPEC: It may not be the same words, but it is
13 in the Executive Summary. I mean, I agree with Carl, let's
14 get it right in the Executive Summary, and then we can fix
15 it in the body, but it's right there, number eight.

16 MR. RUBIN: I think it's already been fixed in the
17 body and needs to be fixed - a lot of these have been fixed
18 in the body, but have not been fixed in the Executive
19 Summary. There is a lot of stuff that's muddled together
20 here. Again, my own sense was that the cleaner version of
21 these recommendations appears in the body of the report, not
22 in this Executive Summary.

23 MR. BAUER: I would not fully agree with you, Ed, I
24 think there's a great more clarity in the report because
25 there is a great more detail of the Executive Summary -

1 MR. RUBIN: I'm just talking about the bulleted
2 statements, not the supporting paragraphs, the bulleted
3 statements.

4 MR. BAUER: But if you look in many of the six
5 suggestions, there are many bulleted statements.

6 MR. RUBIN: Okay.

7 MR. CODDINGTON: This is Kip, just on this bullet, I
8 would recommend insertion of the adjective "intrastate."

9 MR. BAUER: That makes sense.

10 MS. BENSON: I would like to add something. I think
11 that if we make a blanket statement about CO₂ pipelines,
12 that's probably overreaching. I mean, what if somebody
13 wanted to have a CO₂ pipeline for CO₂ EOR, and there was no
14 commitment to capture, produce CO₂ and put it back
15 underground? That's not within our jurisdiction. I mean, I
16 think we're supposed to be talking about CCS, so I think if
17 there's a recommendation like this, it would be eminent
18 domain for CO₂ pipelines used for CO₂ capture and storage.

19 MS. REHEIS BOYD: Yeah, I had the same comment.

20 MR. RUBIN: Yeah, I had something similar, actually,
21 in a draft of this one, yeah, an intro to facilitate the use
22 of CCS in the public interest could be another - the
23 question is, why are you doing it? Because CCS is in the
24 public interest.

25 MR. BAUER: I would suggest it is inherent if the

1 State is going to consider that they would consider it from
2 the standpoint of it's supposed to be exercised in the
3 public interest.

4 MR. RUBIN: Yeah.

5 MR. BAUER: How about the rest of that statement?

6 MR. PERIDAS: Can I comment on this bullet point?

7 MR. BAUER: Yes, go ahead.

8 MR. PERIDAS: I think there are two issues, that one
9 is pipeline, the second one is portal-based, and this bullet
10 deals with both. I think they should be split. So the first
11 entity deals with pipelines, then it moves on to say that
12 legislation should clarify it. So I think -

13 MS. BENSON: I agree with that.

14 MR. RUBIN: That's why these recommendations are
15 muddled.

16 MR. MURRAY: Are we, the panel, agreeing that it's
17 okay to say we should do eminent domain?

18 MR. PERIDAS: Well, that was my second point, I
19 don't think we - I think the state should consider this as
20 an option, but I don't think we should be recommending as a
21 panel that they do that.

22 MR. MURRAY: I wish there was a softer way to say -

23 MR. PERIDAS: You consider whether -

24 MR. MURRAY: -- because eminent domain is just a bad
25 word.

1 MR. PERIDAS: And I think the way to say it should
2 be sort of whether legislation is needed to authorize.

3 MR. SKOPEC: Just for the record, you know, when you
4 get a permit to build a natural gas pipeline or a
5 transmission line, public utilities have that authority.

6 MR. MURRAY: Well, then, we don't need to say
7 anything about it.

8 MR. SKOPEC: Because it's not always going to be
9 public utilities that might be building these, and so if you
10 don't say it, you're - I'm speaking against my company's
11 interests here, but I just want to make sure everyone
12 understands, if you don't say something like this, then
13 you're disadvantaging, you know, non-public utilities if
14 they want to build a pipeline.

15 MR. MURRAY: Well, if they want to build a pipeline,
16 where do they get that permitted now?

17 MR. BAUER: Well, I think that's in one of the
18 recommendations later on.

19 MR. MURRAY: Or, if you're building a pipeline, are
20 you then a public utility?

21 MR. SKOPEC: Not necessarily.

22 MS. COOMBS: Not necessarily.

23 MR. MURRAY: I mean, Cathy -

24 MR. BAUER : Jerry.

25 MR. FISH: First of all, I want to agree, I was

1 caught a little bit off guard a moment ago, but I want to
2 agree with Dan that a far clearer way to deal with this is
3 to have a specific authorization for a CO₂ pipeline that it
4 is a possibility, but only a stretch that it could be
5 included under any current statute. And it isn't always
6 true that, if you're building a pipeline you're a public
7 utility, you are if you're one of the types of pipelines
8 that are called a public utility under California law.

9 MR. MURRAY: I don't disagree with anything you guys
10 - actually, my view of it, public perception-wise, and
11 legislative-wise, is that something with the name - with the
12 words "eminent domain," not only is it not going to get
13 through, it is going to color the nature of the rest of the
14 report.

15 MR. SKOPEC: You're right, Senator, that this is a
16 controversial topic, just, you know, if you want CCS to
17 happen, if you want the infrastructure built to get it to
18 happen, you won't get it without this authority and that's
19 the same for natural gas pipelines and it's the same for
20 transmission lines, and you know, on another side of my
21 company, we've spent five and a half years just getting a
22 permit for a transmission line, and that includes having
23 eminent domain, so it's not like, you know, you're just
24 walking through -

25 MR. MURRAY: Let's go back to that analogy. So,

1 what is the origin of the eminent domain power in the
2 transmission line or in the gas pipeline?

3 MR. SKOPEC: I can't site the Code.

4 MR. FISH: It's part of the statutes of the CPUC and
5 maybe somebody from the CPUC would rather speak to it.

6 MR. KING: So, recognizing that this is
7 controversial, I think we had come to a conclusion that
8 there is a legal framework for authorizing storage of
9 natural gas in the State of California, which includes
10 eminent domain, and that's for storage of something that
11 most people would agree is much more sort of hazardous than
12 CO₂ storage would be as a process, and I think perhaps we
13 could address Kevin's concern, at least a little bit, by
14 saying the state should consider extending existing
15 authority for storage of natural gas to CO₂ storage.

16 MR. MURRAY: For storage and transportation of
17 natural gas to CO₂.

18 MR. KING: So we're extending something that is
19 already in place for natural gas. And that, it's the same
20 point, but it's saying it in quite a different way.

21 MR. BAUER: I think that's a good recommendation,
22 John. I don't know how the rest of the panel - several of
23 you seem to be saying that sounds like a better way to say
24 this, and stay away from the eminent domain discussion, but
25 recognize that the need to extend those rules makes sense.

1 And that's also probably legislatively a more - instead of a
2 whole new bill separately about something, it's an extension
3 of an existing law.

4 MR. KING: There's a little bit of complication to
5 the jury firm sort of research, which is that currently that
6 authority rests in the CPUC, and so, extending legislation
7 is quite simple if you extend the authority to the CPUC to
8 approve applications for CO₂ eminent domain, but to apply
9 that to the CEC gets quite a bit more tangled, so that's the
10 subtlety there, but to extend it to the CPUC is a pretty
11 minor surgery on the legislation.

12 MR. BAUER: But do we want to be that proscriptive?
13 Or do we want to just suggest it get extended?

14 MR. MURRAY: Yeah, I think if you say you extend or
15 you create a similar framework similar to that for the
16 transportation and storage of natural gas to CO₂, then I
17 think you've gotten there without proscribing PUC or CEC,
18 and without inflaming any passions unnecessarily.

19 MR. BAUER: George.

20 MR. PERIDAS: Yeah, I think as long as we phrase it
21 as the state should consider that "whether," I'm okay with
22 it because we don't recommend that they do it, we recommend
23 that they examine whether they should do it.

24 MR. BAUER: Well, I think we should recommend they
25 consider it. I mean, not consider whether or not they

1 should, we'll just say "consider." I mean, they consider "I
2 don't want to do it," okay, fine. You did it.

3 MR. PERIDAS: Well, I think as a counterpoint,
4 natural gas storage pipelines do have that benefit and
5 public utility utilized pipelines do have the benefit. I
6 think if you're producing natural gas or crude oil, I don't
7 think there is - correct me if I'm wrong, Jerry - I think
8 don't think there are pipelines that benefit from eminent
9 domain access.

10 MR. FISH: Sorry, you mean gathering systems?

11 MR. PERIDAS: Yeah.

12 MR. FISH: No, they don't.

13 MR. PERIDAS: So we have natural gas production and
14 we have crude oil production, and these people have found a
15 way to build their pipelines without use of eminent domain,
16 so I'm not sure we should be going in that direction without
17 some serious consideration. I think it is a sledgehammer
18 approach and I'm not convinced that it's necessarily needed.
19 I'm sure that some people would like it, but I think they
20 should consider also the potential backlash from this.

21 MR. MURRAY: So, I don't think anybody is arguing
22 with the idea of adding "they consider."

23 MR. PERIDAS: Yeah, but they should consider it
24 gives the hint that this might be a good idea to do it. I
25 think we should be neutral here, not suggesting one force

1 over another.

2 MS. REHEIS BOYD: He would add the word "whether."

3 MR. PERIDAS: They should consider "whether" eminent
4 domain authority is needed.

5 MR. MURRAY: The answer to that will be no, so...

6 MR. PERIDAS: We don't know, maybe they will come up
7 with a conclusion of yes.

8 MR. MURRAY: Again, I think by using the words
9 "eminent domain" -

10 MR. BAUER: Yeah, I go back to John's statement,
11 John can you give us that statement? Just write it down?

12 MR. RUBIN: Will somebody tell me first, read the
13 funding that supports this recommendation? I have a very
14 strong allergic reaction to seeing this as the second
15 recommendation on the list.

16 MR. MURRAY: Well, you're right, it shouldn't be the
17 second. There's an issue that says which agency should
18 regulate CO₂ pipelines, we actually don't have anything in
19 the findings about pipelines.

20 MR. KING: Finding two is our kind of broad catchall
21 of an [in]adequate legal framework, and I think it -

22 MR. RUBIN: So, this is another example of why I
23 think we need to kind of work in tandem, it has to be a
24 finding and a recommendation we have to be clear on what -

25 MS. BENSON: But we can do that. I mean, I just

1 think -

2 MR. RUBIN: -- and so, if we don't have a finding
3 that clearly supports the question - the question is, why
4 are we bringing this up right now? I didn't see a strong
5 finding that says we need this additional authority and, if,
6 in fact, that is the case somewhere in the findings we need
7 to make that more explicit.

8 MR. MURRAY: Well, I don't know that we're doing a
9 one for one finding, recommendation, finding,
10 recommendation.

11 MR. BAUER: We had an issue that recognize CO₂
12 pipelines as an issue.

13 MR. RUBIN: I'm simply saying that, as a reader,
14 there ought to be a logical connection between a finding -
15 and the finding could be general, but stemming from that
16 finding might be a series of recommendations.

17 MR. SKOPEC: I agree with you that number two is
18 that.

19 MR. BAUER: We have two aspects, we have the issue
20 of the CO₂ pipelines, and then we have in the findings that
21 there needs economic and regulatory and other issues about
22 CO₂ storage. You have got to get the CO₂ to the point of
23 storage. I mean, to me, that's inherent in there, but maybe
24 it should be more clearly stated - transportation and
25 storage.

1 MR. KING: So, the wording I would suggest, as John
2 is working on it in the back there, is that we should
3 consider legislation exists extending the authority, as he
4 has it here, for the siting of transportation and storage of
5 natural gas facilities, or transportation and natural gas
6 storage facilities. So, the key thing is to say it's the
7 authority for siting.

8 MR. MURRAY: And does the term "we should consider..."
9 meet your requirements, George, or not quite?

10 MR. PERIDAS: I think it's good that we scratched
11 eminent domain for the language which will not take that
12 long for people to figure out anyway, but it's nonetheless
13 better. But I think, no, they should consider "whether" to
14 enact.

15 MR. SKOPEC: But, George, are you saying that
16 pipelines that carry fossil fuels should have an advantage
17 over pipelines that are carrying CO₂ in the siting realm?

18 MR. MURRAY: Nobody is saying that they have a way
19 of figuring it out, some without eminent domain and -

20 MR. PERIDAS: Pipelines that carry fossil fuels do
21 not - the gathering systems do not benefit from eminent
22 domain powers right now.

23 MR. SKOPEC: Right, but natural gas storage and
24 pipelines that deliver it do.

25 MR. PERIDAS: Yes. So we want - CO₂ with natural

1 gas storage rather than produce natural gas and crude oil.

2 MR. SKOPEC: Yeah. I guess that's what I'm asking.

3 Wouldn't you prefer that CO₂ pipelines get the treatment that

4 natural gas pipelines currently get today? Or would you

5 prefer that they get the treatment that the oil pipelines

6 do?

7 MR. PERIDAS: No, I'm saying that this will do more

8 harm than good, but I'm willing to go to a compromised

9 position which says "let's consider whether we need it,"

10 rather than me blasting the whole thing and saying, "No, we

11 definitely don't need it."

12 MS. BENSON: So, I have a comment on this. This is

13 written -

14 MR. MURRAY: So, in other words, he's giving you a

15 benefit.

16 MS. BENSON: -- this is written very broadly because

17 it talks about siting natural gas storage facilities. I

18 think that will lead to a lot of confusion. I think we need

19 to say "extending the authority for siting of transportation

20 for natural gas storage." But this sounds like we're asking

21 basically that the storage regulations are also considered.

22 MR. PERIDAS: Well, the word "pipeline" is missing

23 altogether, we need to put that there.

24 MR. BAUER: Let's let Judith -

25 MS. IKL: So I'm reading from - Judith Iklé from

1 the Public Utilities Commission - and I'm reading from the
2 actual Public Utilities Code, which the Legislature, you
3 know, granted us authority to issue certificates, and there
4 are some thresholds that we have to meet when we certificate
5 a natural gas storage facility. So, in issuing a
6 Certificate of Convenience and Necessity, is basically what
7 conveys the eminent domain power for additional natural gas
8 pipeline capacity proposed for construction within the
9 state, the Commission shall consider the state's need to
10 provide sufficient and competitively priced natural gas
11 supplies for both present and anticipated future
12 residential, industrial, commercial, and utility demand,
13 when it finds that it is in the state's best interest to do
14 so, the Commission shall expeditiously issue a Certificate
15 of Convenience and Necessity for those additional natural
16 gas pipelines. So we do have to make a finding at the
17 Commission, you know, for the existing gas facilities, which
18 has to do with allowing a competitive market in that area.

19 MR. MURRAY: I would again [inaudible] the idea was
20 so you could convey, [inaudible] to have the Legislature
21 consider whether or not some of these powers could be
22 extended and the easiest way to say that was to use the
23 natural gas as a -

24 MR. BAUER: Yeah, similar to John's statement of
25 "whether" to utilize natural gas -

1 MR. MURRAY: To sort of satisfy George's need, and
2 which I somewhat agree with, and to consider "whether," and
3 I think we've got it. "Whether" and then John's statement.

4 MR. BAUER: Are we okay with "whether" and then
5 John's statement? We could even call out the section that
6 Judith already found for us, if you want to, but perhaps
7 that's going -

8 MR. KING: So that's in the background documents
9 report, so I think this is okay for the Executive Summary.

10 MR. BAUER: All right, are we okay with that, then,
11 the general panel?

12 MS. BENSON: Well, there is still that ambiguity,
13 that it says siting of transportation for natural gas
14 storage -

15 MR. BAUER: That's supposed to be typed siting and
16 storage.

17 MS. BENSON: But if it's siting and storage, then
18 that's a problem because then it's like - we want this to
19 focus on transportation, we're not just saying lock, stock
20 and barrel, take siting provisions for natural gas storage
21 projects and applying them to CO₂ storage.

22 MR. KING: Well, okay, so that is a second -

23 MR. MURRAY: Instead of saying "extending the
24 authority," let's say "extending similar authority." And
25 then, whenever this shakes out, they'll adjust all the

1 words, rather than try to wordsmith the entire statement.

2 MR. BAUER: Jerry Fish.

3 MR. FISH: Jerry Fish, just one other suggestion.

4 You might think about phrasing it in terms of extending the
5 authority for rights of way for pipelines and storage
6 because I think what is troubling Sally is the nature of
7 siting, it sounds like the whole program for siting CCS is
8 now going to be modeled after gas storage or something like
9 that, and maybe it will, but I think you're talking about
10 acquiring rights of way for transportation and storage.

11 MR. KING: Okay, so authority for acquiring the
12 rights of way for siting, okay.

13 MS. IKL: And for that reason, I would prefer not
14 to have the PU Code in it because I think the PU Code -

15 MR. BAUER: Yeah, we're not going to. Okay. All
16 right, are we comfortable with that statement? It'll get
17 written up and we'll look at it. Okay, we're at the break
18 for lunch period. We're supposed to have an hour, I'd like
19 to get us through it in 45 minutes and back here, so we can
20 march on.

21 MR. KING: So just to capture that last bit - John -
22 on that bullet, before extending similar authority for the
23 rights of way - for acquiring the rights of way for siting.
24 So on that bullet that you're on, the State should consider
25 whether legislation extending similar authority for

1 acquiring the rights of way," that was the last of it - for
2 the siting, yeah.

3 MR. BAUER: All right, let's break. We're going to
4 start at 1:00, which is in about 50 minutes. Yes, we're
5 going like we did last time, over to a room, we're going to
6 have some food in, and then we'll come back.

7 MR. CODDINGTON: Carl, I will dial back in, in 45
8 minutes.

9 MR. BAUER: Okay, all right, figure around 1:00 West
10 Coast time.

11 MR. CODDINGTON Okay, thank you.

12 MR. BAUER: Thank you.

13 (Off the record at 12:08 p.m.)

14 (Back on the record at 1:02 p.m.)

15 MR. BAUER: I'd like to call the Carbon Capture and
16 Sequestration Storage Review Panel back into session here
17 and continue on working on the Recommendations. John, if
18 you can put those up?

19 MR. MURRAY: What number are we on?

20 MR. BAUER: Probably three, I think.

21 MR. CODDINGTON: Hello?

22 MR. BAUER: Kip is back on. We did the first two
23 items.

24 MR. KING: Yeah, however, we kicked our space out
25 of item two and we need to resolve that.

1 MR. BAUER: Yeah, we need a new number three which
2 is the pour space discussion. Yeah, let's do the pour space
3 discussion, okay? Do we have a statement? Yes, George.

4 MR. PERIDAS: Yeah, my question is, and maybe Jerry
5 can answer, do we need to get the state to pass a bill that
6 says that pour space belongs to the surface owner? Because
7 that is what the opening of that sentence implies.

8 MR. BAUER: I need you to have a mic so the
9 recording -

10 MR. MURRAY: Is Kip back on?

11 MR. BAUER: Kip, you're on? He was on a minute ago,
12 yeah, we lost him.

13 MR. MURRAY: Kip, what caller number are you?

14 MR. KING: Kip, we'd like you to talk.

15 MR. BAUER: Kip?

16 MR. KING: We still can't hear you, Kip, but you can
17 probably hear us.

18 MR. PERIDAS: Some of us don't mind.

19 MR. RUBIN: While we're on that, folks, if you
20 haven't yet done it, if you read ahead into the version of
21 the pour space discussion, this is where there is also major
22 disconnect between what is in the text and there is no
23 recommendation in the text. What the text basically says is
24 that there are three possible approaches to handle this, and
25 it outlines what would be needed legislatively to implement

1 each of the three, it doesn't express our preference for any
2 of them, and it doesn't have any other recommendations.
3 So, there's a major disconnect right now that we have to
4 resolve.

5 MR. BAUER: Well, that's going to be resolved.

6 MR. RUBIN: Yeah, between the word "here" and -

7 MR. MURRAY: But didn't we also clarify earlier that
8 what we're talking about is the right to use pour space as
9 opposed to the ownership?

10 MR. BAUER: Well, that's when we were talking in the
11 Findings side. So now our recommendation has got to do
12 something about that.

13 MR. MURRAY: Yeah, but still, we should talk about
14 the right to use, rather than --

15 MR. BAUER: Someone has to have the - to give rights
16 on -

17 MR. CODDINGTON: This is Kip -

18 MS. BENSON: I think ownership is an issue,
19 aggregation is an issue, compensation is an issue,
20 adjudication of conflict is an -

21 MR. MURRAY: We just heard Kip. Did you get him?

22 MR. BAUER: Yeah, we can hear you.

23 MR. CODDINGTON: [Inaudible]

24 MR. BAUER: Kip, we need you to speak up.

25 MR. CODDINGTON: -- and then to set forth what we

1 think the recommendations are.

2 MR. PERIDAS: Kip, we can't really hear you, it
3 sounds like you're in a tin box or you're using a
4 application or something?

