б WORKGROUP FOR GLOBAL AIR PERMIT POLICY DEVELOPMENT FOR TEMPORARY OIL AND GAS DRILL RIGS MEETING February 13, 2014 Anchorage, Alaska Present: Bill Barron (telephonic) Gordon Brower Alejandra Castano Tom Chapple (telephonic) Alice Edwards (telephonic) Randall Kanady (telephonic) Joshua Kindred (telephonic) John Kuterbach (telephonic) Ann Mason (telephonic) Mike Munger (telephonic) Jim Neason Alan Schuler (telephonic) KRON ASSOCIATES 1113 W. Fireweed Lane, Suite 200 Anchorage, Alaska 99503 (907) 276-3554

1	Brad Thomas
2	Tom Turner
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8	<u>P R O C E E D I N G S</u>
9	(On record at 1:05 p.m.)
10	THE REPORTER: On record at 1:05.
11	MR. TURNER: We're going to do I'm sorry. This is Tom
12	Turner with DEC. We're having a little bit of a change with the
13	GoToMeeting, so Rebecca Smith just sent out a new link for those
14	that are on the phone if you're not connected on the screen.
15	You'll what you'll see is the agenda, draft agenda, which we
16	have out. We're doing a quick roll call because the
17	transcriptionist is here in Anchorage. So I'm going to walk
18	around the cyber world and whatever and find out who's on the
19	phone and then we'll turn it over to Alice Edwards. So I'm
20	going to start with the south with Alan Schuler. Are you on the
21	phone? No.
22	MS. EDWARDS: He may not be on yet. He we're sending
23	him the link to the meeting right now.
24	MR. TURNER: Great. Okay. We're going to start
25	anybody in the lower 48, Seattle or the east coast on the phone?
26	No. Anybody else in Juneau beside the people at the DEC
27	offices? Okay.
28	MR. CHAPPLE: Tom Chapple with H & H Consulting. KRON ASSOCIATES 1113 W. Fireweed Lane, Suite 200 December of Alaska, 20502

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- 1 MR. TURNER: Thank you, Tom. Anybody else in Juneau? 2 Okay. Anybody in Anchorage besides those that are in the DEC 3 offices on Bayview?
- 4 MR. BARRON: Bill Barron.

5 MR. TURNER: Okay. Bill.

6 MR. KANADY: Randy Kanady with ConocoPhillips.

7 MR. TURNER: Randy.

8 MR. KINDRED: Josh Kindred with AOGA.

9 MR. TURNER: Can you speak -- Josh, was that you? I

10 didn't hear it.

11 MR. KINDRED: Yeah, Josh Kindred with AOGA.

12 MR. TURNER: Thank you, Josh.

13 MS. MASON: Ann Mason with SLR.

14 MR. TURNER: Ann Mason with SLR. Thank you. Anybody 15 else? Hello? Okay.

16 MR. MUNGER: This is Mike Munger in Kenai.

MR. TURNER: Thank you, Mike. Anybody else in Anchorage or Kenai? Anybody in Fairbanks? Anybody on the North Slope?

19 Anybody else who has just joined us?

20 MR. SCHULER: This is Alan.

21 MR. TURNER: Okay, Alan Schuler with DEC. Anybody else? 22 Okay. Alice, I think we have roll call. The transcriptionist 23 is set up. We're ready to go. It's your ballgame.

MS. EDWARDS: Thank you. Thanks, everybody. This is Alice Edwards with DEC. And I just want to try and remind folks

because we are doing this through phone webinar and folks in meeting rooms if we can try and identify ourselves hopefully it will make it a little easier for people to track the conversations today.

So we've done the introductions. On the agenda today we 5 6 have -- what I had thought we would do would be to get some reports out on sort of how our subgroups are doing, what they're 7 working on, discuss that a little bit, get some feedback and 8 9 then try and determine whether we have any feedback that we want to give back to the subgroups as they continue their work and 10 then figure out what our next steps are. So while we set aside 11 quite a bit of time for today I don't know exactly how long 12 it'll take us to go through the agenda, but I thought it would 13 be a good chance for us to catch up and hear a little bit about 14 15 what's been going on since the last time we met. And I was trying to remember what the last time was that we met, but I 16 think it was in November. 17

18 UNIDENTIFIED FEMALE: (Indiscernible).

19 UNIDENTIFIED MALE: December.

MS. EDWARDS: Or maybe December. So that's the plan for the agenda today. Does -- do any of the workgroup members have any suggestions or alterations for the agenda?

23 MR. THOMAS: No.

MS. EDWARDS: Great. So if the folks remember, at the last full workgroup meeting we decided we were going to set up a

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couple of subgroups to work on some aspects of this issue so 1 that we would have more information on which to look at 2 alternatives and approaches for the -- for how we handle the 3 4 drill rig emissions within the construct of the air quality So we have done that and we've got two groups that program. 5 б have been meeting. The first one we're calling the technical subgroup and the other one is the -- what we're calling the 7 option subgroup. And what I'd thought I'd do today is let --8 9 first go through maybe some of what the technical subgroup is And I went ahead and asked Alan Schuler who's been on a 10 doing. number of those calls to maybe just give everybody sort of a 11 12 rundown on what that group has been up to and what their plans are so far and then we would do the same for the options group. 13 So if that works for everybody I think what I'll do is turn it 14 15 over to Alan and let him do -- give us a little update and then if there are others from the workgroup that have been 16 17 participating in that particular subgroup and want to add something that we can do that. So Alan, are you prepared to go 18 ahead and start? 19

20 MR. SCHULER: I am. Yes.

21 MS. EDWARDS: Thanks.

22 MR. SCHULER: So yeah, this is Alan Schuler. We've met 23 twice so far, January 9th and January 23rd. On the January 9th 24 meeting basically we developed a -- made a revision to the 25 proposed mission statement for the group. And we basically were

thinking of taking a divide and conquer approach initially 1 focused on the existing monitoring data, try and figure out what 2 -- you know, what we have, what don't we have and answer the 3 4 question if there's sufficient data to show that drilling operations did not threaten the air quality standards. And then 5 6 we would only -- and try to figure out what's going on with the model impact, the particular impacts, if there's insufficient 7 monitoring data. And some of that was because there's a lot of 8 9 -- it's a moving target in some ways with modeling. Well, let's take the -- what we have right now for existing data and take --10 focus on that first. And then there were some discussions on 11 12 data....

13 THE REPORTER: Oh, no. Wow.

MR. THOMAS: So Tom, you can tell Alan to repeat everything he just said.

16 THE REPORTER: Oh, I have that.

17 MR. TURNER: I hate doing this.

18 RECORDING ON TELEPHONE: Your call cannot be made as19 dialed. Please consult your directory at....

20 THE REPORTER: Want me to go off record?

- 21 MR. TURNER: No.
- 22 THE REPORTER: Okay.

23 RECORDING ON TELEPHONE: Welcome to GoToMeeting. Please 24 enter your access -- to enable audio control -- there are 11 25 other callers on the call.

1 MR. SCHULER: We're still waiting for that.

2 MR. TURNER: Excuse me, Alan.

3 MR. SCHULER: Sure.

MR. TURNER: This is Tom. We had some technical difficulties here in Anchorage and so you need to pick up from three minutes ago. You left off about how you were looking -do you remember where he was at?

8 THE REPORTER: Yeah, he was figuring out the model impact, 9 insufficient data, how the existing data, books, discussions.

MR. THOMAS: We would only look at the modeling if there was insufficient monitoring data.