5 MR. CODDINGTON: No, I'm using the same thing I was
6 this morning.

7 MR. PERIDAS: Did you change anything since this
8 morning? It's really hard to hear, it's echoing.

9 MR. CODDINGTON: Let me try to call back in.

10 MR. FISH: I was just going to say, and I think Kip
11 would agree, there is sort of an American rule out there,
12 but it hasn't been decided in California, and it would save
13 people having to worry about the risk of litigation for very
14 long periods of time if the Legislature would confirm that
15 the surface owner owns the storage right. It doesn't answer
16 all the questions that are answered in aggregating the
17 rights.

18 MR. BAUER: So, did everybody follow that? So, the
19 recommendation probably should address something about the
20 legislation recognizing or confirming surface owner rights
21 of pour space.

22 MS. BENSON: I liked the language of right to store
23 because, when you say you own the pour space, you know, what
24 about what's in it? I mean, that's really a different
25 connotation than "right to store something in it." I mean,

1 I know it's a narrower definition, but I kind of liked that
2 more narrow definition.

3 MR. MURRAY: And are there conflicts with current
4 laws or statutes, or about water storage and who has the
5 right to under water aquifers, and -

6 MR. FISH: Yeah, I think there's potential for
7 conflict near the surface where there are drinking water
8 aquifers and they're actively being used for aquifer storage
9 or production of drinking water, and I don't think there is,
10 as a practical matter, a conflict with places people are
11 contemplating storing carbon dioxide.

12 MR. MURRAY: And I think I asked you this once
13 before, but does the right to extract oil equal the right to
14 store things in it?

15 MR. FISH: No, it doesn't, but on the other hand, it
16 certainly is important to remember that, if there's a
17 separate owner of mineral rights, the right to extract
18 minerals, that owner's rights to use the pore space for that
19 purpose during the period when minerals are being extracted
20 is paramount to the surface owner's rights to use it for
21 storing something else, and so there's an inherent conflict
22 there for as long as minerals are being extracted.

23 MR. KING: Yeah, so it's important that we make sure
24 that we support the primacy of mineral rights to existing
25 mineral rights holders, as well.

1 MR. FISH: That's been done in each of the states
2 that have addressed this statutorily, like Wyoming, and
3 North Dakota, and Montana, they've all said, you know, the
4 surface owner owns the pour space, the mineral owner's
5 rights are still paramount during the period when they're
6 also being used. They don't change common law, but they
7 affirm it.

8 MR. SKOPEC: So, maybe in the spirit of Kevin
9 Murray, can we just put a period after pour space? That's
10 what I would recommend.

11 MR. RUBIN: Where are you looking?

12 MR. SKOPEC: On number three, "The legislation
13 should clarify the ownership of pour space."

14 MR. RUBIN: And I would add "and its availability
15 for use in CCS projects." I think, in this case, we have
16 three very different kinds of models that are outlined very
17 effectively in Jerry's talk. We haven't really gone into
18 the details of those. I don't think it's basically up to
19 us, anyhow, even if we did have a recommendation. This is
20 clearly something the Legislature will have to handle in the
21 context of the California situation, and I think the only
22 thing that we can do productively is point out that this
23 issue needs to be resolved and here are some thoughtful
24 pieces about the pros and cons of different approaches.

25 MR. CODDINGTON: This is Kip. Is this better? Or

1 is there still an echo?

2 MR. RUBIN: That's good, Kip.

3 MR. CODDINGTON: Okay. I think we might be falling
4 short in our duties if we don't make a specific
5 recommendation here, as opposed to leaving it up in the air,
6 and I would offer the following. And, Jerry Fish, I would
7 welcome your wiser views on this, and all of the analyses
8 you provided throughout this whole process have really been
9 tremendously helpful. It seems to me there is at the moment
10 what I would characterize as an American Rule, and that is
11 that the jurisdictions that have looked at this, there's not
12 been a lot of them, but those that have said that the pour
13 space is owned by the surface estate, and then there is a
14 caveat that, subject to - that is prospective only, so there
15 isn't an inadvertent condemnation of rights previously
16 granted, rights that are granted in the past are accepted
17 and recognized, as is the dominance of the mineral estate,
18 and that is the way the U.S. is going. The only diversion
19 from this path that I'm aware of is a comparable report that
20 has been prepared in West Virginia, and West Virginia is
21 going down the path of saying, below a certain depth - and I
22 don't know the precise number, I've forgotten, and I want to
23 say it's 2,500-feet - there's an effective claim that the
24 State of West Virginia holds those rights. So it's almost
25 an effective taking away of private pour space rights to the

1 extent they ever existed in West Virginia, and I think that
2 might be another model. But unless there is a compelling
3 reason for California to go its own way, I don't know why we
4 just wouldn't follow what I would characterize as the
5 American Rule, and it would have all the appropriate bells
6 and whistles to ensure that existing rights weren't
7 impaired.

8 MR. MURRAY: Here is my question for you, Kip, and
9 anybody else who is an expert, including Mr. Fish, if the
10 current - your read is that the current state of the law in
11 California, both statutory and common law, is that the pour
12 space belongs to the surface owners?

13 MR. FISH: No, that's the rule in the United States
14 and the courts in California have never had to decide it,
15 they got close to it once and they said, "We're not going to
16 decide this today because we don't have to."

17 MR. MURRAY: So that argues for we do need to
18 declare it.

19 MR. FISH: Right.

20 MR. MURRAY: And so I think, you know, giving
21 another sort of Murrism, we should be clear in the shortest
22 sentence possible.

23 MR. RUBIN: Well, I guess my feeling is, first of
24 all, that the term "American Rule" doesn't appear anywhere
25 in our writings. I don't really know what it really

1 constitutes, and whether it is included, and maybe it's a
2 different way of saying one of these things that are here,
3 or not, I've worked on this for the last year in our CCS Reg
4 project and I'm personally ambivalent. I could see pros and
5 cons, personally, of doing things different ways if
6 different approaches might have different merits in the near
7 term, but in the longer term, other approaches, in fact, if
8 CCS is going to be a significant player in climate change,
9 the current situation has a lot of potential dead ends to it
10 that could, in fact, prevent CCS from being viable. So, it
11 is a new game in town and just because we've been doing
12 things a certain way for the last hundred years under a
13 different game doesn't mean that those rules necessarily
14 have to apply when there's an important new public interest
15 on the table. I'm not prepared to endorse any particular
16 approach today, I think it would be actually foolish of us
17 to try to do that because it would imply we have some
18 priorities, and my sense is I don't frankly think that we
19 have. So I would prefer to punt it to the Legislature.

20 MR. MURRAY: I actually am looking at this not as
21 kind of a new thing, but what we in the Legislature would
22 call a declaration of existing law, or a clarification - no,
23 declaration of existing law. I'm prepared to say that the
24 surface owner owns the pour space, I think that's the right
25 and just thing to do, but I'm not - I don't think that that

1 statement is necessarily against if the Legislature decides
2 later on to do a rule like West Virginia, or to do whatever
3 makes the process easy, but I do think there's some value,
4 and correct me, Mr. Coddington, and Mr. Fish, I do think
5 there's some value in sort of starting with this baseline,
6 who owns it, so that once you get to what you want to do,
7 you then don't have a fight as a conditioned precedent, a
8 fight about, well, who really owns it anyway? And then, if
9 we decide policy-wise, later on, to go a different way, I
10 don't think that necessarily conflicts. At least, that
11 would be my -

12 MR. RUBIN: Well, again, there are two issues, one
13 is the ownership issue, but the other is making the pour
14 space available for CCS projects. And those are two issues
15 that are closely coupled, obviously, but they are different
16 issues.

17 MR. CODDINGTON: I don't understand what making pour
18 space available means. I think if it's a private ownership
19 model, the private ownership is established, then it's up to
20 that owner to be compensated if he or she wants to grant a
21 lease or sale of those rights. So, that second verbiage,
22 I'm not clearly - I do not clearly understand what that
23 means. But regardless of the outcome, I just think we as a
24 panel might fall short of our obligations if we didn't say -
25 if we fell into a pattern of saying, "These are the options

1 from which California can choose, and we're not choosing
2 among them." I think the other states that have done these
3 comparable panels and made recommendations actually made a
4 recommendation, and if we're just going to say, "There are
5 various options here, Legislature, you have to choose," that
6 doesn't feel comfortable to me. I think we should say,
7 "This is what we think the rest of the states have done and
8 California might want to take note of that," and we should
9 go further and say we see no reason why California would do
10 anything any differently. I think the looming concern here
11 is that somehow someone is going to have to go out and get
12 pour space rights for 500 counties in California, and
13 ordered to do a project. I think those concerns have also
14 recently been mitigated under the new Federal UIC Rule, the
15 Class 6 rule, where with respect to area of review and
16 monitoring, the extent of monitoring and the like, that you
17 don't need to scope the ultimate extent of the project out
18 at the very beginning, you sort of do it over time as the
19 injection plume, or if the injection plume goes and
20 migrates. So, in that instance, I would say EPA adopted a
21 fairly reasonable approach that would also drive a more
22 reasonable approach with respect to the acquisition of pour
23 space. So, again, this is one of these issues that I
24 actually think, at the end of the day, isn't that
25 controversial. It's going to be difficult to do in a

1 specific project, but all these things are ultimately
2 difficult. I think, if we don't go the private ownership
3 route, then this also could be potentially problematic for
4 CCS because then you're saying to the Citizens of the State
5 of California, "Well, guess what? We may think you may not
6 really own everything that's under your house, and we may
7 need to use it at some point." And I think, from a public
8 acceptance point of view, having a strong signal of private
9 property rights, reaffirming current law is really not
10 controversial. So those are my thoughts.

11 MR. PERIDAS: Yeah, and I agree with Kip. I think
12 the only other plausible option would be state ownership of
13 pour space, I think this would go against established case
14 law, it would not be seen - it would not be welcomed by
15 current landowners, even though they might have not thought
16 about their current rights. I think it's a fairly obvious
17 recommendation to make. The states should establish in
18 statute that which is commonly known already, that the
19 surface owner owns the pour space.

20 MR. RUBIN: There is this middle ground, what is
21 referred to here as the limited private property approach,
22 which basically establishes private property, but puts some
23 contingents on it. I mean, these are basically, my
24 understanding from the lawyers who I've been hanging around
25 over the last year, there used to be the conventional wisdom

1 that you owned everything from the heavens to the core of
2 the earth, right? And then airplanes came along and
3 suddenly you didn't own all the air space above your
4 property anymore without some limits. And so now we're
5 going in the other direction and there are other situations,
6 we've heard, I think, of some more situations here in
7 California with respect to water resources. So, my sense is
8 that I would want some flexibility in this to start with
9 property rights of the owner, but under certain situations
10 and circumstances, that would have to be defined and laid
11 out, there could be overriding issues that would require a
12 different set of procedures that would be reasonable and
13 just and all that, but are not as absolute.

14 MR. CODDINGTON: I would just say I would go along
15 with that, only if we put a caveat in that said all the
16 other states that have looked at that have rejected that
17 approach, and the difference between aerospace and the dirt,
18 if you will, is that ultimately there are valuable minerals
19 down in the earth, and ultimately people can sort of see a
20 plane flying above them and say, "Well, that's ludicrous
21 that I'm going to preclude that aircraft." But there is
22 this lingering notion in spirit that I could be sitting on a
23 pool of gas down there, and I don't know whether it's 2,000
24 feet, or 20,000 feet, or 10,000 feet, and why is someone
25 going to tell me, well, if it's below a certain depth, all

1 of a sudden it's not mine. I just think this raises a host
2 of ambiguities and complications that, again, have been
3 rejected by other states, and we're sort of opening further
4 lines of attack that I don't think are helpful.

5 MR. RUBIN: Those are traditional mining states,
6 it's quite understandable, there are a couple of them, I
7 would be surprised if Wyoming did anything different. And
8 there are different models, it doesn't necessarily have to
9 be a depth-related ownership issue. And a lot of that is
10 laid out in our CCS Reg proposals. So, all I'm saying is
11 there are different ways of formulating a middle ground and
12 I would prefer to leave it to the state legislature. From
13 what we've just heard, apparently the law in California has
14 not been clear either. So, either way, we need a
15 legislative action.

16 MR. MURRAY: I would argue that, in the final
17 analysis, almost all of this needs a legislative action, so
18 us recommending to the Legislature that they start at pour
19 space belongs to the surface owner, I mean, we've talked
20 about our sort of - at least my and George's anti- eminent
21 domain bias, establishing the property owner's own, still
22 doesn't preclude the Legislature and the policy makers from
23 then saying creating exceptions, one of the things we say in
24 the next sentence is "create a fair way of dealing with the
25 beneficial use of pour space, and we can play some

1 wordsmithing with that. So, I don't think declaring -
2 because I think Mr. Fish and Mr. Coddington bring up two
3 real good points, which is that if we don't do this, then
4 whatever policy thing goes forward, we have this conditioned
5 precedent fight about, well, who owns it to begin with? So
6 why not declare the owner owns it and then fight from there,
7 rather than the other way? So, anyway, that's my two cents.

8 MS. REHEIS BOYD: Yeah, I mean, I agree with that.
9 I think we need to be very strong on this point. That's my
10 view.

11 MR. BAUER: I agree, we need to make a statement.
12 I'm fine with what you suggest, Kevin, but to just try to
13 mush it - this is the major obstacle, the doing something.
14 If it doesn't get clarified, there are going to be all kinds
15 of litigation going for years.

16 MR. MURRAY: And just for, I mean, particularly here
17 in California, the property rights people can be quite
18 aggressive. And if we leave it open, they will create all
19 sorts of monsters that aren't even there in terms of
20 opposing the concept.

21 MR. BAUER: So what statement do we want to say?
22 Sally?

23 MS. BENSON: I think I'm persuaded that making a
24 strong statement about surface ownership of pour space is a
25 reasonable thing to do, but I don't think we can stop there,

1 I think we have to then talk about how you aggregate those
2 rights, and that if we don't do that, then we're also just
3 creating such a huge problem.

4 MR. MURRAY: So, are you saying - the strong
5 statement says the surface owner owns the pour space, then
6 the recommendation to the Legislature is that they create
7 some mechanism for aggregation and use of pour space for CCS
8 purposes.

9 MS. REHEIS BOYD: Right.

10 MR. RUBIN: Yeah, that is at the core of the issue,
11 I think, in terms of what we're here for.

12 MR. KING: And they are coupled, I mean, the
13 Legislature makes a declaration that surface owners have the
14 rights to the pour space, that pleases the surface owners
15 presumably, right? Because we've protected their rights.
16 But at the same time, there's a mechanism set up and, again,
17 I propose sort of extending existing statutory authority
18 would be the easy easy way to kind of express that for
19 getting rights to use that space. And that would involve
20 compensation.

21 MR. BAUER: So how do we want to write this
22 statement of -

23 MR. MURRAY: Well, we agree the first statement is -

24 MR. BAUER: The Legislature should clarify the
25 ownership -

1 MR. MURRAY: No, the Legislature should clarify that
2 the surface owner is the owner of the pour space. That's
3 the simple sentence that I think everyone has kind of agreed
4 on, except to the second part, satisfying Ed's other
5 concerns.

6 MR. KING: Or declare that? Is that the right term
7 that you used, Kevin?

8 MR. MURRAY: Are we clarifying, or are we declaring?
9 What do you think, John?

10 MR. KING: I think declaring.

11 MR. MURRAY: Okay. I'm okay with declaring.

12 MR. KING: The Legislature should declare that the
13 surface owner is the owner of the pour space, and its
14 availability for use in CCS projects, and then I think we
15 just go back up above -

16 MR. MURRAY: I would say pour space, period. And
17 then the next sentence should talk about -

18 MR. RUBIN: And then establish appropriate
19 procedures for adjudicating its availability for use.

20 MR. MURRAY: Yeah, in the next sentence.

21 MR. RUBIN: Okay. That's the point that I'm most
22 concerned about. And then establish -

23 MR. MURRAY: No, no, no, I still say "pour space,"
24 period, as a singular sentence, and then we should have
25 another sentence which says "currently," or something like

1 that, ...the Legislature...”

2 MR. RUBIN: Well, if it's a new sentence, "The
3 legislation should further establish procedures for
4 adjudicating its availability for use in CCS projects."

5 MR. MURRAY: All right.

6 MS. BENSON: The first sentence should say
7 "Legislature," not "legislation."

8 MR. RUBIN: The California Legislature.

9 MR. MURRAY: In California!

10 MR. BAUER: Are we all on the panel comfortable with
11 this approach, with this recommendation? If we are, let's
12 move on.

13 MR. RUBIN: It's about adjudicating, yeah.

14 MR. BAUER: Jerry Fish has got another input.

15 MR. FISH: Just a question, and that is -

16 MR. RUBIN: No, procedures for - you started -

17 MR. FISH: With regard to the recommended language,
18 this is quite neutral and I think it's intended that way as
19 [inaudible] for a way to adjudicate, it's availability
20 [inaudible], if it's not available, does that solve your
21 problem? Do you want to say that the Legislature should
22 consider providing a mechanism for aggregating pour space
23 rights for carbon sequestration projects?

24 MR. MURRAY: Does the term "aggregating" include
25 arranging for just compensation? Adjudicating, I would say,

1 does include just compensation. I don't know that
2 aggregating does.

3 MR. FISH: It certainly does in all the mechanisms
4 adopted by other states to aggregate.

5 MR. MURRAY: Okay.

6 MR. RUBIN: That's a good point. Should procedures
7 for -

8 MR. PERIDAS: Well, I think the language here should
9 echo what we said for pipelines, and the wording actually
10 was, let's see, "should consider whether." So I think we
11 should use the same formulation.

12 MR. BAUER: My concern is that, on that subject, on
13 the pipelines, we had some latitude; here, if you cannot get
14 to the pour space clarification, and you can't get into some
15 form of aggregation, you'll probably have a major obstacle
16 to doing anything. So if you want to do CCS in the state,
17 this has to happen, they have to do something.

18 MR. RUBIN: So there are procedures for making it -
19 this is probably awkward, we can rephrase it, but it's
20 basically there are procedures for making it available and
21 adjudicating.

22 MR. PERIDAS: But I've spoken to developers who say,
23 "Look, we don't need anything else. We're going around
24 knocking on doors because we have the willingness and the
25 talent."

1 MR. MURRAY: Why don't you say "aggregating and
2 adjudicating?"

3 MR. RUBIN: Aggregating and adjudicating, good.
4 Yeah, that's great. Aggregating it's availability for use
5 in CCS - good.

6 MR. BAUER: George has a question on this statement,
7 as to whether they want to do it or not. Do you want to
8 restate it, George? And the panel can decide whether they
9 want to support or just go with this statement.

10 MR. PERIDAS: I think there is a vocal group and I
11 respect the opinion that you cannot aggregate enough pour
12 space to build the project, unless you have some power of
13 unitization around domain. I've also spoken to developers
14 who are actually doing this in 12, I think, states, they're
15 going around, knocking on doors, and negotiating with
16 landowners who initially did not know anything about CCS,
17 and they've actually amassed the rights to do a number of
18 projects. And they say, "Well, we don't think you should
19 touch this because then these people are going to be less
20 willing to talk to us because they think that someone is
21 trying to impose something on them." So I think we should
22 respect that point of view, as well.

23 MR. MURRAY: Although, by definition, them making
24 that request is them trying to pull something over on
25 someone.

1 MR. PERIDAS: Right, or they're doing it on a one-
2 by-one negotiation.

3 MR. MURRAY: So, having the public aware, they're
4 basically saying it's better if you don't let the public
5 know that they own this.

6 MR. PERIDAS: No, no, they know that they own it,
7 they go and they buy or lease pour space from them.

8 MR. MURRAY: If you make the declaration that this
9 exists, then it will somehow cost them more money.

10 MS. BENSON: I think the issue that we need to
11 resolve is, if you have one landowner in the middle of 20
12 other landowners, and that one landowner doesn't want to do
13 the project, and you know that the plume is going to go over
14 their property, I think what we need is some procedure to
15 say, "Well, look, all of your neighbors have agreed to this,
16 and therefore, we'll give you compensation as others are
17 being compensated, but you don't have a choice." I think
18 that's the mechanism that is needed. So it's basically the
19 same way, you know, unitization rules work.

20 MR. BAUER: I don't think George is arguing that
21 issue, I think he's arguing do we want to be as strong as
22 saying the Legislature should do this, or should decide
23 whether they want to do this.

24 MR. PERIDAS: Right.

25 MR. BAUER: But I would submit that the first point

1 of surface ownership, they should do, and then we could
2 suggest the second point on the procedures and aggregation
3 and adjudication would be something where they want to
4 decide that. I mean, you've at least got to start with a
5 recognition of who owns it, and then you can talk. Now,
6 from the standpoint of actually trying to do CCS, I think
7 the second point has to go, or having ownership really
8 hasn't gotten you much, but that's, I think, trying to
9 clarify what George is concerned about.

10 MR. RUBIN: As you say, if you don't do something
11 about the second point, the first point, as far as this
12 panel is concerned, I think, is almost moot.

13 MR. CODDINGTON: This is Kip. I would just weigh-in
14 and say I do support George in that I cannot think of one
15 project that has been halted by pour space concerns. I sort
16 of long ago put the pour space issue to the size and checked
17 box, and said this is doable, because people, when the rules
18 are clarified who owns the surface estate, or even in a
19 state that is silent on it, that assumption is made, then
20 those transactions go forward. I understand there is a
21 straw man argument that, in a given project, someone is
22 going to need to amass the pour space in 500 counties to
23 potentially cover the thousand-year plume. But to date,
24 that has only remained a straw man, and so I think if we go
25 too strong towards trying to solve this issue for all

1 potential projects in California, it may be a bridge too
2 far. As a practical matter, there may only be a couple
3 initial projects in California, so this may be a situation
4 where maybe we're over-thinking it. I'm sort of comfortable
5 saying, giving the pour space is owned by the surface estate
6 and then maybe back peddling a little bit on this issue of
7 pooling or unitization, or eminent domain, but going soft on
8 that just because I just cannot envision a situation in the
9 near future where that will be needed.

10 MR. RUBIN: So, in Pennsylvania, a year and half or
11 two ago, the state was bullish on trying to be able to do
12 something like a half a dozen CCS projects, and this was the
13 show stopper. There were no procedures in place to
14 aggregate pour space, so, in Pennsylvania, that effort came
15 to a dead stop.

16 MR. CODDINGTON: Well, I was involved in
17 Pennsylvania, too, I think there were lots of reasons that
18 issue, why that ran aground. I just think we probably don't
19 need to put all the bells and whistles on this at the front
20 end. I think just a declaration that supports space
21 ownership and then maybe soft pedaling a path forward in
22 terms of aggregation or unitization or pooling consistent
23 with current California law.

24 MR. MURRAY: But this is the soft pedal, right?

25 MR. BAUER: Well, I would suggest, let me see if

1 this solves everybody's problem. Leave the first sentence
2 the way it is, then the second sentence, it says, "The
3 Legislators should...", maybe we should say, "The Legislature
4 may consider whether it should further..." establish these
5 other things.

6 MR. KING: Yeah, I'm actually - this is John - I'm
7 with Ed on this in terms of the success of CCS ultimately is
8 about choosing the right reservoirs and making sure,
9 especially the early projects, that we site them, and choose
10 them for success. And what you're going to end up instead
11 doing is migrating your projects to where land rights can
12 easily be consolidated and acquired, which won't necessarily
13 be really where you would ideally want to store CO₂. So, I
14 think this aggregation is something - I think is a key
15 element in the path forward for pour space for California.
16 And it's a unique complication in the United States compared
17 to the rest of the world, that this is just something we've
18 really made complicated for ourselves, it's much simpler
19 everywhere else.

20 MR. MURRAY: Assuming we agree on the first
21 sentence, what is wrong with the second sentence? I don't
22 find the second sentence conflicting with anything anyone
23 says.

24 MR. KING: Yeah, I just don't want to go any softer
25 than it is already. I can live with that, but -

1 MR. RUBIN: Yeah, I would take out those words.

2 MR. MURRAY: What words?

3 MR. RUBIN: The "may consider whether." It should
4 establish procedures, it has every right to establish a
5 procedure that basically says you have to go out and
6 negotiate.

7 MR. MURRAY: Is that too strong for you, Kip?

8 MR. RUBIN: But, I mean, I agree with Kip that we
9 have certain responsibilities here and it seems to me that,
10 in terms of being able to have CCS viable on a large scale,
11 not just the near term projects, you must have these
12 procedures. And what they are will determine in large part
13 how this plays out.

14 MR. MURRAY: Again, no one has said anything that
15 argues against the way the sentence was worded before you
16 added "may consider," so I'm not sure -

17 MR. KING: I would just take that out, personally,
18 because I do think it's an important point.

19 MR. MURRAY: So, Kip, you were the only one that
20 wanted - is this soft enough?

21 MR. RUBIN: "Should further establish procedures."
22 We don't say what the procedures should be.

23 MR. PERIDAS: It was me, as well, not just Kip. I
24 think this is okay if we remove the "whether," but I'd like
25 to revive an earlier combination that I had made, and that

1 was to get a state agency to convene a stakeholder forum and
2 ask the stakeholders, the landowners, how they think this
3 should result. So, before you actually take something to
4 the Legislature, you actually do a dry run and ask people
5 what they think should be done in this case.

6 MR. MURRAY: I think that's what the Legislature
7 does. That's their job.

8 MR. PERIDAS: But there's no formal consultation.

9 MR. MURRAY: Yeah, I mean, people don't vote on
10 stuff until they check their constituents - they have
11 hearings and people get to come and testify, and believe me,
12 landowners are not shy about doing so.

13 MS. REHEIS BOYD: I mean, you could add, you know,
14 what George was saying, the Legislature should further
15 establish procedures and including consultation with
16 stakeholders for aggregating in blah, blah, blah.

17 MR. MURRAY: I don't have a problem with that.

18 MR. RUBIN: Add a preamble: "In consultation with
19 stakeholders, Legislators should consider..."

20 MR. KING: So, not to over-work this, but we did
21 specifically talk about the dominance of the mineral state
22 several times, and I think that needs to be in this sentence
23 where we declare the service center has the ownership
24 subject to the primacy of the mineral state, or subject to
25 dominance of the mineral state. I just don't want to lose

1 that point.

2 MR. MURRAY: I mean, you could get into all sorts of
3 permutations about what the mineral state and what grants --
4 and what individual grants, in each individual case of
5 mineral rights were there, and were there any exceptions. I
6 think we're over-analyzing it.

7 MR. RUBIN: So, again, there's a new consideration
8 in addition to mineral rights, that is now introduced by
9 CCS, which I think makes it a little more complex, and it
10 seems to me the procedures that we're asking be established,
11 that's where you address that, and in those procedures would
12 be statements about primacy of different interests.

13 MR. CODDINGTON: The average pour space -

14 MR. RUBIN: That's effectively what we did in the
15 CCS Reg project, as well.

16 MR. CODDINGTON: Yeah, the average pour space
17 statute in another state is about a paragraph. It's really
18 this is sort of a check the box, pretty simple thing. Now,
19 in application, the devil is in the details, but what we're
20 arguing about here in terms of if we were to make specific
21 legislative recommendations, it would be very simple, and we
22 would just refer to the dominance of the mineral state,
23 period. And we wouldn't have to go further, so I think, at
24 the end of the day, this is pretty straightforward.

25 MR. BAUER: Jerry.

1 MR. FISH: I wanted to echo something that was said
2 about whether this is a showstopper or not, and Ed testified
3 about Pennsylvania, but even here in California, one of West
4 CARB's early and very very small projects foundered because
5 one interest holder, I think it was a mineral Lessee in that
6 case, decided it wasn't in its best interest to go forward
7 with the project and it came to a halt. So, I really do
8 agree that it is essential to have a procedure for
9 aggregating the pour space rights.

10 MR. BAUER: Oh, okay. So, are we comfortable with
11 this statement? Do we want to include anything about, you
12 know, "subject to existing mineral rights law?" Or do we
13 just want to assume that that will be inherently in how they
14 would develop the legislative language?

15 MR. PERIDAS: I tend to agree with Kevin about the
16 mineral rights. I don't disagree with what John is getting
17 at, but I'm not sure there is a place to say it.

18 MR. BAUER: Okay, I just -

19 MR. PERIDAS: In other words, just compensation has
20 been axed, and I would like to see them in this clause.

21 MR. BAUER: Should be added, you say?

22 MR. PERIDAS: Yeah, I think it should not be
23 deleted, "provided for just compensation of landowners."

24 MR. CODDINGTON: Just again, the phrase "just
25 compensation" implies - necessarily implies - eminent

1 domain.

2 MR. PERIDAS: Or unitization.

3 MR. CODDINGTON: That's a Constitutional term, so if
4 you say "just compensation," then that necessarily signals,
5 well, eminent domain, and we're - so -

6 MR. PERIDAS: What about unitization?

7 MR. RUBIN: I think it's easy to over-work this.
8 The adjudication part of that basically would presume we
9 cover that, and if we start over working it on mineral
10 rights and compensation, and this and that, before you know
11 it, we'll basically have gone off the deep end. So, I think
12 this is a case where the fewer details the better, as long
13 as we have five words that cover those concepts. I think
14 all the concepts I've heard about are covered.

15 MR. PERIDAS: All right, so I'll say okay provided
16 we mention just compensation in the main paragraph dealing
17 with this.

18 MR. RUBIN: In the supporting text.

19 MS. BENSON: The difficulty is what is just
20 compensation, you know, it's basically what the market is
21 going to bear. I mean, it's what your neighbors are willing
22 to sell their pour space for.

23 MR. CODDINGTON: No, it's not. Just compensation is
24 what the state will pay you when they condemn your property.
25 Just compensation is -

1 MR. MURRAY: Yeah, but they don't have to pay you
2 value, so -

3 MR. CODDINGTON: But just compensation to a lawyer,
4 and, again, I'll here defer to Mr. Fish, it means, it
5 necessarily means eminent domain or condemnation by the
6 State.

7 MR. MURRAY: Well, I think that's true, but the
8 state has to pay you fair market value.

9 MR. BAUER: Judith, do you want to clarify?

10 MS. IKL: It's not by the state, it's by an entity
11 which has been given condemnation power through a CPCN,
12 mostly, in my agency's case. So it's usually adjudicated
13 through a court that they, you know, use real estate experts
14 and stuff like that.

15 MR. MURRAY: But it's fair market value.

16 MS. IKL: It's fair market value, right, yeah. But
17 it's not by the state, it's often, in the case of my agency,
18 a public utility, you know, which might have to use that
19 sort of condemnation power and go through a court.

20 MS. BENSON: On the other hand, I mean, this seems
21 clearly a case where, unless a significant fraction of the
22 landowners agree to sell their pour space to this entity,
23 you know, there won't be a condemnation, so basically the
24 market price would be determined by whatever the neighbors
25 had decided that they wanted to be compensated for, or some

1 average of those.

2 MR. FISH: Yeah, it is property specific, so, you
3 know, if I've got particularly valuable property, I'm going
4 to get more compensation than the guy next door who has just
5 got dirt.

6 MR. MURRAY: By the way, is the fair market value
7 determined by what your neighbors would sell their pour
8 space for, or what you could otherwise get for your property
9 for some other use?

10 MR. FISH: Yeah, there are whole books written about
11 it, but the short answer is how much less is your property
12 worth after than it was before.

13 MR. BAUER: Okay, I'd like to bring us to close on
14 this particular recommendation if we're relatively
15 comfortable with the wording we have. Obviously, we're all
16 going to see it when it's smooth, have a chance to kibbutz
17 one more time. And let's move on to the next point, then.
18 This is "should consider legislation to identify CP or State
19 Fire Marshall as the Lead Agency for regulating CO₂
20 pipelines." Are we still comfortable with that
21 recommendation?

22 MR. MURRAY: Is the Fire Marshall involved, I have
23 no idea -

24 MR. BAUER: Yeah, we had a briefing. Jerry, could
25 you give a quick summation, because you gave the point, I

1 think, on this State Fire Marshal's authority in there?

2 MR. MURRAY: We should just have Jerry write the
3 thing and look at it later.

4 MR. BAUER: Well, we could do that, but then we have
5 to -

6 MR. RUBIN: Let's review it and move on.

7 MR. SURLS: Actually, as a point of clarification,
8 for the longer recommendations, Jerry already did write some
9 of them.

10 MR. FISH: What we wrote in the longer piece about
11 the justification is that the Federal Authority covers -
12 would be sufficient to cover CO₂ pipelines, but it hasn't yet
13 been interpreted by the State Fire Marshal in California if
14 he has jurisdiction over CO₂ pipelines. The California
15 delegation talks about hazardous liquids pipelines and CO₂ is
16 not a hazardous liquid. So, they'll probably have
17 authority, it is somewhat like the discussion we've had
18 about whether or not the doctor has authority to do
19 permitting for CCS in saline formations, it's a question.
20 It would be nice to clarify it by saying the State Fire
21 Marshal has that authority.

22 MR. MURRAY: Well, do we want it to be the State
23 Fire Marshall?

24 MR. FISH: It doesn't have to be.

25 MR. RUBIN: It says CP or.

1 MR. MURRAY: I think we ought to pick one and say
2 that's what we want, rather than -

3 MR. KING: I don't remember the rationale for the
4 CPUC. I remember the State Fire Marshall being discussed,
5 but I'm not sure where the CPUC popped up from on this. I'm
6 a little confused.

7 MR. BAUER: I didn't put that in there. Jerry, do
8 you want to talk about it, I think it was related to, as we
9 talked about earlier, the CPUC as far as the utility gas
10 lines.

11 MR. FISH: I think it was related to the possibility
12 of, you know, whoever ends up with authority to permit the
13 gas line might have it, but the State Fire Marshal currently
14 has that job.

15 MR. KING: So that would be tied back to that
16 eminent domain.

17 MR. MURRAY: Why don't we just say State Fire
18 Marshal?

19 MR. BAUER: It's all right with me. Everybody else
20 on the panel okay with that?

21 MR. CODDINGTON: I just have one question. Do we
22 want to, again, add the adjective "intrastate?" And are we
23 going to draw a distinction among safety, economic, and
24 siting regulation? I don't know what regulating means.
25 Does it mean all three of those? Or one? Or two? Or -

1 MR. MURRAY: We're not saying the sole agency, we're
2 saying the lead agency.

3 MR. CODDINGTON: Okay.

4 MR. BAUER: Good point.

5 MR. PERIDAS: I have another point. I think this is
6 again another case where we're about to codify what we
7 already know to be generally true, and the State Fire
8 Marshall thing has asserted the fact that they have
9 authority to permit those pipelines.

10 MR. BAUER: Have they asserted the fact on the CO₂
11 pipelines?

12 MR. PERIDAS: As far as I know, yes. I think we
13 should use the word "clarify" here, not in establishing a
14 new rule.

15 MR. BAUER: Shall we say, sorry, Kevin just stepped
16 out, should we recognize, as we did the early one,
17 "declare," which is a form of recognition?

18 MR. KING: I like clarify. Declared was around what
19 Kevin was saying -

20 MR. PERIDAS: Declare is more something new, clarify
21 means we already know this more or less to be the case.

22 MR. KING: That's fine, that's fine.

23 MR. BAUER: So let's just change the words, and it's
24 happening as we talk.

25 MS. BENSON: Do we know that the State Fire Marshal

1 wants this and would feel like they had the resources and
2 all of that?

3 MR. PERIDAS: Well, this is part of our job, to tell
4 agencies what to do. But I think, as far as I know, the
5 State Fire Marshal has assumed that this will be their job.
6 But I think there were some words missing here - regulating
7 the safety of intrastate CO₂ pipelines? Jerry, am I correct?
8 This is about safety?

9 MR. FISH: Yeah, this is about safety, not about
10 permitting.

11 MR. RUBIN: It's not about permitting?

12 MR. FISH: Right, things like that. This is -

13 MR. RUBIN: We had a separate issue on permitting.

14 MR. FISH: Safety and operation, or something like
15 that.

16 MR. BAUER: Okay. All right, are we okay with that?
17 Move on to the next one? This is the one on the post-
18 closure operation, monitoring -- MM&V.

19 MR. RUBIN: So, again, there are two separate things
20 in here. Are we suggesting that a single lead agency must
21 handle both of them? I was absolutely confused by this
22 recommendation. Tell me what it says.

23 MR. BAUER: If you remember, on this particular
24 subject there's a couple things, anybody here from ARB?
25 Yes, there you are, you came back, lucky for us. The ARB

1 requirements are about MM&V from the standpoint of emissions
2 release, at the same time, the permitting opportunity for
3 injecting would also have MM&V about retaining CO₂ in the
4 ground. And one of the discussions was would they be
5 separate and similar, or would they be able to combine the
6 requirements so that they would have one suite at the whole
7 thing. Where is the mic? Please identify yourself. Thank
8 you.

9 MS. COOMBS: Mary Jane Coombs, Air Resources Board.
10 I was just saying that there may also be MM&V requirements
11 under SB 1368, the Emissions Performance Standard. And
12 there's different language in the - I think Dr. Rubin called
13 it the Executive Summary section that follows the
14 recommendations on MVR, that may go to what you are
15 discussing about a consistent approach.

16 MR. MURRAY: I know I was out for a second, but
17 what's wrong with this sentence?

18 MR. RUBIN: So we have - I don't know if we've gone
19 through it, I think we have yet to get to it, so there are a
20 number of recommendations that have to do with establishing
21 lead agencies from various aspects of this, and I think we
22 really need to kind of handle that a bit more holistically,
23 so if we're recommending, for example, that the Energy
24 Commission be the lead agency for permitting a CCS site, and
25 if MM&V is part of those permit requirements, all right, why

1 is not the CEC by default the lead agency under which that
2 would get done? So, again, this is - my fix on this was
3 actually trying to combine a couple of statements that
4 talked about lead agencies into one statement that would
5 perhaps do that job.

6 MR. CODDINGTON: This is Kip. I would just add, I
7 read this differently. And I certainly share Ed's
8 observations on some need for clarity here. I read this
9 statement to be, what are we going to recommend in terms of
10 whether the State of California will seek delegation and
11 enforcement authority over the new Class 6 UIC Rule, or
12 whether they're going to let Federal EPA run that program.

13 MR. MURRAY: I have no idea how you could have
14 gotten that from that -

15 MS. BENSON: That's number 11. Eleven explicitly
16 says that --

17 MR. MURRAY: That must have been late at night, Kip.

18 MR. CODDINGTON: Because it seems to me there are a
19 couple different things going on here. You're going to have
20 these monitoring and reporting requirements under the Class
21 6 rule that are going to apply during the life of the
22 period, and even during some aspect of the post-injection
23 phase, and those requirements for purposes of protecting
24 drinking water aquifers are going to either be run by the
25 Federal Government, the EPA region, or by an agency of the

1 California Government that currently presumably is running
2 the UIC program and would seek delegation of the new Class
3 6. But then, also, this is another situation where, if here
4 we are referring to air emission requirements, that the new
5 Federal Subpart RR rule would apply here, as well. So,
6 there will be a Federal Monitoring, Reporting & Verification
7 Rule that will apply to geologic sequestration sites, and is
8 the State of California going to say that that Federal rule
9 is insufficient, or that those same dataset will have to be
10 reported to EPA and to a lead Federal - a lead State agency,
11 and then who is that lead agency.

12 MR. MURRAY: I don't see how any of that comes kind
13 of close to this relatively simple sentence which, a) really
14 refers to permitting, so it refers to post-closure
15 operations for selling monitoring, measurement and
16 verification, I don't know why just identifying a California
17 agency who is the lead agency in that regard would have all
18 of the various permutations that you described.

19 MR. RUBIN: So here is one issue, Kevin, that has
20 come up in other discussions outside of this panel. One of
21 the issues is whether the same agency that regulates and
22 permits a CCS site should also be the agency responsible for
23 the post-closure period, so --

24 MR. MURRAY: Okay, so this sentence says you should
25 identify the lead agency, it doesn't do that.

1 MR. RUBIN: So it's not clear to me that,
2 necessarily, that the same agency responsible for permitting
3 is the agency that is responsible for long term maintenance.

4 MR. MURRAY: And it doesn't say that it is.

5 MR. BAUER: Let Sally have some input on that.

6 MS. BENSON: Can I say -

7 MR. RUBIN: It leaves it a bit ambiguous, I think.

8 MS. BENSON: Okay, so if we step back and say, what
9 do we want?" At least from my perspective, I think that
10 what we want is that MM&V, throughout the lifecycle of the
11 project, should be coordinated under one lead agency,
12 meaning that there is one lead agency who is responsible for
13 making a coordinated program that meets all of the needs of
14 the EPA, the ARB, 1368, whatever it is, because the problem
15 is, if you don't do that, you're going to have all these
16 overlapping, duplicative, confusing, costly requirements.
17 So, I think that the recommendations should be coordinated
18 under one agency to meet the needs of, you know, whatever
19 long list we want to have.

20 MR. MURRAY: So what in this current sentence
21 doesn't say -

22 MS. BENSON: Okay, one, it says post-closure. Post-
23 closure is only one tiny part of the period.

24 MR. MURRAY: Okay, so we can delete "administering
25 post-closure operation," and we could say, "should identify

1 a lead agency for establishing Monitoring, Measurement &
2 Verification requirements."