12 MR. SCHULER: Oh, okay. Divide and conquer. Yeah, we're basically going to focus on the monitoring data first and then 13 if that doesn't answer the question -- if we don't have enough 14 to go off of with that then we'll look at the model impact and 15 try to figure that one out. And then we -- during the January 16 17 9th meeting we had some discussion as well as to what industry was planning to submit to the department, went through a couple 18 questions there. And industry said their primary focus with the 19 dataset would be the one hour nitrogen dioxide and 24 hour high 20 particulate, 3.5 basically concentration since those are the 21 most restrictive (indiscernible) which made sense to us. 22

Industry provided us the data January 13th, 14th, somewhere around there. I forget exact date on that. And then during our January 23rd meeting industry provided us with a

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PowerPoint summary of what they had provided. They included 1 aerial photographs, charts and figures with, you know, 2 concentrations and fuel usage information, a good presentation 3 4 basically of what they had provided. And then they also said they were going to provide a copy of the PowerPoint presentation 5 6 so we could post it on the website for everyone else to see as well, but they first wanted to make a couple corrections. 7 There was a couple mistakes in there, minor mistakes, and they --8 9 provide a couple of enhancements as well. We're still waiting for that revised copy to post to the website. 10

After the presentation there was of course some discussion 11 about what was going on there, well, with the dataset and also, 12 you know, different types of operations. Industry provided, you 13 know, their observations of, you know, what's common, what's 14 15 distinct between infield drilling and development drilling. We also noted that there was no data from Cook Inlet and since the 16 17 -- you know, the workgroup's supposed to come up with statewide concepts, decisions. We talked about that and industry gave 18 some initial thoughts on how North Slope drilling compares to 19 Cook Inlet drilling. Of course we'll have to have the same type 20 of conversation and understanding between onshore and offshore 21 drilling so we could have an understanding of how everything 22 fits into this. And, you know, there'll be a need for follow-up 23 conversations on that. 24

25

Since then we're starting to go through the data. I want

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to say we meaning the department. It's going to take some time.
There's a lot of information there. And so -- and the
department basically wants to determine what does the data tell
us, what does it not tell us. And so that's a very quick
summary of that.

б We don't have any conclusions yet because, you know, we're still going through it. We just have started. Some initial 7 observations, you know, some datasets are more pertinent than 8 9 others. That's probably no surprise. That's true with any dataset. We'll likely have some questions. You know, some of 10 the questions will likely be what were the meteorological 11 conditions during the drilling operation and some of that -- we 12 basically want to see, you know, do the monitoring pick up 13 drilling impacts or is it measured in something else. We want 14 15 to make sure we totally understand what we have and is that addressing the drill rig question. Also looks like -- and this 16 17 is a real preliminary comment. That, you know, the fuel usage appears to be typically well below what industry had commonly 18 requested in their permits and in their modeling assessments. 19 It is -- you know, if we're modeling they wanted to have, you 20 know, the upper range of what they might need to provide maximum 21 flexibility and in a lot of these monitoring datasets fuel usage 22 didn't come close to that. In some cases it looks like maybe 23 24 only a quarter of what was requested. And of course, you know, 25 just from -- assuming everything's ideal and matching up right

that would -- you know, could be a major reason why the monitoring numbers aren't matching the modeling numbers if their, you know, fuel usage is only a quarter of what was assumed before. But, you know, we're still trying to sort all of that out as well.

6 Our next meeting for the technical workgroup is scheduled 7 for February 20th. We're still trying to figure out the exact 8 time, but that's the date. And the goal for that meeting will 9 be to develop a timeline and milestones for processing the data 10 submittal.

11 That's my summary. Did I overlook anything from anyone 12 else on the workgroup?

MR. THOMAS: No, I think you did a good job, Alan. MS. EDWARDS: Is there any questions at this point from the workgroup members or others on what the technical workgroup's been doing before we sort of talk about what the options group has been doing?

MR. THOMAS: No, I would just add to something Alan said, 18 Alice. The -- I mean he's correct that when you look at the 19 fuel uses -- fuel usages that we've experienced over the many 20 years of monitoring data collected it is a lot lower than what's 21 permitted. And that's I guess not a surprise and I guess it 22 kind of in my mind brings into focus the difficulty of putting, 23 you know, drill rigs in a permitting program. Because if you 24 get a permit for any piece of equipment you don't want to take 25

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restrictions on that equipment's use so you always go for its 1 capacity, you know, fuel consumption or operations, but drill 2 rigs just don't operate that way. But putting them into that 3 4 permitting program kind of forces me the applicant to, you know, get the maximum flexible permit I can possibly get for it, but 5 б we just don't operate them that way. You know, they just don't burn that much fuel. And in some cases they're on high line 7 In some cases they're not. But whether they are or not power. 8 9 they still burn generally less than half of what we're getting permitted for. And, you know, we're motivated to not burn a lot 10 of fuel because it costs like \$5.00 bucks a gallon. It's not 11 12 cheap.

MR. SCHULER: I don't quite understand that you never
operate that way and yet you want a permit to operate that way.
MR. THOMAS: Well, generally what....

Part of problem that you have is when someone MR. NEASON: 16 17 requests what your fuel usage is and they always follow it up with worst case, what is your worst case fuel usage, what are, 18 you know, coldest temperatures, your most demanding loads, what 19 is your worst case fuel usage. And that's usually the number 20 you get which you don't always meet that fuel requirement. 21 MR. TURNER: I would remind folks to please identify 22 themselves when they speak. That was Tom Turner. 23 MS. EDWARDS: That was -- right and John was the one that 24

25 asked the question from Juneau.

MR. THOMAS: And this is Brad Thomas. And John, to answer 1 your question, when we obtain permits, just as John Neason said 2 a moment ago, we always provide the maximum fuel use. So we 3 4 don't want to get a permit that limits daily, hourly fuel So we always supply the max because though on average usages. 5 6 we'll burn, you know, 3,000 to 5,000 gallons per day there might be a day where a bit gets stuck in a hole, we might have to burn 7 7,000, 8,000 gallons. We just can't afford the limits. 8

9 MS. CASTANO: This is Alejandra with BP. Another thing 10 too is the way that these permits are currently written it's by 11 pad. Right? So you'll have different rigs moving in and out of 12 that pad. It's very difficult to come up with a number that 13 fits them all, so worst case scenario gives us the most 14 flexibility to move different rigs into that operation, into 15 that pad.

MR. SCHULER: So if I understand right then, when you say worst case you actually do operate at that worst case, just not all the time.

MR. KUTERBACH: You know, in the records I've seen they've never operated at that worst case. But they've operated -they've gone -- they've approached it. You know, if the worst case is 14,000 gallons a day, the most fuel consumed in a day that I've seen in the records I've got is 9,000 gallons. MS. EDWARDS: Okay.

MR. THOMAS: But it's generally done in the 3,000 to 5,000

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1 gallon range.

2 MR. KUTERBACH: Right. But I guess you can envision 3 operating at the 14,000 gallon range.

4 MR. THOMAS: Yeah.

5 THE REPORTER: That's not Alan. Who's that?

6 MR. THOMAS: No, that was John Kuterbach.

7 THE REPORTER: Thank you.

8 MR. THOMAS: So John, can you answer his question? Can 9 you conceive of a time when we'd operate at 14,000 gallons a 10 day?

MR. NEASON: John Neason here. I've been here 14 -- just 11 12 14 years with our rigs and I've never seen us operate the rig at 13 maximum fuel usage because we base those fuel usage numbers on the equipment specification. If a Caterpillar engine tells you 14 15 at full power it consumes 36 gallons per hour then that's the number you use when in actuality it may only consume 20 gallons 16 17 per hour. So whenever you're reporting numbers or whenever an operator calls us and asks us what our worst case maximum fuel 18 usage is the only way we have to determine that is by the 19 equipment specifications. But in practice it -- I've never seen 20 us reach those fuel usage numbers. 21

MR. THOMAS: I haven't either. Have you, Alejandra? MS. CASTANO: I mean I'd have to look back at the data, but no.

25 MS. EDWARDS: So I guess.....

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MS. CASTANO: No, but I've (indiscernible).