3 MR. RUBIN: So here was my fix. I thought it made
4 more sense to consolidate what is now number eight and nine,
5 and pieces of this number four that we're talking about.
6 Let me try to read to you how that might work. I would
7 start with - I would jump down to what is now number eight
8 on the printed page, nine on the screen, start with the
9 recommendation of designating the Energy Commission as the
10 lead agency for permitting projects, then I would add, "In
11 this capacity," then I would pick up the text of number ten,
12 "In this capacity, the CEC should consult with permitting
13 agencies in carrying out its responsibilities, including...,"
14 and now I would jump back up if you haven't - if I haven't
15 lost you - back up to the statement we were just talking
16 about - including establishing a - and picking up Sally's
17 words, a consistent set of Monitoring, Measurement &
18 Verification requirements for permitting CCS projects. So,
19 it would start by establishing the CCS, so the Energy
20 Commission is the lead agency; in its capacity as the lead
21 agency, it would work with other lead agencies to do several
22 things, including establishing a uniform set of Monitoring,
23 Measurement and Verification requirements across the
24 lifecycle. I think if you combine those three in that way,
25 you'll have a more consistent -

1 MR. MURRAY: To me, combining it makes things more
2 complicated and less easy to understand. I think there are
3 three very separate concepts, which are related, but
4 separate, and I go back to my sort of the simplest sentence
5 is the best sentence, "If the state should identify a lead
6 agency for administering," or, not for administering, "...for
7 establishing Monitoring, Measurement and Verification
8 requirements."

9 MR. RUBIN: All I'm saying is we consider this
10 before we consider the larger issue of who -

11 MR. MURRAY: I agree that -

12 MR. RUBIN: So we could do it as three separate
13 issues, or we could put three sentences in and -

14 MR. REHEIS BOYD: There is some logic to starting
15 with number nine because, I mean, we all said, "Who is in
16 charge?" I mean, who is going to be the one-stop-shop? And
17 we said it's going to be the CEC, I think, here is what
18 we're saying.

19 MR. MURRAY: Okay.

20 MS. REHEIS BOYD: So, we should start with that, and
21 then anything else that falls underneath that, then it'll be
22 less confusing because if you go to five, what I have, I
23 mean, I'm like, "Okay, is that the CEC?" I don't know.

24 MR. RUBIN: This is the problem I've had with taking
25 it in this order.

1 MR. MURRAY: Are we saying that it's CEC or that
2 it's someone else? If we are agreeing that four is - that
3 we want CEC to be the lead agency, then let's -

4 MR. RUBIN: That's the place to start. So it's
5 basically the order in which these things are being
6 presented right now is, I think, I said it several times, we
7 have to fix that.

8 MS. REHEIS BOYD: Yeah, I think you should move nine
9 up and we should start there, who is in charge, and then
10 deciding the -

11 MR. RUBIN: Yeah, whether we combine them into one
12 or leave them as separate, it doesn't matter.

13 MR. MURRAY: Let's decide all of this after the -

14 MR. RUBIN: The connectedness is there.

15 MR. PERIDAS: I think there are two components to
16 this, one is to do with post-closure operations, the second
17 one is to do with Monitoring, Measurement and Verification,
18 MM&V. And they should both be absorbed into respective
19 recommendations. So, one is what happens post-closure, who
20 takes care of the site, who safeguards the integrity. The
21 second one is, who does the Monitoring and Verification, but
22 the obvious follow-up question to that is why are you
23 monitoring? And there could be two reasons, one is for the
24 safety of the site, and this would be administered either
25 under the EPA, under the new rules, or under the state

1 agency that has requested primacy to administer the rules,
2 or it could be Monitoring, Measurement & Verification, in
3 order to gain recognition as a greenhouse gas reduction
4 measure under AB 32 or other state policies. So it will
5 either be greenhouse gas reporting to EPA, or to, likely,
6 ARB. So I think these should be absorbed into clauses that
7 respectively refer to either seeking primacy post-closure,
8 set up to safeguard integrity, or greenhouse gas reduction
9 recognition.

10 MR. MURRAY: And are we saying it should be the CEC
11 for each of those three things? Because the way Ed drafted
12 this section, that essentially says that the CEC should be
13 the lead agency in those cases.

14 MR. PERIDAS: That is a different story.

15 MR. RUBIN: We've said the CEC should be the lead
16 agency for permitting, we haven't actually talked about
17 whether the CEC should be the lead agency for post-closure
18 Monitoring and Verification.

19 MR. MURRAY: Well, then, we don't need to combine
20 those two sentences.

21 MR. RUBIN: But I think we need to separate the
22 post-closure because the MM&V is part of the permitting
23 system, so think about all the things required for
24 permitting.

25 MR. PERIDAS: I propose we should all just move on

1 and then double-check back to see whether the points have
2 been absorbed in something else. My feeling is that they
3 will be because we're going to talk about post-closure,
4 we're going to talk about MM&V. I don't think MM&V itself
5 is an umbrella.

6 MS. BENSON: Well, I think this is the only time
7 we're talking about MM&V. There's no other discussion of
8 MM&V, so I think, at least, I mean, I'm not happy just
9 dropping it and hoping that it gets fixed some time.

10 MR. MURRAY: Well, again, are we saying we want it
11 to be the CEC? Or are we saying we want the state to
12 designate a lead agency, or the Legislature to designate a
13 lead agency?

14 MR. BAUER: I think we're saying we'd like a lead
15 agency designated, and the question is, should it be the CEC
16 if you say what you say. The thing is, right now, for
17 utility power companies, the CEC is the lead agency and
18 that's kind of how we came to the CEC recommendation. But
19 this goes beyond -

20 MR. MURRAY: Okay, so there's two questions, a) are
21 we saying we want it to be the CEC? Or are we just saying
22 someone needs to be designated - as it relates to post- --
23 as it relates to MM&V?

24 MR. RUBIN: It would be inconsistent to say, as we
25 do later, that the CEC should be the lead agency for

1 permitting and then, also for purposes of permitting, have a
2 different lead agency for MM&V. It would be logically
3 inconsistent.

4 MR. MURRAY: So are we saying CEC, or are we not
5 saying CEC for MM&V?

6 MR. BAUER: Panel? Does the panel have pros or
7 cons?

8 MR. MURRAY: I mean, I'm okay either way.

9 MR. KING: So, my comment on MM&V would be whichever
10 the agency is that gets primacy for the UIC rule would
11 really be appropriate to be the agency for MM&V because you
12 don't want multiple overlapping and potentially conflicting
13 requirements, and hopefully these line up to the greatest
14 extent possible, acknowledging that the UIC rule was not
15 intended to protect for leaks to the atmosphere, it's
16 protecting drinking water. But, still, it would make sense
17 to have that be the same agency. Now, right now, EPA -
18 nobody has primacy per UIC rule, it's EPA.

19 MR. BAUER: Yeah. Let's hear from the ARB
20 representative.

21 MS. COOMBS: This is Mary Jane Coombs from the ARB.
22 I just want to reiterate what George said a few moments ago,
23 that MM&V, for purposes of verifying emissions reductions,
24 will be controlled by the Air Resources Board if the Air
25 Resources Board determines that CCS is an emissions

1 reduction, especially under the cap-and-trade program, that
2 as the law stands now, we cannot - that authority cannot go
3 to any other air agency.

4 MS. BENSON: I'm not saying that it should be - that
5 the authority is seated, that's a completely different idea.

6 MS. COOMBS: You didn't, but some people did.

7 MS. BENSON: Oh, okay. You know, all I'm just
8 saying is you need one organization that will develop a
9 coordinated monitoring program that will meet the legal
10 requirements that the ARB has, and all of that, it's just a
11 coordinating role, it's not seating authority.

12 MR. MURRAY: Why don't we just say, so then, again,
13 I ask, what is wrong with the current sentence?

14 MS. BENSON: Post-closure.

15 MR. MURRAY: Take out the words "post-closure," and
16 we've got a deal on - take out the word "post-closure?"

17 MS. COOMBS: Well, lead agency tends to refer to
18 permitting and for MM&V, for the purposes of emissions
19 reductions, it's different than permitting.

20 MR. MURRAY: Well, but no, we're saying the lead
21 agency refers to MMV, so we're not allowing for inferences
22 that lead agency refers to something else.

23 MS. COOMBS: And I'm also saying that the different
24 agencies that are in charge of different regulations and
25 legislation will have to be in charge of the MMV under, for

1 instance, SB 1368, under AB 32, and under whatever
2 authority, the siting authority, that the CEC has.

3 MR. MURRAY: Yeah, but I think that anything, to the
4 extent that we're asking the Legislature to direct the lead
5 agency, anything that the Legislature does will supersede
6 whatever was done before. So, at some point, there needs to
7 be one agency who is in charge of MMV. I would delete the
8 words "permitting," and I would delete the words "post-
9 closure."

10 MR. PERIDAS: Here's where it gets ugly, though,
11 because -

12 MR. MURRAY: We're never going to get out of here.

13 MR. PERIDAS: But there are two existing rules, one
14 is a groundwater protection rule, under that you have to do
15 MM&V to satisfy EPA, or a state agency that will in the
16 future request primacy. There's another EPA rule that
17 requires you to do air site MMV in order to comply with the
18 EPA greenhouse gas reporting requirements under the Clean
19 Air Act, and then ARB might come in and say, "Okay, if you
20 want to get recognized for CO₂ reductions in the State of
21 California, then you have to comply with our own protocol.
22 It would be my wish that ARB take into account what EPA has
23 already codified in the rule, but I don't think we have a
24 guarantee. But there could be potentially three MM&V
25 requirements here.

1 MR. MURRAY: No, there wouldn't because -

2 MR. PERIDAS: Some would be federal and some would
3 be state.

4 MR. MURRAY: No, there wouldn't because the state
5 would be designating by legislation a lead agency, that's
6 what we're saying here. And I don't think we ought to be
7 constrained by whatever the current construct is.

8 MR. RUBIN: So, if I understand our discussions that
9 we've had at previous meetings, the designation of a lead
10 agency doesn't necessarily mean that that agency has to do
11 this work, right? They have to coordinate with other
12 agencies that may have the expertise, so it seems to me that
13 the most coherent approach, because if a site doesn't get
14 permitted, then it has nothing to say under AB 32, and if
15 it's not doing CCS, if it doesn't get permitted, it's not
16 doing CCS, everything else is irrelevant. So, the first and
17 most critical issue is, we have to have procedures for
18 getting things permitted. We have recommended that the
19 Energy Commission be the organization responsible for that,
20 the lead agency working with others. We haven't talked
21 about whether it makes sense for the CEC to be the lead
22 agency for purposes of the new Class 6 rule, but it might -
23 anything to do with permitting should basically have the one
24 agency as the lead agency and it can work with other
25 agencies as need by, so it still seems to me the most

1 coherent approach is to start from the top, everything to do
2 with permitting these things, CEC is in charge, the lead
3 agency, they work with other agencies, they consult with -
4 this is number nine - other responsible permitting agencies,
5 and it would seem to me that, then, the CEC would also be
6 the logical lead agency to coordinate the development of MMV
7 procedures that satisfied the requirements of EPA or the
8 state surrogate for it, as well as the ARB to develop a set
9 of procedures that satisfies all requirements, both for
10 groundwater protection and for purposes of AB 32.

11 MR. CODDINGTON: This is Kip. I will just - and I
12 will admit now at this point, I'm confused now about what
13 the term "lead agency" means under California law. But I'm
14 worried that we are making this more complicated than it
15 will be, than it needs to be, and in the process of trying
16 to move towards a laudable goal of one-stop shopping, we're
17 ending up with a shopping mall of storefronts that must be
18 visited by a project owner or operator. And here I guess I
19 would echo Mr. King, I think the bulk of the sequestration
20 monitoring is going to be required and compelled by Federal
21 law under the UIC program, and so the issue is whether - and
22 so you're either going to be dealing with the EPA region, or
23 you're going to be dealing with the delegated agency under
24 the State of California. And I would assume that might be
25 DOGGR, although it may not be. So, if you make somebody

1 other than the entity within California that has UIC program
2 expertise, the [quote unquote] "lead agency" on monitoring,
3 I think if I was a project developer that would just add
4 hate and discontent because, no matter what, you're going to
5 be dealing with the difficult permitting issues under that
6 federal program, but then somehow you have to coordinate
7 through a lead agency that no disrespect intended to the
8 California Energy Commission probably does not have the
9 subsurface expertise in order to manage that issue. And, in
10 terms of sort of developing air site monitoring, and George,
11 I'll sort of defer to you, under the subpart RR rule, that
12 MRV plan is developed by the private actor and that it has
13 to separately be approved by Federal EPA. And there is
14 going to be public - that is going to be subject to
15 litigation, public parties can challenge that, but that's
16 going to be an exceedingly burdensome process under Federal
17 law to get the air site monitoring reports and verification
18 approval for a sequestration site approved, and having now
19 gone through that entire process under Federal law, we're
20 going to turn around and say, "Okay, then now you have to
21 vet it again through the California Energy Commission and
22 then you also may need to do it all over again with the Air
23 Resources Board. I think, with all of this, I would sort of
24 say you're going to be doing monitoring for groundwater
25 protection under Federal law, or the state delegated agency,

1 and just to have that state delegated agency the primary
2 agency that has responsibility for that. On the air side, I
3 think we would encourage ARB, and ARB does have its own
4 separate duties here that we validly recognize, that we
5 would strongly encourage ARB to accept, or coordinate to the
6 extent possible the federally approved monitoring, reporting
7 & verification plan that will be developed on a site-by-site
8 basis under the Federal subpart RR rule, and ensure, to the
9 extent possible, those MRV subpart RR rules to satisfy ARB's
10 separate needs for air side monitoring.

11 MR. BAUER: Let me just take a moment here to
12 parenthetically ask a question. Presently, the law says
13 that, for utilities, that CEC is the lead for permitting,
14 right? Coordinating activities, is that correct? Let me
15 just get a clarification here.

16 MS. COOMBS: That is not a correct statement. For
17 rate regulation, I would say we do have bifurcated
18 authority, depending on what we're talking about. Again,
19 for power plants -

20 MR. BAUER: That's my point.

21 MS. COOMBS: -- attendant with CCS projects, we have
22 authority.

23 MR. BAUER: CEC does, that is who the "we" is.

24 MS. COOMBS: The Energy Commission does, as long as
25 they are connected with a power plant.

1 MR. BAUER: Okay, and that's how we got to this
2 point to start with, that's why I'm resetting this to that.
3 Now, the question is, then, to the ARB is, with that fact,
4 on a utility, how does the ARB engage on the emissions
5 monitoring and verification? Is it part of the coordinated
6 effort that CEC leads the coordination on, but ARB obviously
7 has primacy on the permit?

8 MS. COOMBS: ARB is in charge of reporting and
9 verification according to AB 32.

10 MR. BAUER: I understand that, but CEC works with
11 ARB to make sure the permitting happens for a thermal
12 utility. No?

13 MS. COOMBS: They are two distinct processes, they
14 are not connected.

15 MR. BAUER: So, then, CEC no longer has full lead of
16 all the activities of coordination.

17 MS. COOMBS: And what I guess is confusing to me is,
18 we use the term "lead agency" in terms of CEQA to designate
19 -

20 MR. CODDINGTON: Right.

21 MS. COOMBS: So, she's talking about thermal power
22 plants are - CEC is the designated lead agency, as other
23 agencies interact as responsible agencies, and usually if
24 there's a power plant, or a transmission line, that has some
25 impact, i.e., to impose some mitigation measures on the

1 building of that transmission line. And that has the
2 mitigation monitoring and verification plan of its own. So,
3 I think, you know, whether you are monitoring, whether this
4 is the lead agency in terms of the greenhouse gas
5 regulations, or the CEQA process is important to make that
6 distinction.

7 MS. REHEIS BOYD: And I think we were saying lead
8 agency for CCS. We weren't trying to say it was the lead
9 agency for CEQA.

10 MS. COOMBS: CCS - permitting the building of it?

11 MR. MURRAY: CCS MMV.

12 MS. COOMBS: And it's also true that, when it comes
13 to greenhouse gas reductions, and the earlier discussion we
14 had this morning about carbon credits and the ability to
15 gain credits in a market that is developing, that would be
16 the Air Board under AB 32, that is separate and apart from
17 the siting decision of where to locate a project, how to
18 mitigate the environmental impacts of a project. It's
19 different. Although, I will say that greenhouse gas
20 reductions - or greenhouse gas is an environmental impact,
21 so we do start to get into discussions of what the impacts
22 of a proposed power plant on the CCS project are -

23 MR. BAUER: So, coming back to the point of the
24 recommendation was because of that premise that CEC leads on
25 a thermal power plant, and that other agencies still have

1 their lead responsibilities for a permit, but CEC is, in
2 theory, supposed to make it move through the process, that
3 was the concept on this recommendation, which sounds like
4 it's really not going to get us there, but maybe the issue
5 is that there needs to be some way through the maze.

6 MR. MURRAY: It sounds like we're reading into this
7 sentence a lot of stuff that isn't in the sentence. The
8 sentence is relatively simple, it says there should - there
9 are some misstatements in it, but it says there should be a
10 lead agency for administering - we decided to take out post-
11 closure operations - monitor, measuring and verification.
12 And we decided, I think, to take out the word "permit." The
13 whole idea of who does it now and who they have to
14 coordinate, I don't think is relevant. I think whoever the
15 lead agency is will obviously have to coordinate with some
16 federal agency, and I think it doesn't matter what the
17 current construct is because all of these agencies take
18 their authority from the Legislature, and what we're asking
19 the Legislature to do is determine who a lead agency is.
20 And so, at that point, once the Legislature determines who
21 that lead agency is, they will have the authority to do
22 whatever it is the Legislature says they want them to do.
23 So, we've just been going around in circles on this same
24 thing and reading into a sentence a lot of stuff that's not
25 there.

1 MR. RUBIN: In that spirit, I think I have an
2 answer.

3 MR. MURRAY: Is it going to be shorter or longer?

4 MR. RUBIN: I just remembered my old rule that
5 usually you get the most clarity -

6 MR. MURRAY: Ed doesn't do shorter.

7 MR. RUBIN: -- usually you get the most clarity by
8 deleting words.

9 MR. MURRAY: That you got me on.

10 MR. RUBIN: Now that I'm looking at it, I think we
11 should delete that we don't need this sentence that we've
12 been talking about under Recommendation - where was it - the
13 one with MMV. Yeah, so my suggestion is we delete that,
14 that we don't need it because it is basically --

15 MR. MURRAY: The whole sentence.

16 MR. RUBIN: Delete the entire thing, we do not need
17 it.

18 MR. MURRAY: Done, sold. When you win, let it go.

19 MR. RUBIN: Yeah, if later, we are saying CEC should
20 be the lead agency, it's there.

21 MR. BAUER: All right, let's delete that and move on
22 to the next thing.

23 MR. RUBIN: Well, we might need to address this
24 issue, is a recommendation as we say the CEC should
25 coordinate with DOGGR. We might want to add explicitly the

1 recommendation that the CEC also coordinate with the ARB to
2 ensure a consistent set of MMV requirements.

3 MR. MURRAY: You had me at delete the sentence.

4 MR. RUBIN: I think that would make -

5 MR. SURLES: Carl, if I could say something, just
6 kind of reaffirm what Kevin just said, you've been called
7 together to think great thoughts and drive towards, and
8 obviously there are a lot of great thoughts that come out of
9 you here, but drive towards new ideas. And I think I wanted
10 to reaffirm what Kevin said, that you're always going to
11 need the agencies to coordinate, but what you all are trying
12 to do is to get clarity with effectively a different
13 paradigm from what's been done now. So, just because
14 certain things are operated a certain way now is not
15 pertinent. You really have to be thinking about what really
16 needs to be done to make this happen.

17 MR. BAUER: Yeah, and I think that's a good point.
18 George, do you have something? Go ahead. Okay, we deleted
19 a sentence, we just took care of number eleven up there on
20 the CEC should consult with responsible permitting agencies,
21 everybody okay with that statement? We jumped over a couple
22 pieces, we'll go back and get them.

23 MR. MURRAY: What's number eleven?

24 MR. BAUER: Number 11, right there where the
25 convertor is flashing.

1 MR. MURRAY: Okay, that's the old number nine.

2 MR. BAUER: Right, now number eleven. Yes, ma'am.

3 MS. BENSON: Okay, so whichever number it is that
4 talks about the CEC should consult with responsible
5 permitting agencies, I agree that DOGGR is really important,
6 but there is also the Water Quality Control Boards, which
7 are very important, and I don't know why -

8 MS. REHEIS BOYD: Sally, I had submitted language
9 that identified each agency, and I don't know what happened
10 to it. I was asked to do it, I provided it, and it's not
11 here.

12 MS. BENSON: Okay, well, we want her statement.

13 MS. REHEIS BOYD: I mean, it was exactly - Water
14 Board, CARB, and each of the responsibilities identified.

15 MR. MURRAY: Why are we jumping around?

16 MS. REHEIS BOYD: And the pipeline one was in there,
17 too.

18 MR. MURRAY: The old eight has been moved up to
19 five, okay.

20 MR. PERIDAS: Okay, well, we haven't discussed the
21 old date, which is now five.

22 MR. BAUER: No, we have to go back and get that,
23 yeah.

24 MR. PERIDAS: Okay. But what are we discussing now,
25 the one that starts, "The CEC should consult," it follows on

1 from the old -

2 MR. BAUER: Okay, are we good with that statement?

3 And then we need to go -

4 MR. MURRAY: Well, are we good with five?

5 MR. BAUER: We're not doing five?

6 MR. PERIDAS: No, I think Cathy had a point and I
7 also had a point.

8 MR. BAUER: Five is the green one.

9 MR. MURRAY: The new five.

10 MS. REHEIS BOYD: Ah, where it is flashing.

11 MR. PERIDAS: The one that says the state should
12 consider legislation designating the CEC as the lead agency
13 for permitting all CCS projects, both stand-alone and
14 retrofit.

15 MS. REHEIS BOYD: And then, under that is where I
16 had given the language -

17 MR. PERIDAS: Right.

18 MS. REHEIS BOYD: In consultation with all of these
19 other agencies specified. CARB would do MMV for air -

20 MS. BAUER: We will take Cathy's input and put it on
21 that green one right there.

22 MS. MURRAY: But on five we all agree on?

23 MR. PERIDAS: No, no, that's the point -

24 MR. BAUER: That's what George is saying.

25 MR. MURRAY: All right, go.

1 MR. PERIDAS: From the last meeting, what I had
2 gathered is that we're not going to touch the way that core
3 projects are permitted, so if you're a cement plant, if
4 you're in a refinery, we're not seeking a new structure
5 whereby you go to a different agency, the CEC, which is
6 going to be a one-stop-shopping and for permitting, we're
7 trying to maintain the existing permitting structure for
8 these projects in California, but we want a lead agency that
9 will take care of the chain of custody of CO₂ only, so not
10 the base.

11 MS. REHEIS BOYD: Right, that's correct.

12 MR. PERIDAS: So I think the standards that we have
13 doesn't do that, and this recommends legislation to do
14 something much more sweeping.

15 MR. BAUER: Do you have a -

16 MR. PERIDAS: Well, the idea that I had put forward,
17 which I never got a legal assessment of it, is that we
18 designate the CEC to be the CEQA lead agency for the CO₂
19 chain of custody for CCS projects, rather than deal with the
20 whole permitting of these projects.

21 MS. REHEIS BOYD: That's correct, that's where we
22 ended up.

23 MR. PERIDAS: But I want some qualified lawyer to -

24 MR. MURRAY: So, I mean, throughout this entire
25 process, we've talked a lot about having a single point of

1 contact for permitting and a single permitting process for
2 this, so that said -

3 MS. REHEIS BOYD: For CCS, but not for all the other
4 things an entity would have to do. So, in other words, a
5 refinery is not going to go to the CEC -

6 MR. MURRAY: No, no, no, okay, all right.

7 MS. REHEIS BOYD: If the refinery was doing a CCS
8 project, they would, they would go to that as the core
9 entity.

10 MR. MURRAY: Again, I don't think - I mean, it says
11 for all CCS projects. I mean, we could add a statement that
12 says - I don't understand why that sentence doesn't do what
13 you want it to do.

14 MR. PERIDAS: Because a new ethanol plant, a new
15 cement plant, that doesn't seem to capture suddenly becomes
16 a CCS project.

17 MR. MURRAY: Well, no. Then let's define CCS
18 project as - or maybe that's what you were -

19 MS. REHEIS BOYD: That's what he's trying to do.

20 MR. PERIDAS: That's what I'm trying to do.

21 MR. MURRAY: But I think there's a simple way to do
22 it, then, I don't think chain of custody of carbon -

23 MR. PERIDAS: I think we need to refer to the CO₂,
24 not the project itself.

25 MR. MURRAY: Well, we need to refer to the capture

1 and sequestration part of the project. So, why don't we
2 say, for all - for the CCS portion of any project.

3 MR. PERIDAS: But what does that mean? What is the
4 objective?

5 MR. MURRAY: The same thing you just said, it's just
6 a little more straightforward. I mean, we want the CCS
7 portion, the capture, transportation, and the injection, or
8 sequestration, of carbon to have a single permitting
9 scenario, but we do not want that to bleed over into the
10 core project, the oil field, the power plant, the whatever.
11 So why don't we just say to the CCS portion of projects? I
12 mean, I think it infers that, but I can understand why you
13 would want clarification.

14 MR. PERIDAS: Because this could be taken to mean,
15 "Okay, here's my refinery, I will draw a line on my property
16 where the CCS scrubber tower is located, this section is
17 permitted by someone else, the rest of the facility is
18 permitted by somebody else."

19 MR. MURRAY: Yeah, that's what you're asking for.

20 MR. PERIDAS: I don't think that's what we're asking
21 for.

22 MR. MURRAY: Yeah, it is, you're saying, CCS, okay,
23 over here, and don't touch the rest of my project.

24 MR. PERIDAS: No, I don't think we're looking for
25 someone to regulate ammonia tanks, or scrubbers, or anything

1 like that, we're looking for someone to keep track of the
2 safety and the accounting of CO₂ itself.

3 MR. BAUER: Then why don't we say that?

4 MR. MURRAY: That's what we're saying.

5 MR. PERIDAS: But we're saying "CCS project," we're
6 not saying CO₂, I think the two are different.

7 MR. MURRAY: We're saying CCS portion of a project,
8 so that -

9 MR. PERIDAS: So what about a compressor? What
10 about a scrubber?

11 MR. MURRAY: That is part of the CCS portion, you
12 can't have it both ways, you're either in or you're out.

13 MR. RUBIN: [Inaudible] CCS includes capture,
14 capture compression, [inaudible].

15 MR. PERIDAS: So you permit your power plant, okay,
16 maybe there is no better -

17 MR. BAUER: Well, you're not talking about
18 permitting now, you're talking about being responsible to
19 account, the account keeping CEQA lead activity for
20 accounting.

21 MR. MURRAY: Well, no, we're talking about
22 permitting. We're talking about the lead for -

23 MR. BAUER: Well, I understand that, but I don't
24 think that's what George was necessarily suggesting.

25 MR. MURRAY: What George is saying, if I - and we've

1 talked about this before - that when there is a CCS project,
2 you don't want the other things, power plants, oil fields,
3 whatever, to fall in under the CCS rubric just because
4 they're adjacent to a CCS - or participating in CCS
5 projects, so that the whole thing is considered a CCS
6 project. So that's why we use the word "CCS portion." I'm
7 interested in a better word, but I don't want to make the
8 sentence, you know, double the size because we're trying to
9 exclude this one thing, which I think is already inferred.
10 A CCS project, maybe we need to define what a CCS project is
11 somewhere.

12 MR. RUBIN: But if you define CCS project -

13 MR. MURRAY: But, again, I would think that's the
14 agency's whoever -

15 MR. BAUER: Let George re-articulate what he was
16 going for.

17 MR. PERIDAS: Well, I don't think it would be
18 desirable to have your power block, your turbines, your blah
19 blah blah permitted by one agency, and then a portion of
20 your pipes, a portion of your scrubbers, and your
21 compressors permitted by someone else. I think all of this
22 should be -

23 MR. BAUER: So what do you want to meet your -

24 MR. MURRAY: So then we don't have any separate
25 permitting for CCS projects. Then it just falls under

1 whatever else you're doing.

2 MS. COOMBS: And I would say, under CEQA, that's
3 probably a connected action, so if you did it in two ways,
4 you might not pass the standards that CEQA has where you're
5 supposed to look at connected actions when you look at a
6 project, there is a project bound -

7 MR. MURRAY: Well, but again, we're not talking
8 about the sole permitting, we're talking about the lead
9 permitting agency, so I think we're over-thinking this
10 again, and then to go back to Carl and the other comments,
11 it'll be what the Legislature says it is, so we're again
12 bogged down in -

13 MR. BAUER: But what do we want it to do? I think
14 we're confused on what we want it to do. Why don't we do
15 this, let's take a 10-minute break, do what you've got to
16 do, and get back here. Think about it while you're gone and
17 let's come back.

18 (Off the record at 2:26 p.m.)

19 (Back on the record at 2:35 p.m.)

20 MR. BAUER: I want to remind us that while we often
21 think about power plants as the primary users of CCS, I
22 think both Cathy and John and George have all reflected that
23 other major sources may wind up being users of CCS, and
24 there's one other aspect, there's also the potential because
25 the reservoir may be operated by a reservoir operator who is

1 taking multiple sources of CO₂ into it. For example, let's
2 say a schlumberger would operate a reservoir and have a
3 utility, a cement plant, and a refinery all within a
4 reasonable radius, that would rather pipeline it for them to
5 deal with than set up their own CCS activities on a
6 reservoir. So, with that kind of background, what do we
7 think we need a lead agency to do, lead permitting,
8 coordinating agency to do, if we still want to go forward on
9 this particular point?

10 MS. REHEIS BOYD: I think, when we started it, the
11 idea was that we wanted as simple a process for somebody to
12 get a CCS permitted through the California maze, and we used
13 the power plant example because it looked like it really
14 worked. And I think the difficulty is, is when we start
15 trying to make everything else like the power plant, when we
16 start running into some issues, and George is bringing up a
17 few of those. So, I'm struggling myself with how to get
18 through it. I mean, I know the basic premise was to try to
19 make it simpler, and the CEC seemed like a good place to do
20 that. And, you know, maybe this term "lead agency" is
21 throwing people because it's tied to CEQA, it's tied to
22 other things, and maybe we should go back to that idea of an
23 agency who coordinates these projects, someone who wants to
24 do a project in California, goes to the CEC and says, "I
25 want to do a project." "Okay, great, I'm going to help you.

1 We've got a lot of agencies to work with because they've all
2 got responsibilities. CARB has got monitoring for
3 emissions, you know, the Fire Marshal has the pipeline, and
4 we're going to help you through that maze." And maybe
5 that's all we can do, that's not what my hope was, I thought
6 we could have done a lot more, but I think we do start
7 getting into some other issues that concern people. I would
8 love it if we could actually have refineries get permitted
9 and get things done as fast as power plants can, but that's
10 not California. And I think George's point is, he doesn't
11 want CCS to be the vehicle to do that, that's another
12 discussion, a bigger discussion.

13 MR. BAUER: Okay, George, do you have something to
14 add?

15 MR. PERIDAS: Yeah, if we followed the example of
16 power plants for other types of industrial facilities, then
17 the CEC could have the authority after a year to say, "Okay,
18 the subsidiary agencies have not come back with the finding
19 of the permit, therefore I can issue a ruling on this."
20 Now, that's my understanding and I don't think we should be
21 - I don't even think we have the task or the authority on
22 this panel to say that we are about to change the way that
23 industrial facilities are permitted in California, simply by
24 virtue of doing CCS. I think from an engineering point of
25 view, a plan without CCS and a plant with CCS does not have

1 substantial difficulties. You might have some additional
2 components, but they fall within the broader subset of what
3 you would be using at that plant anyway, in terms of safety
4 and in terms of permitting. I don't want CCS to be used as
5 a pathway to change that, and I don't necessarily condone
6 the maze of permitting that exists in California, but CCS
7 should not be a pathway to change that. I think the status
8 quo should prevail as far as we're concerned, even if we
9 don't like it, but it's not our job to change it. What we
10 have with the task is CO₂.

11 MR. BAUER: So, do we still need something here,
12 then, or do we want to say we've decided we don't want to
13 make this recommendation?

14 MS. REHEIS BOYD: George, is there any way you can
15 see that there's some way to make the system simpler for a
16 poor person who - I know you don't subscribe to my theory
17 that it's difficult, but I can't tell you how many
18 environmentally proactive projects that we have had on the
19 plate for the last three years, that have got stopped in the
20 state. So, it's very difficult to try to do something good
21 for the environment in this state.

22 MR. MURRAY: And by the way, if you differentiate
23 between streamlined permitting, and more efficient
24 permitting, and easier permitting, I don't think anybody
25 should go through less, you know, less view, or less

1 strident rules, but if there was a single place to do it, I
2 think that is what I was always getting at.

3 MR. RUBIN: I thought we dealt with this at the last
4 meeting in a way that we had all pretty much agreed with. I
5 mean, to me, the rationale seems fairly simple and
6 straightforward. CCS projects are either going to come from
7 the power sector, or to some extent from the non-power
8 sector. If it's in the power sector, clearly the CEC
9 already has purview. So, the CEC and most of the big
10 emissions are in the power sector over the long term if CCS
11 is going to make a huge difference in California's climate
12 policy. I would argue and I think the analysis supports
13 that it's the power sector that is going to be the biggest
14 player, not the only, but the biggest. So the CEC is going
15 to need the expertise and the ability to coordinate and
16 permit those sites. I think the rationale for this
17 recommendation was that, if under the current policy, if you
18 were, say, a refinery or some non-power plant site, you
19 would have to go to a different agency, probably the ARB or
20 whatever, and they, too, would have to have the expertise to
21 handle issues of not only CO₂ compression, but pipeline
22 issues and MM&V, and all the issues associated with storage.
23 After all, the refinery that is already separating CO₂, CCS
24 means adding a compressor, and then a pipeline and a storage
25 site. So, having those projects be permitted by the CEC,

1 which already is going to have to have the expertise,
2 anyhow, just seems to me to make sense. It may not be the
3 way business is done now, that doesn't bother me, it would
4 be the right way to facilitate that process going forward.
5 I don't think, George, that in any way precludes other parts
6 of the permitting process, which would stay in place. But,
7 then, if you're a refinery, you may have to go to the ARB to
8 get your air permits, water permits, you still have to go to
9 a bunch of places, but then you go to the CEC which has the
10 expertise to handle that part of it. Absent that, then the
11 ARB and who knows who else is going to have to develop the
12 expertise and ability to do that. It would just be, it
13 seems to me, an unnecessary duplication of effort that would
14 just slow things down for no -

15 MR. BAUER: So let's come to the point of what our
16 recommendation is going to be if we want -

17 MR. RUBIN: So that's basically what led to the
18 recommendation that, for purposes of CCS projects, the CEC
19 would be the agency for permitting that part of a project,
20 it still makes absolute sense to me, I don't understand what
21 the objection is.

22 MR. BAUER: All right, then let's have a statement
23 of what the recommendation should be, then.

24 MR. MURRAY: We decided to delete "post-closure" an
25 delete the words "for permitting." That was our last sort

1 of where we were.

2 MR. BAUER: We were on the green piece up there,
3 right? Consider legislation designating...

4 MR. MURRAY: Oh, yeah, I'm sorry. Wrong sentence.

5 MR. RUBIN: I thought we had it right the first
6 time, "for the CCS portion of a project."

7 MR. BAUER: But that was the question that George
8 wasn't sure he wanted to say it that way.

9 MR. RUBIN: I would say "for all CCS projects." If
10 you define what a CCS project entails, right -

11 MR. PERIDAS: I thought we say Fire Marshal, lead
12 agency for permitting the safe operation of pipelines. The
13 next clause "CEC lead agency for the CCS portion of a
14 project."

15 MR. RUBIN: So, one issue is getting something
16 permitted, but then, after it's permitted, during its
17 operation, there might be a different lead agency
18 responsible for its continued safety. That, to me, is not
19 inconsistent. The issue is, how do you get a project
20 permitted? This is what we're talking about.

21 MR. PERIDAS: Well, you need a permit for your
22 pipeline.

23 MR. RUBIN: You need a permit to build it and
24 operate it, but then -

25 MR. PERIDAS: From the CEC or the Fire Marshal.

1 MR. RUBIN: Well, to me, there's a lot of - some
2 unnecessary redundancy in somebody's recommendations, I'm
3 not sure they're all needed if you have an over-arching
4 framework, but that's a separate issue. And that, to me, is
5 the least of -

6 MR. KING: So, I guess my suggestion would be that
7 we take that green sentence and, instead of saying the CCS
8 portion of projects, we just say "designate the Energy
9 Commission as a lead permitting agency for the transport and
10 storage portions of any CCS project" because then you stay
11 out of the fence line of any facilities, so just the
12 transport and the storage, and just leave the capture
13 portion alone as it is right now under Industrial permitting
14 rules, or Power Plant permitting rules, whatever it would
15 be. Does that work for you, George?

16 MR. RUBIN: If that's what the hang-up is, that
17 seems -

18 MS. BENSON: We've already said that the Fire
19 Marshal is the lead agency for the transportation.

20 MR. KING: Not for permitting. For the safety
21 operations - they regulate how they're operated and inspect
22 and maintain.

23 MR. RUBIN: I think it depends on what kind of -

24 MR. BAUER: John made a statement, I think. Right?

25 MR. KING: Yup.

1 MR. BAUER: And let's deal with it and decide
2 whether that addresses our need.

3 MR. RUBIN: If you're a cement plant, you might be
4 adding the same capture technology that a power plant would
5 be adding, and the question there is whether, again, a
6 separate agency would have to have the expertise to judge
7 and permit that. So, I could see it either way. To me, it
8 would be cleaner to include the captured piece of it
9 because, in the case of a refinery that is already
10 separating CO₂ as part of its process operation, that has
11 already been permitted, so there is basically no capture
12 piece that needs to be permitted separately, only the other
13 stuff. But there could be other industrial sources that
14 would require expertise for the capture portion of a system,
15 as well. And, again, the question is whether you want to
16 have -

17 MR. BAUER: I think it's a very clean point of
18 breakage where the capture inherently you would normally
19 design is included in the plant design if it was a new
20 plant. What to do with the CO₂ once you have it is the
21 issue, which is moving it to wherever you're going to store
22 it. But that would make a rational point - you could do many
23 different kinds of things as far as the dynamics of business
24 that would deal with that.

25 MR. RUBIN: Again, at the risk of over-working it,

1 there are issues, there are a couple, as well, there are
2 issues of CO₂ purity that come up because you may not be able
3 to permit a pipeline unless the CO₂ purity meets certain
4 specs, which goes back to the capture piece of it, so
5 separating those, while it might appear logical for some -

6 MS. BENSON: So, if we did draw a line, say, at the
7 fence, then we're really just talking about CO₂
8 transportation and storage, you know, CEC is not really the
9 one with the expertise, it's really DOGGR who has the
10 expertise, or DOGGR combined with the Water Quality Control
11 Board. So, you know, once we make that dividing line, I'm
12 not sure that CEC is the sensible agency to do this.

13 MR. RUBIN: Again, I thought we were saying this
14 initially needs the expertise, that's why we have that other
15 statement about coordination, but it has the lead agency;
16 basically, they would be responsible for coordinating with -

17 MS. BENSON: But what's the value of it?

18 MR. BAUER: George.

19 MR. PERIDAS: I don't think the word "permitting"
20 should come into this. I think when it comes to permitting
21 a pipeline, you will go to the State Fire Marshal, you will
22 say, "Okay, I need to build this pipeline," they will say,
23 "You will need to use this material, you will need to do
24 checks every so often," and so on. I think the only issue
25 comes in from the fact that CO₂ is involved and we need to

1 keep track of that. And I think this would be a good way to
2 bring back the previous consideration of MM&V. The
3 situation you want to avoid is one whereby the CEC, DOGGR,
4 EPA come up with different requirements for the same thing,
5 imposing a burden on operators. So, I think we should not
6 be talking about permitting, we should be talking about CEQA
7 lead agency, and this would not require legislation, the
8 state can appoint a CEQA lead agency to deal with
9 identifying and administering appropriate mitigation
10 measures that could result from significant environmental
11 impacts, from the CO₂ that is involved in these projects.
12 And then, what would happen is the lead agency would farm
13 out the piece that is most appropriate to the expertise of
14 various agencies, so the CEC, I think, would be a logical
15 choice for that. And they could say, "Okay, I'm the ground
16 monitoring above the cap rock, DOGGR is most qualified for
17 that." Greenhouse gas accounting protocol for the CO₂ from
18 the capture all the way into the depository, the reservoir,
19 maybe ARB is the most appropriate for that. Pipeline
20 safety, or monitoring along the pipeline? State Fire
21 Marshal. But it's a very different thing to say
22 "permitting" to saying "CEQA lead agency."

23 MR. BAUER: So who would we suggest be the CEQA lead
24 agency?

25 MR. PERIDAS: I would suggest the CEC.

1 MR. BAUER: Okay, so -

2 MR. PERIDAS: It's very similar to what they do now
3 in the permitting of power plants, but it's a different
4 umbrella.

5 MR. BAUER: So, how do we want to write the
6 statement, recognizing or suggesting that?

7 MR. PERIDAS: Well, I had it somewhere in my e-mail.
8 Kevin, can you find it for me? It's something I sent
9 probably a couple weeks ago. "The state should designate
10 CEC," I'm going from memory here, "...as the CEQA lead agency
11 for preventing significant environmental impacts from CO₂ at
12 CCS projects."

13 MR. BAUER: Okay. And you can look it up and send
14 the other version - send it to Nile [ph.] and Terry?

15 MR. RUBIN [presumed]: Who does the permitting?

16 MR. PERIDAS: The permitting is done the way it is
17 always done.

18 MR. BAUER: The permitting is done by the activities
19 that have the permitting authority, the lead agency is for
20 CEQA is to smooth the path forward -

21 MS. REHEIS BOYD: In other words, DOGGR does
22 everything it does with subsurface activities, CARB does MVR
23 requirements for CO₂, Fire Marshal does pipelines. I don't
24 know who - maybe Water Board, or I'm not sure who does water
25 quality, maybe it's the Water Board or the Regional Boards,

1 and then any other responsible agencies -

2 MS. BENSON: So, would this be a place to put in the
3 second idea of coordinating? That CEC would be a place to
4 coordinate these activities? So, they would do CEQA and
5 then they would coordinate the activities, so that would be
6 the complete role for them?