So this is Alice. So it just sounds like to 2 MS. EDWARDS: me that, you know, in the midst of all this one of the things 3 4 that we're discovering through the technical group is that it's unlikely or rare that these units are reaching the maximum fuel 5 6 usage that they're being permitted for. So there is a potential there to perhaps -- and while we understand the need that you 7 want to have flexibility to deal with certain situations it does 8 9 seem like there's a pretty -- it sounds to me like there's -there may be quite a large maybe -- a large -- maybe we're 10 In other building to a worst case that's really not worst case. 11 words, the worst case may be a lot lower fuel use for you than 12 what we're actually using for the permit. Anyway, I think it's 13 an interesting piece of information that's come out of the group 14 15 and certainly could be factored in with the other things that the group's looking at, the subgroup's looking at. 16

MR. BARRON: Yeah, this is Bill Barron. I think you're 17 going to find that same criteria or the same event happening 18 across almost all of the air related permits. In my former life 19 we had to do the same thing. It wasn't what we -- we had to go 20 to the nameplate data on the equipment and whether it did or 21 That was -- we -- that's what we had didn't it didn't matter. 22 to do. And I think you're right, I think we're building in such 23 a huge cushion across almost all of our air permitting criteria 24 that we've gotten ourselves in a bad spot. 25

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MS. EDWARDS: So Bill, this is Alice again. I don't think 1 that on the air permitting side that we'd force -- necessarily 2 force people to the nameplate condition, but I think that's -- I 3 4 think Brad said this or maybe John did, that, you know, typically they'll come in and ask for that because that's the 5 6 most -- they know that that's the most flexible, they would have no restriction at all if they go to that level, but I don't 7 think it's a requirement on the air permit side to go to that 8 9 level.

I think what we need is a sidebar. MR. BARRON: Right? 10 Not necessarily directly as it is. I think we need to kind of 11 12 look back on ourselves and ask what questions are we asking and if we ask the question, we being the State or any other 13 regulatory body, if we say, well, what's the maximum you could 14 15 have and we immediately put our -- put the operator in the position to have to answer it as a worst case scenario and then 16 17 it's a compounding issue. It's yeah, that one heater might be running full out but the other piece of -- (indiscernible) shut 18 in. I mean it's not going to run everything at 100 percent at 19 100 percent of the time, even in the worst case scenario. 20 I mean we're talking about 100 percents of 100 percents compounded 21 and I think that's part of the issue that we have to address. 22 MR. KUTERBACH: This is John Kuterbach. I still don't 23 quite get how we can have a -- that we need this flexibility and 24 the folks that are most familiar with it have never made use of 25

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1 that flexibility and can never even conceive of making use of 2 that flexibility. And so I'm trying to reconcile that with --3 you know, with the need for the flexibility.

4 MR. THOMAS: Well, John, Bill touched on this. Maybe -this is Brad Thomas. I'm sorry. Maybe I can get a little more 5 б detailed. There's -- on a rig you've got -- I'm going off the top of my head, six, seven engines and maybe four heaters and 7 boilers, you know, 11 -- you know, 10 or 11 piece of equipment. 8 9 And when you talk about maximum fuel use, you know, the maximum fuel use of that rig could be 14,000 gallons per day if all 10 10 or 11 of those units are running all at the same time. But when 11 you start -- want to start taking owner requested limits or 12 synthetic minor permits to limit that fuel use how do you 13 apportion it? What doesn't run at the same time is something 14 15 else. When you start getting into those combinatorics you get into some severe hamstringing of drilling operations. It's not 16 17 easy to apportion that fuel use or to limit it because you can easily get into you can run this but not that like we saw with 18 Doyon 19 in the Alpine permit. 19

20 MR. SCHULER: Brad, this is Alan and -- Alan Schuler and I 21 -- you know, I don't know if we want to go into this level of 22 detail here, but I know in some of the permits the fuel usage is 23 for the entire drill rig and that the way to model this 24 everything's been grouped together and so that it doesn't have 25 to be apportioned between the different types of units, between