7 MR. PERIDAS: Well, by definition, that's what a
8 CEQA lead agency does.

9 MS. BENSON: Yeah, that's true.

10 MS. REHEIS BOYD: That is their role as the CEQA
11 lead agency. So that would work.

12 MR. BAUER: Okay, all right, are we comfortable with
13 that, then, as the recommendation?

14 MR. PERIDAS: I think as a draft recommendation,
15 which should be vetted by the lawyers.

16 MR. BAUER: Okay, we'll get the sense of that out,
17 and then we'll need some tweaking up on it.

18 MR. CODDINGTON: Carl, can you hear me?

19 MR. BAUER: Yeah, go ahead, Kip.

20 MR. CODDINGTON: I will just say I'm happy with
21 everything, that's all. I just wanted to make sure you
22 could hear me.

23 MR. BAUER: Say that again, I'm sorry?

24 MR. CODDINGTON: I said I'm happy with all of this,
25 I just wasn't certain if you could hear me.

1 MR. BAUER: Yeah, I couldn't hear you before, but
2 I'm glad you could get back online.

3 MR. MURRAY: Okay, so we just essentially did three
4 of these, didn't we?

5 MR. BAUER: All right, so what about the statement
6 up there, "The CEC should consult with the responsible...,"
7 and make that inherently part of this other statement, too?

8 MS. REHEIS BOYD: Yeah, I mean, I have that stuff I
9 submitted.

10 MR. MURRAY: Oh, the number nine?

11 MS. REHEIS BOYD: All the detail.

12 MR. BAUER: It's actually number six on the screen.

13 MR. MURRAY: But it's number nine on the old. So,
14 that's the thing that Cathy was going to add her language.

15 MR. BAUER: Right.

16 MR. RUBIN: So number five, then, would be changed
17 to say, the second line, "Energy Commission as the CEQA lead
18 agency for," etc.? But not just transporting storage, it
19 would be the CEQA lead agency for what, George? CCS
20 projects?

21 MR. PERIDAS: For preventing significant
22 environmental impacts associated with -

23 MR. RUBIN: CCS projects?

24 MR. PERIDAS: And maybe this should be phrased to
25 say from CO₂, but I'm waiting to check on that.

1 MR. BAUER: Okay, we have a couple more to do, two,
2 basically, maybe three if we want to talk about methodology
3 to stimulate early movers. We have one statement, I think,
4 the State of California was number eleven, we also just want
5 states to consider legislation to establish the fee-based
6 fund structure to use for long term stewardship.

7 MR. MURRAY: We sort of had that discussion at the -

8 MR. BAUER: Yeah, we did.

9 MR. MURRAY: -- issues level.

10 MR. BAUER: So, what do we want to recommend?

11 MR. MURRAY: Well, what did we say then for
12 findings? Where was that?

13 MR. BAUER: John, can you find that? About the long
14 term stewardship fee?

15 MR. MURRAY: Earlier in the day, we had a discussion
16 about that and I think we agreed on a concept, at least.

17 MR. RUBIN: Yeah, we said there's a need for - now,
18 the recommendation is, how do you fill that need?

19 MR. MURRAY: Oh, a need for a fee - no -

20 MR. RUBIN: Not a need for a fee, there's a need --

21 MR. BAUER: Long term stewardship.

22 MR. RUBIN: Yeah, something like that.

23 MR. BAUER: Do we want to -

24 MR. RUBIN: We'd have to -

25 MR. MURRAY: Number eight in Findings was the fee-

1 based structure should be established for long term
2 stewardship, so how did we resolve number eight in Findings?

3 MR. FISH: [off mic]

4 MR. RUBIN: This is the finding.

5 MR. MURRAY: Oh, okay.

6 MR. BAUER: So, now the recommendation to address
7 that finding would be, do we want to recommend a fee-based
8 structure?

9 MR. MURRAY: I wouldn't call it a fee-based
10 structure, I'd call it the spread risks structure, is there
11 a better term of art? What we're really doing is spreading
12 the risk.

13 MR. RUBIN: It's a fee-based structure whose purpose
14 is to spread the risk.

15 MR. KING: So, a pooled risk fund?

16 MR. MURRAY: Pooled risk.

17 MR. RUBIN: Pooled risk, yeah.

18 MR. MURRAY: Create a pooled risk structure to deal
19 with all those issues, the three issues.

20 MS. BENSON: I'd like to add - I mean, I think
21 that's fine, whatever you just said. I think we should add
22 a second part to that, though, that California should
23 proactively participate and the Federally based programs to
24 deal with long term stewardship and liability, because I
25 think California is going to be very hard to go it alone, I

1 think that, yes, you could do this with the early movers,
2 but in the long run, you'd really like to have a larger
3 Federally coordinated program, and I've got some language in
4 front of me that I wrote on my computer to address that.

5 MR. BAUER: Are we okay with that concept that Sally
6 has proposed? And then she'll send us the language and
7 we'll kind of massage it?

8 MR. PERIDAS: And it's implied that operators pay
9 into this as operators?

10 MR. BAUER: Well, it depends how they establish it,
11 but that would be the suggestion, I would say.

12 MR. RUBIN: And it seems to me, we would have two
13 parts, one would be to say that California should establish
14 a fee-based system within the state, yeah, that would be one
15 part of it, but I think the second part of it would be, at
16 the same time, California should participate in and
17 encourage the development of a national - so you want to do
18 two things, establish it for California, but also take a
19 proactive stance in participating and developing a national
20 version of that.

21 MR. PERIDAS: That sounds good, as long as we
22 specify that some of your operators pay in, too. We don't
23 want to give the impression that the taxpayer would be
24 making -

25 MS. BENSON: Yeah, so the first sentence basically

1 can stay the way it is, or with whatever modifications, it's
2 just the whole second idea that, you know, California just
3 shouldn't wait and sit back, it should go and work with the
4 other states that are helping in the development of this
5 national program.

6 MR. PERIDAS: The bigger the pool, the more -

7 MS. BENSON: Right.

8 MR. RUBIN: We might want to clarify what we mean by
9 a fee-based structure.

10 MR. PERIDAS: Yeah, exactly.

11 MR. RUBIN: It would be under which operators would
12 pay a specified fee for injection of CO₂ during the operation
13 phase and potentially - I can't remember now, do we have a
14 continued fee during the post-injection phase?

15 MR. CODDINGTON: This is Kip. The way this works in
16 other states, and the way this is addressed under the
17 Federal - pending Federal bill, which is known as the
18 Rockefeller Bill, that will be reintroduced in Congress next
19 year, is that there is a trust fund, it's referred to as a
20 "trust fund," into which companies that inject CO₂ at a
21 particular site pay. The amount of the fee is either fixed,
22 or it is set through risk-based technology, and then, once
23 there is sufficient monies in the trust fund to cover future
24 responsibilities, payments end. But payments can resume or
25 go up or down, depending upon how conditions emerge as a

1 site. So, you could read today when payments end. To me,
2 this is the critical part of the report, and, George, you
3 and I have been working on language. It's not clear that
4 there will be a Federal answer here, and even if there is a
5 Federal trust fund approach, it will almost certainly sit on
6 top of what other states have done, so if California adopts
7 its own trust fund, it would not be supplanted by a Federal
8 trust fund, it would be backstopped by a Federal trust fund.
9 And, again, the risk here that is being mitigated is that,
10 in the post-closure stewardship phase, there is no risk
11 mitigation tool available, there is no insurance. I think
12 most of us think there will never be insurance, so you need
13 to apply some risk management tool during that period. And
14 even if you only had one site operator in California, I
15 would say the trust fund approach would still work, that
16 site operator might still want to pay into that trust fund
17 almost as a form of self-insurance, if you will, and then
18 have that trust fund set aside and those monies are there to
19 be applied against the post-closure stewardship phase.

20 MR. BAUER: Okay.

21 MR. PERIDAS: I don't disagree with that. The only
22 thing I would add here is, where it says "fee-based fund," I
23 would change that to "operator funded fee-based structure."

24 MR. CODDINGTON: Do people have a problem with the
25 word "trust fund?" Because that's the phraseology that is

1 used elsewhere.

2 MR. BAUER: I think the point of a trust fund is
3 important because a trust does protect what goes into the
4 fund, as compared to just a fund that winds up getting like
5 the social security fund.

6 MR. CODDINGTON: Exactly. A trust fund is a
7 separate legal entity, and that's important. I think we
8 need -

9 MR. RUBIN: That is an important distinction we
10 should -

11 MR. KING: Let's go ahead and put "operator funded."
12 I think that's the point - the point George was making about
13 it being operator funded, I think, is also important to be
14 clear.

15 MR. CODDINGTON: Absolutely.

16 MR. RUBIN: So it's an operator funded trust fund
17 based on a fee for CO₂ injected -

18 MR. BAUER: What I'd like to suggest is, if we all
19 basically agree with the concept, that Sally and Kip frame
20 up some language, they both had some inputs on this, and
21 then we can chew on it amongst each other by e-mail.

22 MR. CODDINGTON: And George, too. I think George
23 had a lot of good ideas on this, as well.

24 MR. BAUER: Yeah, that's fine. You can interact
25 with each other, but I want the three of you, then, to take

1 an agreed upon contribution to that.

2 MR. CODDINGTON: Okay.

3 MR. BAUER: John, obviously you can make sure of
4 things. Are we okay with that, then, as a conceptual answer
5 to that recommendation? Okay. Let's see, we had one on
6 number seven on the old, which was about the endorsement of
7 a well thought out and well funded public outreach program.
8 I think we all basically have agreed that we need to do
9 something about communications, outreach, and a source of
10 information. It's up there on the lower part of the screen
11 right now. The panel endorses a need for a well thought out
12 and well funded - it looks like old number six, now number
13 nine.

14 MR. PERIDAS: I think that reads well.

15 MS. BENSON: I think that's fine.

16 MR. BAUER: I'm sorry?

17 MS. BENSON: That's fine with me.

18 MR. BAUER: Everybody good with that statement? The
19 panel is okay with that recommendation as it is? We had a
20 recommendation that was the State of California should seek
21 primacy under the pending EPA Regulations. I would suggest,
22 now that we have EPA Regulations, we would still want to
23 make the recommendation that they consider that? We're down
24 a little further, right there - it was number ten, now it's
25 number twelve. We're skipping over - the ones in color,

1 we've already worked on.

2 MS. BENSON: I think we should just delete that.

3 MR. BAUER: I agree to delete it. So, we agreed
4 with the recommendation to take "pending" out of EPA
5 Regulations, and put that we think California should
6 consider seeking primacy for permitting CCS -

7 MS. REHEIS BOYD: Is it just "permitting?" Or is it
8 broader than that?

9 MR. CODDINGTON: It's for the UIC program, so it's
10 to get the permit under Class Six.

11 MR. BAUER: So let's put it that way - hold on a
12 second, we have some conservation input.

13 MR. RUBIN: Permitting CCS -

14 MS. WEBBER: Hello, this is Marnie Webber,
15 Department of Conservation. We agree that it's possible
16 that the state could apply for primacy, but we don't know
17 under which entity it would apply. Right now, the
18 Department of Conservation has primacy under Section 1425, I
19 believe it is, and where the EPA put this program is under
20 Section 1422, which leaves us out, we cannot even apply for
21 primacy under this section of the Code.

22 MS. BENSON: Could you explain why?

23 MR. MURRAY: You cannot even apply for primacy?

24 MS. WEBBER: No, we cannot.

25 MR. MURRAY: Why?

1 MS. WEBBER: The Class Six wells are going to be
2 under Section 1422 of the Safe Drinking Water Act, and you
3 can only apply for primacy if you have authority within your
4 State regulations, and we don't.

5 MR. MURRAY: Yeah, that's the point - we're going to
6 determine whether or not -

7 MS. WEBBER: But, to apply for primacy under this
8 section, we would have to apply for primacy for all the
9 other classes of wells, which we don't even have authority
10 for, that would be like toxic and -

11 MS. REHEIS BOYD: Well, my recommendation here is
12 that the State of California ought to evaluate that and
13 figure it out.

14 MR. MURRAY: -- primacy.

15 MS. REHEIS BOYD: No, it's not.

16 MR. MURRAY: If the State gives you authority, then
17 you can apply -

18 MS. REHEIS BOYD: Exactly.

19 MR. MURRAY: -- they're not going to tell you to
20 apply for primacy unless -

21 MR. BAUER: So, they're going to have to evaluate -

22 MS. WEBBER: You're going to have to evaluate
23 whether or not the Department of Conservation is the
24 appropriate entity to be given authority under State statute
25 to enable them to apply for Class Six primacy.

1 MR. MURRAY: Right.

2 MS. RUBIN: But I thought I heard you say you would
3 also then have to apply for primacy under other well
4 classes.

5 MS. WEBBER: All the other classifications, as well.

6 MR. RUBIN: But what would make you the primary
7 agency for Class 2, for example, under EOR, which is
8 currently under DOGGR -

9 MS. WEBBER: Right, but the state could determine
10 that there would be a better agency to apply for primacy,
11 such as EPA, which has a broader class, and then, through an
12 MOU, delegate the primacy for the Class 6 wells to DOGGR, we
13 have the Water Board for their Class 2 primacy.

14 MR. MURRAY: This is Kevin Murray. The sentence
15 doesn't say anything different than that. What we're saying
16 is that the state will evaluate who should have the
17 authority and apply for primacy and it could be you, it
18 could be another agency, it could be a combination thereof,
19 but clearly I think it's inferred that, if they say you
20 should seek primacy, that they give you the authority
21 required to do so.

22 MS. WEBBER: Right, and that's going to take
23 legislation to do that.

24 MR. MURRAY: Right.

25 MR. CODDINGTON: I just want to make a clarifying

1 point, and maybe I'm wrong, I understood that you could seek
2 the primacy of Class 6, alone, that you don't need to take
3 all the other well classes, at least that is what the
4 Federal Class 6 rule says.

5 MR. MURRAY: I think that's for someone to figure
6 out later.

7 MR. BAUER: Yeah, well, I mean, if that's correct,
8 Kip, that answers part of this question, but in the
9 evaluation, that would bring forth. I think George has
10 another point he wants to add.

11 MR. PERIDAS: Yeah, forgive me, I'm slow, you will
12 need two things, you will need the State of California to
13 authorize one of its agencies, not just DOC, to request
14 primacy and that agency would have the right to request
15 primacy for any of the well classes, but that you could
16 choose Class 6 out of all of these?

17 MS. WEBBER: I'm not an expert on this, but it's my
18 understanding that we have applied for primacy for Class 2
19 wells because they're separate from the other Class 1
20 through 5, and then Class 2 is under the different section
21 of the Safe Drinking Water Act.

22 MR. PERIDAS: Correct, and there's a different
23 delegation standard for them.

24 MS. WEBBER: From what I understand, is that if we
25 want to apply for primacy under the other section, we would

1 have to apply for primacy for all the other classes, as
2 well.

3 MR. CODDINGTON: I don't think that's right.

4 MR. PERIDAS: That doesn't sound right to me,
5 either.

6 MS. WEBBER: Well, I'm not the expert, but that was
7 my understanding, so we probably can get clarification on
8 that.

9 MR. PERIDAS: Okay, so let's check into that, but -

10 MR. MURRAY: At the time they make that decision,
11 they'll figure that out.

12 MR. PERIDAS: Okay.

13 MR. MURRAY: So, do we generally agree with that
14 statement?

15 MS. BENSON: I agree with that statement.

16 MS. REHEIS BOYD: So do I.

17 MR. MURRAY: The number ten, do we leave as is.

18 MR. KING: Do we want to go further and suggest an
19 agency?

20 MS. REHEIS BOYD: I don't.

21 MR. MURRAY: Yeah, I don't either.

22 MR. BAUER: Okay, is the panel in general agreement
23 with the recommendation for evaluation?

24 MR. MURRAY: For number ten, the only - somebody
25 said take out the word "pending."

1 MR. BAUER: Yeah, because EPA has come forward now
2 with actual -

3 MR. MURRAY: All right.

4 MR. CODDINGTON: This is Kip. I don't want to over-
5 think things, but there seems to be a hesitancy to go
6 further as Mr. King indicated and proposed an agency here,
7 so there might be a concern lurking beneath that. If that
8 is a concern, why are we asking or encouraging delegation?
9 Might we not just be better with a Federal permit?

10 MS. REHEIS BOYD: Kip, I'm not sure I'm happy with
11 the Feds either, but I'm not prepared to decide today which
12 agency is appropriate.

13 MR. CODDINGTON: Okay.

14 MR. RUBIN: Should we just be explicit about
15 permitting CCS wells under the UIC program, just to be -

16 MR. PERIDAS: Well, we don't have to decide today,
17 we can say the State of California should apply for primacy,
18 I'm not recommending it.

19 MR. MURRAY: We're saying that they should consider
20 applying for primacy.

21 MR. PERIDAS: Exactly.

22 MR. MURRAY: We're three steps before in deciding
23 who should get primacy.

24 MR. BAUER: But what we're trying to do is, George,
25 it needs to be a conscious decision, which would include

1 evaluating to make that decision.

2 MR. RUBIN: Let's just be clear about the rule that
3 we're talking about here. It's clear to us, but it might
4 not be clear to somebody just reading this.

5 MR. BAUER: And we're going to change it from
6 permitting CCS wells to underground injection? Is that what
7 you suggested?

8 MR. RUBIN: I would add to permitting CCS wells
9 under the -

10 MR. CODDINGTON: Underground -

11 MR. BAUER: USA, yeah.

12 MR. RUBIN: Yeah, Class 6 program, that's fine.

13 MR. BAUER: Make it US EPA.

14 MR. RUBIN: Thank you.

15 MR. MURRAY: All right, so are we done with that
16 one?

17 MR. BAUER: Yeah, I think so. Then we have the
18 state should establish performance remediation standards for
19 geologic storage. Do we want to go forward with this
20 recommendation? We've had some earlier stuff that we've
21 modified now about a long term stewardship and all that.

22 MR. MURRAY: I say delete it.

23 MR. BAUER: Delete it?

24 MS. BENSON: I say delete it.

25 MR. BAUER: Okay, it's a couple deletes. The panel

1 in general will accept deleting that? Okay.

2 MR. RUBIN: Yeah.

3 MR. BAUER: Stimulation of early movers, I think we
4 kind of talked about that earlier today.

5 MR. MURRAY: I am kind of the most skeptical about
6 early movers and subsidies and all that kind of stuff, but I
7 think - I'm not bothered by methodology to stimulate if
8 everybody -

9 MR. RUBIN: I have no idea what that means.

10 MR. MURRAY: That's why I'm okay with it.

11 MR. CODDINGTON: I think it means Frakking.

12 MR. MURRAY: But only in California.

13 MR. RUBIN: I thought it meant method acting to
14 stimulate early -

15 MR. BAUER: Remember, you're all being recorded
16 here, so, please.

17 MR. RUBIN: So, if you replace the words -

18 MR. MURRAY: There are a couple other double
19 entendres, I think.

20 MR. RUBIN: If you replace the word "methodology"
21 with "methods," that could cover a wide variety of suits.

22 MS. BENSON: Why don't we consider methods to
23 stimulate early mover projects should be considered - oh, I
24 see, the sentence is kind of flipped around.

25 MR. RUBIN: No, we had the "should be considered" at

1 the end.

2 MS. BENSON: Yeah, I think this is just an awkward
3 sentence. Anyway, I personally am very much in favor of a
4 statement to this effect because it's going to be very
5 difficult to ever get this technology to a reasonable state
6 of maturity if we don't do projects.

7 MR. MURRAY: So, to stimulate early mover, I can
8 live with it.

9 MR. RUBIN: It needs to be methods and not
10 methodology.

11 MR. KING: What if we say "attract" early mover
12 projects, rather than "stimulate?" Because this is a
13 competition between states for money right now, it really
14 is, and jobs.

15 MR. BAUER: Just say "encourage."

16 MR. MURRAY: No, you know, I was -

17 MR. RUBIN: If you say "stimulating," wouldn't that
18 imply -

19 MR. MURRAY: I was doing the previous just to get
20 along the go along, so now you're taking it further - I was
21 okay with "method" or "methodology" to stimulate -

22 MR. RUBIN: So, can I again add the word "stimulate
23 early mover CCS projects in California?"

24 MR. MURRAY: I don't even want to go there.

25 MS. BENSON: I think this is such a weak statement

1 that it's like we're ambivalent about it. I'd like to see
2 somewhere between considered and encouraged.

3 MR. MURRAY: I actually am ambivalent about it and
4 we shouldn't say anything about it. But, I'm willing to go
5 here.

6 MR. SURLES: Well, maybe if I could interject, Rich
7 is going to want to say something - since this is the last
8 recommendation, I would -

9 MR. MURRAY: Well, it's not the last recommendation.
10 Environmental justice.

11 MR. SURLES: No, I know it's not - well, not only
12 environmental justice, Kevin, but I go back to point out
13 that, for crafting the recommendations, the Technical
14 Advisory Team did a lot of this crafting and I know Rich is
15 going to want to say something specific on this because he
16 crafted the financial incentives recommendations, and I
17 point out that, and this is what gets back to Ed's earlier
18 comment, I think you did a good job drilling down on the
19 initial list here, but you know, you can't ignore that, as
20 we merge things, that there's recommendations in the rest of
21 the report that we have to make sure are consistent with
22 what these key points are. But, maybe with that, and to
23 strengthen this, or to shorten the debate, I'll turn this
24 over to Rich.

25 MR. MURRAY: Just going back to my - those

1 recommendations should now be trued up and -

2 MR. BAUER: That's correct.

3 MR. MYHRE: This is Rich Myhre with consulting firm,
4 BKI, part of the West CARB team. I think this is just one
5 instance where, in the sort of late exchange of information,
6 there may have been the highest degree of condensation in
7 the recommendation that is here relative to the four
8 recommendations, which are pretty easy to read, but I know
9 it's been a long day, but there probably are some that you
10 want to take a look at. If I can, we can follow Ed's cue
11 here and turn to the page - I think it's maybe just three or
12 four from the back, recommendations for economic incentives
13 to accelerate, and as we go through those, the fourth one,
14 in particular, relative to the version there, there are some
15 suggested edits from Mary Jane, from the Air Resources
16 Board, of which I am in concurrence with those edits, so if
17 you could just indulge yourselves to read these four, and
18 then she'll read you the revised version of number four, and
19 then just let us know if these are acceptable or not. I
20 think it would be just an over-simplification to take the
21 one line as it's written and shove it back as was suggested,
22 to re-write over these recommendations.

23 MR. MURRAY: I actually think the opposite. The one
24 line thing is about all I can live with, the rest of this
25 stuff, I think we absolutely should not do, particularly

1 given the current financial and budget situation here in
2 California. It is going to be a target that people are
3 going to shoot in order to not do this.

4 MR. RUBIN: Kevin, of the four specific
5 recommendations there, only one of them is actually about
6 money and tax credits, and I would agree with you that that
7 is not one that would be, particularly at this time,
8 sensible for us to put forward. But, working backwards, the
9 last three, and certainly the last two, as far as I can see,
10 might well be important, and I think we should spend a
11 minute or two hearing more about those. Those are
12 incentives that don't involve money or subsidies, they
13 involve procedures and regulations that could or could not
14 facilitate CCS.

15 MR. MURRAY: I don't think we need to say anything -
16 I think the PUC already has the authority to do cost
17 recovery and that's -

18 MS. REHEIS BOYD: Here's my one question, Kevin, to
19 you.

20 MR. MURRAY: Uh huh.

21 MS. REHEIS BOYD: If we don't do any economic
22 incentives, no projects are going to be built and why in the
23 world did we need to do any of this?

24 MR. MURRAY: That, I mean, my only argument is that,
25 you know, in all my years in the Legislature, everybody

1 always said that if you don't give us financial incentives,
2 this will never happen, and some projects still go forward
3 because people are interested in it. That's like, you know,
4 it's a job killer.

5 MR. RUBIN: Yeah.

6 MR. MURRAY: It's one of those things that nobody
7 believes anymore.

8 MS. REHEIS BOYD: Sally, do you believe that's true?

9 MR. MURRAY: Well, which is why I'm prepared with
10 the idea that we should examine things that would encourage,
11 and if we find that they're cost-effective or needed, then
12 do them, but the whole idea of proscribing them at the
13 outset, "the state should offer tax credits," "the state
14 should offer tax recovery," "the state should do this," I'm
15 just not prepared to go there.

16 MR. RUBIN: I'd like to hear it.

17 MR. MURRAY: Maybe I'm the minority on this panel,
18 but I think it's the wrong - I think it's the wrong method,
19 I think the idea that if, in fact, some more detail is
20 looked at, and some entity, agency, Legislature finds that
21 incentives help or that cost recovery helps, then I think
22 they do that, but for us to proscribe them, I think, is
23 wrong.

24 MR. RUBIN: Kevin, do you think these last two are
25 new ideas that we have not heard about before and -

1 MR. BAUER: Haven't we done the last one earlier
2 when we recommended that the ARB recognize the CCS in the
3 implementation of the AB 32. So we've kind of taken that
4 one off the table already by encouraging recognition.

5 MR. RUBIN: Well, I think Rich said there was a
6 rephrasing of that. I think it would be worth a minute to
7 hear - and the one about preferred type of power generation
8 is new to me, I'd like to hear what that's about.

9 MR. BAUER: Let Kevin talk about the one we just -

10 MR. MURRAY: Well, the first one, I'm just totally
11 against. The second one, I will say I don't consider it a
12 financial incentive, but it's more about whether or not it
13 should be a solely IOU-based, or be broadly across the
14 ratepayer base, and I do believe we did have -

15 MR. BAUER: We had a conversation.

16 MR. MURRAY: No, I think we had consensus on the
17 idea that, to the extent that there are costs here that go
18 into a rate base, they should be in a rate base all
19 throughout the state. So, I think I agree with that one -

20 MR. RUBIN: Yeah, well, that's what I'm saying.

21 MR. BAUER: Which, by the way, that's not what that
22 does because the CPUC does not have the rate base across the
23 whole state in their purview as I understand it.

24 MR. MURRAY: Well, that's true, so actually you need
25 to delete the word "CPUC" and just say the rate base should

1 be established across the - right?

2 MR. BAUER: -- had some comments on this and -

3 MR. NELSON: And I guess, differently, Kevin, on the
4 first one, I can support the first one more than I can
5 support the rest of them because that is broadly spread
6 across all benefitting customers, that's across everyone in
7 California, okay? I understand your position, as well, but
8 at least that's spread across everyone. The California PUC
9 simply doesn't have jurisdiction beyond the IOUs.

10 MR. MURRAY: So, then, delete the words "PUC." The
11 state certainly currently - the state could, in fact, make
12 sure that this is in a rate base across the state.

13 MR. NELSON: Right, the Legislature would have to do
14 that.

15 MR. MURRAY: Right, understood. So we should
16 substitute for the words "PUC," the "State" or the
17 "Legislature," or whatever term of art we've been using,
18 you're absolutely correct there.

19 MR. NELSON: Right. The second one would have to be
20 recrafted to "Legislature" in order to get that across all
21 customers.

22 MR. MURRAY: Right, agreed.

23 MR. NELSON: And then, was somebody going to discuss
24 the third one since that one is new?

25 MR. PERIDAS: Well, I could do that.

1 MR. RUBIN: Can we hear about the preferred - I
2 haven't heard about this one before.

3 MR. SURLLES: Unless Susan wants to say anything, I
4 think -

5 MR. BAUER: Wait a minute, Terry. George had a
6 question.

7 MR. PERIDAS: It's not a question, I think it's an
8 answer to Mark's question, and also something that could
9 merge two and three in an acceptable way.

10 MR. BAUER: Okay.

11 MR. PERIDAS: There is the established loading order
12 in California, which says this is part of the state's Energy
13 Action Plan, it's been, I think, in place since 2003? Yeah.
14 And what it says is that efficiency goes first, renewables
15 comes second, and then clean and efficient fossil next, and
16 then, after that, chaos, everything else. It was renewed,
17 or reaffirmed, I think, in '07 - or '06, yeah, okay - and
18 the other thing that is in statute is the efficiency part,
19 the rest is what is California's energy policy.

20 MR. RUBIN: That means the most efficient units
21 should be dispatched first? What does it mean?

22 MR. PERIDAS: In my case, no. It's not as clear as
23 that. It says "clean and efficient fossil comes before all
24 other fossil." But mind you, that's not clear enough. I
25 think what we should be doing here, and that's my

1 suggestion, is that we codify the loading order in statute,
2 which we do not have yet, so that it applies to the entire
3 base, not just the IOUs, and satisfy John's and Mark's
4 concern, and when it comes to clean and efficient fossil,
5 which should further clarify that plants with the least CO₂
6 emission rate should take precedence over plants with a
7 higher emission rate. So that's my suggestion, to merge two
8 and three.

9 MS. COOMBS: Yeah, I was only going to comment that
10 the Energy Action Plan process is largely done, I don't know
11 if we have any plans to use that mechanism. But, I'll leave
12 it to the committee to deliberate what George has just
13 suggested.

14 MR. PERIDAS: But I'm suggesting we suggest that the
15 state adopts legislation to that effect and go a step
16 further.

17 MR. NELSON: Yeah, we have actually - and so has
18 PG&E - we have actually tried to avoid adding anything to
19 the loading order that isn't a production process. PG&E has
20 been very much trying to work with storage in order to make
21 sure that it's cost-effective, rather than just tossing it
22 into the loading order. Same thing here because the loading
23 order itself becomes one of those issues that, once it's in
24 there, you take all of it first before you take what's next,
25 and the loading order itself has nothing to do with

1 dispatch, the loading order is the next plant, essentially,
2 that is built, it's the next resource that is put into the
3 plan, so you do all energy efficiency first, you do all -
4 right, it's a planning tool, so you do all energy efficiency
5 first, you do all demand resources next, or all demand
6 response next, you do all renewables next, so you work your
7 way through the plan that way. So, you know, there's
8 actually in the 2008 Update, there's an explicit
9 acknowledgement of CCS in the Update. They chose not to put
10 it in the loading order, they chose to talk about it, and
11 they chose to say that they hope that it comes through and
12 they think that the state needs it. But they chose not to
13 put it in the loading order. And I think that was
14 appropriate not to put it in yet. You know, once it's, if
15 you will, a production technology with a reasonable cost
16 profile, it's a little bit different story. But to judge it
17 simply and put it ahead of far more fuel efficient fossil
18 and far less expensive fossil, I think, you know, makes a
19 policy decision now that doesn't need to be made now. You
20 know, we just don't have enough data yet.

21 MR. BAUER: The next update for that would be 2012?

22 MR. NELSON: It's whenever they update it. And it's
23 the POUs, as well. This guides all procurement in
24 California, so, I mean, we simply don't see any need to
25 update the loading order, the loading order has got nothing

1 to do with dispatch. If you're worried about the plant
2 running, you simply make it must run, it will not physically
3 be curtailed.

4 MR. RUBIN: It seems to me it's a bit of a chicken
5 and egg game, though if the reason for deferring it from the
6 priority order is because it's not cost-effective enough,
7 unless they get built, they'll never become cost-effective.
8 So, more cost-effective than they are now. So it really, I
9 guess, depends on what the priorities are.

10 MS. IKL: So we already have statutory language
11 which basically says the electrical corporation, which is
12 what we regulate, will first meet its unmet resource needs
13 through all available energy efficiency and demand reduction
14 resources that are cost-effective, reliable, and feasible.
15 So, I think that's probably why it didn't get put in the
16 loading order, you know, because, in terms of meeting those
17 tests, it might be difficult at this time for CCS to be put
18 in, and the loading order is basically a planning
19 procurement tool that we use in terms of our oversight of
20 the Commissions. It's something that all of the Energy
21 agencies in the state have signed on to and that guide our
22 programs.

23 MR. RUBIN: Yeah, that makes perfect sense to me,
24 but after you've exhausted all of those options, what's
25 next? And what's next after that? It doesn't necessarily

1 have to have a cost element associated with it if reducing
2 emissions is a key driver for state policy.

3 MS. BENSON: So, I have a suggestion. I don't think
4 we're going to come up with an agreement on this specific
5 approach, but I think we should have a sentence that says
6 the state should evaluate a variety of different types of
7 incentives for stimulating early CCS projects in California,
8 and consider implementing those that are most cost-
9 effective. So, it says, you know, do a study, and then pick
10 those that are most cost-effective, and consider
11 implementing them.

12 MR. BAUER: All right, how do you feel as a panel
13 about that?

14 MR. RUBIN: Implementing them into this planning
15 process is what we're talking about, so implementing it into
16 this -

17 MR. BAUER: Want to read that again for Kevin?

18 MR. MURRAY: Sorry, guys.

19 MS. BENSON: Okay, Kevin, and others, so I'm
20 proposing that we add a sentence that says, "The State
21 should evaluate a variety of different types of incentives
22 for stimulating early CCS projects and consider implementing
23 those that are the most cost-effective."

24 MR. MURRAY: Uh, I'm really not prepared to support
25 anything beyond "consider."

1 MS. BENSON: Well, I'm not saying do anything, the
2 only action that we're suggesting the state really do is
3 evaluate a variety of different types -

4 MR. MURRAY: Well, but, no, you're asking for
5 implementation of -

6 MS. BENSON: No, it says "consider" implementing.

7 MR. RUBIN: Yeah, "consider" is in there. It just
8 says consider -

9 MS. BENSON: So, could somebody -

10 MR. MURRAY: I'd rather you just didn't have that
11 second part of it, I think if you want to consider the -

12 MR. BAUER: No, just the -

13 MS. BENSON: Okay, so, "The State should evaluate a
14 variety of different types of incentives for stimulating
15 early CCS projects in California."

16 MR. MURRAY: I like that.

17 MR. BAUER: Is the panel okay with that? Anybody
18 have other positions because, you know -

19 MS. REHEIS BOYD: I do not think it goes far enough.

20 MR. BAUER: -- override Kevin and have a majority
21 position, then we can have that conversation.

22 MS. REHEIS BOYD: I don't think it goes far enough.

23 MR. BAUER: Okay.

24 MR. PERIDAS: I agree with Cathy.

25 MR. BAUER: All right.

1 MR. RUBIN: Me too.

2 MS. BENSON: Me three.

3 MR. BAUER: So, then, you want to go back to the
4 statement that basically Sally read originally?

5 MR. RUBIN: I think that was soft enough and it had
6 enough wiggle room in it. At the minimum, I would want
7 that.

8 MR. BAUER: Kevin, do you want to have a position
9 which would suggest from you that -

10 MR. MURRAY: No, I mean, I'm happy being in the
11 minority, I don't need to make that a statement.

12 MR. BAUER: Okay. Are we okay, then, with the total
13 statement that Sally made, which is not as specific as these
14 four points that were here originally, but I think we had
15 some pretty good discussion as to why, perhaps, those four
16 points.

17 MR. MURRAY: And are we adding the cost allocation
18 one?

19 MR. RUBIN: So, just to be clear, that statement
20 that Sally just read would replace the sentence that was
21 there initially?

22 MR. BAUER: Right.

23 MR. MURRAY: I actually do think we should have the
24 cost allocation recommendation.

25 MR. BAUER: So we have all through this regulatory

1 and policy discussion been talking about projects in
2 California, but when we get to incentives, I wonder if we
3 should be that narrow in terms of our ambition and, so, I
4 would actually suggest that we delete "in California" from
5 that because what is to say a power plant serving California
6 from outside of the state boundaries that we shouldn't sort
7 of encompass that or fuel supplies that are coming in from
8 another -

9 MR. RUBIN: Change "in" to "serving," "serving
10 California."

11 MS. BENSON: I think "serving" works.

12 MR. RUBIN: Serving.

13 MR. MURRAY: Well, then you get to an incentive on
14 an injection site, which is outside of California.

15 MR. KING: Yes.

16 MR. MURRAY: Yeah, I mean, which is why I didn't
17 like going down this path anyway, but -

18 MR. RUBIN: You kind of have that now under the 1368
19 bill, so -

20 MR. PERIDAS: Yeah, this is about Wyoming coal
21 coming and being exported into California. Actually, this
22 thing with the wires and being paid for it, I just think
23 that's -

24 MR. MURRAY: I just think, when people read it,
25 there's going to be a faction of policy advocates and/or the

1 Legislature who are going to say, "Oh, you want to subsidize
2 things which are not cost-effective in the marketplace, and
3 we hate that, to begin with," and you have just painted a
4 target on your back when, with a more subtle statement, you
5 might be able to get those things considered. But, if I'm
6 in the minority, I'm in the minority.

7 MR. BAUER: What would you suggest to be a more
8 subtle way?

9 MR. MURRAY: Just that one sentence, "will consider
10 methodologies," or "methods to incentive." And leave it at
11 that. And at such point that those things get considered,
12 there are enough advocates in this room to try and shape
13 that. But if you paint - there's going to be - just as
14 there was a guy in the Legislature who said, "If solar was
15 one penny more than building a bunch of coal power plants,
16 then we should build coal power plants," you're going to
17 have somebody who just says, "You know what? The
18 marketplace should rule." And you've painted a target on
19 your back.

20 MR. BAUER: All right, so if we said the state
21 should evaluate a variety of different types of incentives
22 for early CCS projects, period.

23 MR. MURRAY: I mean, that's what I would say.
24 Obviously, everybody felt we should go further, but I firmly
25 believe, even if I supported subsidies, that you paint a

1 target on your back.

2 MS. REHEIS BOYD: I don't support it. I don't think
3 it goes far enough. It's not like I changed my mind from
4 three minutes ago.

5 MR. RUBIN: Okay. I would be happy with "in
6 California" for starters if that helps. I mean, it seems to
7 me we're talking about here conceptually -- from where I see
8 it is conceptually no different from what California has
9 done in a leadership role in renewables. I mean, it's the
10 same argument, why would you force more expensive
11 technologies -

12 MR. MURRAY: I guess my only point about this is -

13 MR. RUBIN: -- if you didn't find a benefit to the
14 state from doing it in the same way -

15 MR. MURRAY: We do it all the time.

16 MR. RUBIN: Why do you have problems with this one?

17 MR. MURRAY: Just getting back to the point that you
18 really asked me, Carl, and I apologize I didn't answer it,
19 to the extent that I disagree with the whole concept, you
20 know, it sort of is what it is, and I'm in the minority
21 there, but I think you expand that exponentially once you
22 start inferring that you're going to be subsidizing projects
23 that are going to be outside the state -

24 MS. REHEIS BOYD: Yeah, I'm fine with "in
25 California."

1 MS. BENSON: I think it should say "consider
2 implementing" instead of just saying "consider those."
3 Right?

4 MR. BAUER: How is the rest of the panel about that
5 statement?

6 MR. RUBIN: I'm happy with it.

7 MR. MURRAY: I hate it, but I've lost this battle
8 already. "You'll tolerate it."

9 MR. BAUER: But you made a point also about the
10 other point here, was the Legislature should establish a
11 cost allocation mechanism for early CCS projects.

12 MR. MURRAY: Which I think we should definitely
13 include that.

14 MR. BAUER: So, then, we should add that up because
15 the note has another point.

16 MR. MURRAY: Right.

17 MR. BAUER: So, let's take a look at number two, the
18 second bullet, or the third from the bottom, it depends how
19 you want to look at it. You know the one I'm talking about,
20 John? It says, "California Public Utility Commission should
21 establish...?" We're going to take CPUC out of that?

22 MR. RUBIN: I agree, that one should be on our list,
23 as well.

24 MR. BAUER: Yes, that one there, you have the second
25 bullet up there from the top, recommendations, should be

1 "the Legislature should establish a cost..." or should
2 evaluate? Or should establish? Which do we like?

3 MS. REHEIS BOYD: It would be nice if we'd establish
4 something.

5 MR. BAUER: Heartburn. All right, so are we okay
6 with the way the statement -

7 MR. RUBIN: We don't want to say "to consider
8 whether to establish," right?

9 MR. BAUER: Okay, George?

10 MR. PERIDAS: I think this would have to be done
11 under certain caps, so this comes in at seven hundred bucks
12 a megawatt hour, I think it would be ridiculous to suggest
13 the state -

14 MR. BAUER: Well, yeah, and so do you want to say
15 something in here like we did on the other one about the
16 cost benefit, or whatever?

17 MS. BENSON: But this doesn't say that any project
18 will be done, all it says is that any project that is done
19 would be spread over all of the ratepayers. It might make
20 it a little easier -

21 MR. PERIDAS: But you have to draw the line
22 somewhere, you know, if someone proposes a -

23 MR. MURRAY: Yeah, but this - you don't have to draw
24 the line in this sentence. Somebody else will draw the line
25 and say "we're not doing it for this project because it's

1 too expensive." I mean, nobody is going to buy the power.

2 MR. BAUER: Yeah, that's not an open-ended check,
3 it's not that, it just says that it should be spread more
4 broadly.

5 MR. PERIDAS: I think there should be something that
6 says "balances cost with public benefit" and "rewards high
7 performance." We can't just leave it open-ended to -

8 MR. BAUER: We could say that -

9 MR. MURRAY: But that's not dealing with the
10 concept, that's the different concept. The concept we're
11 dealing is that the burden of this should not be placed
12 solely on investor-owned utility ratepayers, that's the
13 concept. If we wanted to address the other concept, I'm
14 okay with addressing that -

15 MR. BAUER: So where are we as a panel?

16 MR. MURRAY: All I wanted to do was make sure that
17 only the investor-owned utilities don't get stuck with the
18 burden of the cost of this, to the extent that ratepayers
19 pay anything.

20 MR. PERIDAS: I'm fine with that recommendation, but
21 this still gives the impression that California should
22 shoulder the burden.

23 MR. RUBIN: So, you want to put a qualifier on
24 projects, so what would the right words be? It would be
25 awkward to say, "The above market cost of the most cost-

1 effective projects," so if we could put some kind of
2 qualifier on where you would draw the line, or how you would
3 describe those projects for which this approach would be
4 acceptable. What would that qualifier be?

5 MR. BAUER: Do you want to just say the "reasonable
6 above-market?"

7 MR. MURRAY: Oh, wait a minute, I would actually
8 just say that there ought to be a cost mechanism that early
9 CCS projects - broadly across California ratepayers, and put
10 a period there - after the word "ratepayers."

11 MR. RUBIN: Well, the -

12 MR. MURRAY: I don't think we need to get more in
13 the weeds than -

14 MR. RUBIN: The last part of it suggests - and I
15 think correctly - that you're getting something in return
16 for that.

17 MR. MURRAY: Well, no, the last part of it is
18 accepting that you're willing to pay above-market prices,
19 and I don't think we ought to determine that here.

20 MR. PERIDAS: But the question is how much. You
21 know, within the RPS, there's a section that caps how much
22 can be above market.

23 MR. MURRAY: I don't think you ought to say
24 anything, I think you're better off by being silent there.
25 All I want to say is that it gets balanced across all the

1 ratepayers.

2 MS. BENSON: This is why I had recommended this
3 sentence that was much more open-ended, that said, okay, do
4 study, figure out what would be most efficient, fair, and
5 whatever, and then, based on that, make a decision. I'm
6 just not sure we're willing to make a decision on any of
7 these.

8 MR. BAUER: I agree with Kevin this is an important
9 statement to make because, right now, there's no way to
10 approach that. The CPUC can't do that, it's not within
11 their purview, and the recognition going back to the fact,
12 and we talked about it in the finding, that the value of CCS
13 goes beyond the immediate performer as far as from the
14 state, and the other benefits that come out of it.

15 MR. MURRAY: If you include at the end of the
16 sentence, there are all sorts of assumptions built in, which
17 I think generate George's issue, which is, you know, an
18 open-ended thing about above-market cost, but I think we
19 just say whatever cost that we do end up permitting and
20 accept have to be allocated against all ratepayers.

21 MR. BAUER: Okay.

22 MR. MURRAY: And I think, if you leave it there,
23 then you take away this open-endedness of accepting above-
24 market.

25 MR. PERIDAS: Well, Kevin, are you really happy with

1 the way this is written? It puts California ratepayers and
2 cost allocation right next to each other. I see the point
3 you're trying to make, but -

4 MR. BAUER: Well, to me, it would suggest a
5 judgment.

6 MR. MURRAY: To the extent we do this at all and we
7 pay for it at all, we are essentially disadvantaging
8 ourselves against, you know, Mississippi or somewhere else
9 that's not going to do this.

10 MR. BAUER: Actually, they are doing this.

11 MR. MURRAY: Oh, maybe I picked the wrong state. I
12 picked the wrong state, but - we have decided, the State of
13 California has in many cases decided that we're willing to
14 pay a little bit more to make our air cleaner and the world
15 a little better. So, yes, in fact, our ratepayers have
16 taken some burden, I just want to make sure it's all
17 ratepayers and not just the next door utility ratepayers.

18 MR. PERIDAS: All right, so let me suggest this,
19 "Any cost allocation mechanisms for early CCS projects
20 should be spread as broadly as possible across all
21 California taxpayers."

22 MR. MURRAY: I would say that that is great, and I
23 would actually take out the word "early." I would say "all
24 ratepayers." I would agree with Dan, only I would take out
25 the word "early." I think all of them, to the extent that

1 there is cost allocation, should be apportioned broadly.

2 MR. PERIDAS: So any cost allocation mechanisms for
3 CCS projects -

4 MR. MURRAY: Yeah, take out the word "early."

5 MR. PERIDAS: -- should be spread as broadly as
6 possible across all California ratepayers."

7 MR. MURRAY: Okay. Period at the end of
8 "ratepayers."

9 MR. BAUER: Yeah, okay. So the rest of it is
10 blacked out. All right, good.

11 MR. MURRAY: And are we doing that next sentence?

12 MR. RUBIN: Are we adding something - is this a
13 recommendation to the Legislature?

14 MS. IKL: Right, because now we don't have the
15 ability to do this, so if you -

16 MR. MURRAY: Yes, so the Legislature has to do this.

17 MR. RUBIN: "Should establish that."

18 MR. MURRAY: Yeah.

19 MR. RUBIN: Good, okay.

20 MR. BAUER: So in the first bullet, are we leaving
21 that there? Or are we getting rid of that one, the bullet
22 under Recommendations that says "California should
23 establish..."

24 MR. MURRAY: Yeah, I think we substituted Sally's
25 sentence for that.

1 MS. BENSON: Right. You know, I have a question
2 about this one. I mean, does this then set up, you know, so
3 say one area wants to build one of these facilities, does
4 this set up the whole rest of the state against this one
5 project because it's going to come in slightly above market,
6 and therefore people don't want to - I mean, would this turn
7 out to be a real disincentive? I mean, it might sound like
8 an incentive in the first place because, okay, good, you can
9 spread the cost across the whole ratepayer base. On the
10 other hand, you know, would it be ten against one, that's
11 like, "Hey, no, we don't want to do this?"

12 MR. MURRAY: Well, it's just the opposite, I think,
13 because if you do it in one area and the cost gets stuck
14 only on those people, it's a big cost.

15 MS. BENSON: No, I understand that, but -

16 MR. NELSON: Well, I think you could view this
17 socializes the cost the same way the TAC socializes
18 transmission costs across the state for large transmission
19 projects, so I mean, I can see your point, but I think it
20 goes the other way, I think it spreads the cost more broadly
21 so they are smaller across the rest of the state. So you
22 just don't see it as large.

23 MS. IKL: But don't we want to only have the costs
24 allocated for the costs that are above the procurement costs
25 for that entity, that benefits from the project, or

1 something? I mean, we do have some concept of the above-
2 market cost, you know, so that you don't get a totally free
3 ride for 100 percent of your project. It's a part of your
4 project that is more expensive -

5 MR. MURRAY: I think you've got to give that to the
6 people who are going to determine the cost allocation and
7 the more we get in the weeds of it, the more we make it
8 problematic.

9 MR. RUBIN: Can' you just say cost allocation of
10 above-market cost?

11 MR. MURRAY: Again, I think once you use the term
12 "above-market," you've put a target on yourself.

13 MR. RUBIN: It says which costs are allocated.

14 MR. MURRAY: Yeah, no, I know what it does, but I
15 can tell you the effect of it is, once you say that it's
16 above-market, then people are going to say, "It's above-
17 market, we shouldn't do it."

18 MS. IKL: So I guess, as one point, do we want to
19 help with cement factories and, you know, refinery - where
20 are we drawing the line? This was kind of crafted with an
21 idea towards cost allocation of above-market energy
22 procurement costs.

23 MR. MURRAY: I get that, but I'm saying, to the
24 extent that we've now delegated that to the Legislature, let
25 them do that. I'm sure they will do that in the way that

1 you're talking about it, but if you mention it now, you have
2 again added a target to yourself and there are going to be
3 people who say, "You know what? This is above-market and
4 I'm not paying anything." So, some things are better left
5 unsaid at this juncture.

6 MS. IKL: You are saying "ratepayer," there aren't
7 ratepayers --

8 MR. RUBIN: I was just going to say, you have to
9 make it specific to power projects if we're talking about
10 ratepayers.

11 MR. MURRAY: Well, no, there are ratepayers for all
12 sorts of things.

13 MR. RUBIN: Not for cement -

14 MR. MURRAY: There are ratepayers for gas and water
15 and - but we're talking about -

16 MR. RUBIN: We're talking about power plants.

17 MR. MURRAY: Right.

18 MR. RUBIN: So these are electric power projects,
19 let's be explicit.

20 MS. IKL: So, electric ratepayers? Or you had a
21 utility -

22 MR. NELSON: That's an interesting question, I mean,
23 is the ratepayers now - is it simply all Californians and
24 you leave it that ambiguous and let the Legislature figure
25 out who it applies to?

1 MR. MURRAY: Yes.

2 MR. BAUER: So, take electric ratepayers out and
3 just say all Californians.

4 MR. MURRAY: The concept is to spread this out as
5 much as possible, let the Legislature determine what that
6 means, or even some agency recommending it to the
7 Legislature, but I think the more definition you add to it,
8 every definition adds a pitfall.

9 MR. KING: So, the fourth bullet, it doesn't show on
10 the screen here, talks about using the AB 32 allocation and
11 allowance program, which I think would be a mechanism to
12 spread the costs over all the CO₂ emitting sources. So,
13 that's sort of another cut at this, right? To take money
14 out of the GHG or emission allowance program?

15 MR. MURRAY: I'm not sure what - and I also don't
16 know what associated experience-based knowledge sharing is.

17 MR. BAUER: I would like to suggest, I would go
18 along with - Kevin had suggested, and I think we have a
19 statement, that leaves room for the legislative body to
20 figure out what they would like to make it and those who
21 want to work with the body, associations and others, can
22 help them clarify, but I think for us to try to go beyond
23 what we understand here only adds problems.

24 MR. MURRAY: Do you know what that means?

25 MR. BAUER: So we have a couple things and then

1 we're done here.

2 MR. RUBIN: I think what it means, Kevin, is that
3 part of the way costs come down is by sharing knowledge
4 about things that work and things that don't, and in a lot
5 of cases, there are increasing proprietary concerns, so that
6 the experience of a utility operating CCS equipment may not
7 necessarily be shared with other utilities contemplating
8 that, and therefore they end up repeating a lot of the same
9 mistakes. So, the concept of knowledge sharing is really a
10 very important part of innovation, and learning by doing.

11 MR. MURRAY: So, how do you design the emission
12 allowance allocations to encourage that sharing?

13 MR. RUBIN: It basically would require some to-be-
14 specified sharing of information -

15 MR. MURRAY: I guess we should let the guy who wrote
16 it -

17 MR. NELSON: Ed, Rich Myhre, BKI, you're right on on
18 this narrow point, and I'm going to turn it over to Mary
19 Jane, but the answer is that you look, for example, at the
20 hydrogen energy project, they had their feasibility study
21 receives support, ratepayer support from the PUC, and they
22 were obligated to post their feasibility study results on
23 the Web, working in the power industry, people in the power
24 industry were amazed at all the great information out there,
25 and I've been to numerous meetings where there's been lots

1 of discussion of that stuff, so that's the compact. It
2 becomes in the public's interest to offer an incentive in
3 exchange for the knowledge sharing, that's what delivers the
4 value to the public.

5 MR. MURRAY: In the case you mentioned, did they get
6 the knowledge share for some incentive? Or, did they get
7 the knowledge share because that was just part and parcel of
8 the program? You don't get your permit, or whatever -

9 MS. IKL: They had an application to receive \$30
10 million for a feasibility study, one of the conditions of
11 granting that application where ratepayers paid for that
12 feasibility study was that -

13 MR. MURRAY: Oh, but that's a different concept than
14 the way you described it, that's "we'll do a feasibility
15 study," that's a grant to do a feasibility study.

16 MR. RUBIN: Well, that's just one example of a type
17 of knowledge sharing, more generally it could include
18 experience in operation and a whole bunch of things which,
19 in many parts of the industry, in fact, all the proprietary.

20 MR. MURRAY: All right. I don't understand it, but
21 if you think we need it.

22 MR. MYHRE: Mary Jane has some specific revisions to
23 the particulars of this one to make it consistent with the
24 proposed cap-and-trade rules.

25 MS. COOMBS: The only thing I recommended changing

1 was change the terminology "allowance allocation program" to
2 talk about allowance values. So, when you emit CO₂ on the
3 proposed cap-and-trade program, you have to give over an
4 allowance to the state to be in compliance with AB 32, to
5 emit that metric ton of CO₂, so allowances can either be
6 obtained by an entity through reallocation by the state or
7 through auctioning off the allowances. Either way, that
8 allowance has a value. There is what we call the "carbon
9 price" associated with it, so some suggested that allowances
10 can either be provided to those doing CCS, it is very
11 complicated, or that proceeds from auction could be used to
12 incentivize CCS projects.

13 MR. MURRAY: Why make it all so complicated? Why
14 not just say that part and parcel of you getting your permit
15 in various places, to do this at all, is you have to
16 knowledge share? Why create this complicated scenario,
17 which gets you to the end of the same place, which is that
18 of the handful of projects that are probably really going to
19 happen, they're all going to provide some incentive thing,
20 and they're all going to have to knowledge share? Why don't
21 you just say, "To play in this world, you've got to
22 knowledge share?"

23 MR. RUBIN: My hunch is the sentence we added at
24 Sally's suggestion implicitly would encompass these two
25 bullets. The question is whether we want to be more

1 explicit than that general statement about the types of
2 incentives that ought to be evaluated. My hunch is it
3 wouldn't be necessary or appropriate, given the level of
4 detail we have, and other thing, is the allocation
5 recommendation a different kind of thing that makes a
6 different statement.

7 MR. MURRAY: I would just say "knowledge sharing on
8 these projects is an important facet of moving the
9 technology along," and not try to buy people for their
10 information.

11 MR. RUBIN: So, my recommendation would be that we
12 keep these explicit examples in the discussion in the text
13 as to elaborate on the kinds of policy options that Sally's
14 bullet would include. So there's documentation there as to
15 some specific things we have in mind, but not raise it to
16 the level of -

17 MS. BENSON: But it's not in the Executive Summary,
18 right?

19 MR. RUBIN: Well, the Executive Summary would have
20 your recommendation, but the text would move it out of the
21 recommendation, into the text as an example of some specific
22 policy option.

23 MR. BAUER: So these two bullets would not be in the
24 Executive Summary?

25 MR. RUBIN: That is correct.

1 MR. BAUER: Okay, the other two bullets would.

2 MR. RUBIN: Yes.

3 MR. BAUER: Yeah, okay.

4 MR. PERIDAS: Let me just make sure people are
5 aware, the thing that sticks out here is not the knowledge
6 sharing, it is the fact that AB 32 allows value, would be
7 used to incentivize CCS.

8 MR. BAUER: Say that again, please.

9 MR. PERIDAS: The big thing here is that AB 32
10 allows value, so through allocation of these allowances
11 would be used to incentivize CCS projects. You know, I'm
12 not the AB 32 guru for NRDC, I mean, I need to go back and
13 see what people think of that, but this is the elephant in
14 the room, not the knowledge sharing.

15 MR. BAUER: So, yes, we do put it in the Executive
16 Summary?

17 MR. PERIDAS: I will make no comment, I need to go
18 back and consult my -

19 MS. REHEIS BOYD: Could we just put a period after
20 CCS, then?

21 MR. RUBIN: The essence of Sally's recommendation is
22 that various policy options and incentives be evaluated, and
23 the most cost-effective ones be implemented. I don't know,
24 sitting here today, whether the AB 32 recommendation is more
25 or less potentially cost-effective, and the one that

1 proceeded it, or something else.

2 MS. BENSON: I think we would be really -

3 MR. RUBIN: So, making that decision right now, I
4 think, would be certainly - I just don't know how to do
5 that.

6 MS. BENSON: I think we would be really hard pressed
7 to stand up in front of anybody today and say, "This is the
8 best approach to incentivize CCS in California." I really
9 do think we need this study, it should be a stand-alone
10 study that, you know, everybody participates in, and then
11 there should be a set of recommendations that can be
12 implemented. I just don't think that we've done enough work
13 to know which is the best of all the options.

14 MR. PERIDAS: And just, I don't know if you looked
15 at the figures for how much revenue would be raised from
16 this program, but they're not small, and I can assure you,
17 there were many many many competing factions for that value.
18 So, you know, it's going to be a food fight.

19 MR. BAUER: I would suggest - I'm concerned about
20 the one -- we had a conversation on the second bullet there,
21 the one at the top of the sheet, about the energy plan.
22 When we make CCS as a preferred type, then we are putting it
23 into an order of preference that may not be economically
24 justifiable.

25 MR. RUBIN: No, we don't want to move those up to the

1 Executive Summary.

2 MR. BAUER: Well, I'm not even sure in the body we
3 want to have that strong a statement.

4 MR. RUBIN: No, I think we would just offer these as
5 examples of the kinds of policies that should be evaluated.

6 MR. MYHRE: Evaluating, I think, is fine. I mean,
7 because there is an issue there, as well, that in a highly
8 intermittent world with 33 percent renewables, adding base
9 load fossil ahead of peaking quick-start fossil, you know,
10 again causes a system problem that's going to be hard to
11 build around, so there are some real practical issues
12 associated with those sorts of maneuvers. Analyzing it,
13 fair enough.

14 MR. BAUER: Sally.

15 MS. BENSON: I just want to add one more thought.
16 This is actually a David Hawkins thought. He always thought
17 that it was very unfair that the people who were doing CCS
18 were the ones that had to pay into these funds for long term
19 stewardship. His point of view was everyone who is not
20 doing CCS, but burning fossil fuels should be paying for
21 those emissions, or paying for the security of the stored
22 CO₂. So, as we sort of try to flesh out some of the
23 incentives, that might be an idea to include. And I think
24 it is right, I mean, it's safer underground than it is in
25 the atmosphere.

1 MR. BAUER: All right. Kevin, do you have anything?

2 MR. MURRAY: Yeah, just two things that we are
3 somehow not mentioning in the findings or recommendations as
4 sort of the public outreach thing, which we kind of have all
5 agreed on what it is, it just happens to not be in the thing
6 and, to add - I think George said that -

7 MR. RUBIN: We did have a recommendation -

8 MR. BAUER: We did have a recommendation on public
9 outreach.

10 MR. RUBIN: Yeah, it was not a very strong one, we
11 basically encouraged how to word.

12 MS. BENSON: Actually, it was very strong, it said
13 "well funded," it was one of our strongest recommendations.

14 MR. RUBIN: Well, it says "endorsed -

15 MR. MURRAY: What number is it? We've changed the
16 numbers around.

17 MR. RUBIN: It says "endorses the need for," it
18 doesn't say anything about how it happens, or who does it.

19 MR. MURRAY: Okay, yeah, I'm sorry, it's just that
20 the second half of the blurb that George said to Terry on
21 eject.

22 MR. BAUER: Yeah, we need to recommend that.

23 MR. MURRAY: The first tab that goes in the findings
24 and the second half goes in recommendations.

25 MR. BAUER: As to when it was sent to you, Terry,

1 you've already given it to him, all right.

2 MR. MURRAY: Other than that, that's all I had.

3 MR. BAUER: Okay, I think we've galloped through it.
4 Hard to believe. I appreciate your slugging through this
5 with me. I think we actually did some good improvements and
6 clarifications, painful as they may be. So I'll appreciate
7 the audience hanging in there and a couple of you dropped
8 off the table along the way, but came back. The masochists
9 in the crowd here, so, with that, I would just like to thank
10 all the members of the panel for their efforts. Kip, thank
11 you.

12 MR. CODDINGTON: You're welcome.

13 MR. RUBIN: Carl, just one last point just for the
14 record, you and I had a side bar on this, but for the
15 record, the law in the current draft, in the body of the
16 text, but not in the Executive Summary, a number of
17 recommendations that we have not included here, just to
18 confirm that they will be removed from the text.

19 MR. BAUER: Right, right.

20 MR. RUBIN: And the only ones remaining in the text
21 will be the ones that we have just approved.

22 MR. BAUER: Yeah, and as we said in the open panel
23 discussions, that the Executive Summary recommendations will
24 be the only ones, and the others need to be brought in and
25 trued up to them, or gone. Even though I do appreciate all

1 the work that provided alternatives, we can't have beau
2 coups, well, we've already got beau coups recommendations,
3 but I think we don't need double beau coups.

4 MR. KING: Just as a slight suggestion to that,
5 rather than deleting them altogether, I think in a couple of
6 places we talked about siting them in the text as examples -

7 MR. BAUER: Yeah, examples, but not recommendations.

8 MR. KING: But not as recommendations.

9 MR. BAUER: Yeah, because we don't -

10 MR. RUBIN: The one I had a particularly strong
11 feeling about, the text on what was called "beneficial
12 uses," which I think really had problems with it, and that
13 was the specific one I had concerns about.

14 MR. BAUER: With that, I would like to thank
15 everybody and wish you all happy holidays. Us panel members
16 will get e-mails back and forth over the next week and a
17 half, I'd appreciate as quick a turnaround as you can give
18 us, so we can get something out the door. Thank you all,
19 and with that, I call adjournment of the CCS Review Panel.
20 Thank you again for your participation.

21 MR. CODDINGTON: Thank you.

22 [Adjourned at 4:00 P.M.]

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