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heaters, engines, et cetera. And so I think there's a way to do 1 that. And I quess the question I have is, you know, with the 2 history that industry now has with the drilling operations and 3 4 looking at what's going on, you know, I understand that initially when, you know, we first started issuing these permits 5 6 they wanted to make sure they had enough flexibility to cover these unforeseen situations or, you know, whatever they could 7 get in. But given this history is one option to consider, you 8 know, could be, you know, looked at is, is it time to cut the 9 pad off and put these limits back in -- or put them back -- pare 10 them back to a more realistic level. And I think that would be 11 one question I would, you know, propose that the group consider. 12 This is Tom. We had a discussion at the MR. TURNER: 13 options meeting about the State's responsibility and what 14 15 industry now has data for. I mean so the State's responsibility is we have to demonstrate you can't violate that to protect air. 16 17 Industry's coming back and saying, well, we haven't, so we don't need to be there. So it's kind of a can do, can the vehicle --18 someone used the scenario, I think it was Bill, that said can 19 the vehicle go over 55. Well, if it can then we have to ensure 20 that it won't because we have our speed limits. 21 Now that we have all this data that's showing fuel usage is less than the 22 14,000 gallons you have to remember back when this got set up, 23 and it was before my time but we have two people on the phone 24 that were here or three people on the phone that set this drill 25

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rig policy up, there was the evidence at the time that drill 1 rigs were going to violate it. Now if we're seeing that that 2 level that they're required to exist at is lower there's no 3 4 reason you can't go -- in my opinion and this is Tom's opinion, you can go back, relook at what that fuel usage is, set up 5 either a new set of modeling, a new permit regime, something 6 that, which has always been my concern, we can go back to EPA 7 with and say look, we have this data, these people are really 8 9 operating at a lower scenario, we're going to set these limits at a lower scenario that still allows enough flexibility in it. 10 If you want the full range of flexibility up to 14,000 gallons 11 the permit exists for that. If it's really only going to be 12 8,000 or 9,000, has been pointed out, you can set it up for that 13 reason and that's something that we can maybe present to EPA and 14 15 make sure we put it into the SIP. I mean that's totally adjustable now that we're showing evidence over the years of 16 17 what the real actual is. Because when this first got set up, which again was before my time. It was 10 years ago. 18 I mean you had different information at the time. And it's like that 19 with all the permits. As information becomes available there's 20 no reason why you can't go back and relook at what the purpose 21 is. But the purpose we're supposed to make sure is we protect 22 air quality based on the full PTE. If we have demonstrated 23 evidence that they're not going to operate on that we simply can 24 reset that limit in order to allow the permitting process to go 25

through without the full restrictions are. And we haven't talked other ways of doing this like can we do the drill rig instead of the pad, you know, which Gordon suggested there's a registration on that.

5 MS. EDWARDS: So, okay. So before we move into the 6 options speech, which Tom is sort of taking us there, is there 7 anything else that you guys wanted to talk about from the 8 technical group? It sounds to me like they've got -- are we 9 still there?

MR. TURNER: Yeah, we lost you for a minute, Alice. I think you're back now.

MS. EDWARDS: Okay. So before we head off into sort of 12 options, Tom, which I think is sort of where you're taking us 13 and what the options group has been working on I just wanted to 14 15 circle back around. It sounds to me like, you know, the technical group's met a couple times and they've got a lot of 16 17 data to work on, they're going to meet again here soon. Ιt sounds like they've already got some interesting pieces of 18 information that are coming forward and I think that will be 19 told to the overall discussion. Of course we don't have to 20 necessarily drag through all of that today, but I'm sure that 21 that workgroup will continue to be looking at that and it'll 22 feed over into the other workgroup as well and we can have a lot 23 more detailed discussions on some of these things. But just to 24 25 kind of make sure that we also get through -- before we get into

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too involved discussion that we actually know what the other group's doing as well. So I just want to kind of make sure are we ready to -- does anybody have any other questions specifically on the -- what the technical workgroup is doing or where they're headed or any of that?

6 MR. BROWER: This is Gordon. I don't know if this is 7 related or not, but I'd like to say something.

8 MS. EDWARDS: Go ahead, Gordon.

9 MR. BROWER: When we -- when the Borough does review a drilling permit and when it's near shore or when it's building 10 an ice island or a rig that's going to be stationed on a manmade 11 island we often put in a -- for Title 19's own guidelines to put 12 in the relief well drilling operation stipulation. And I think 13 there needs to be some flexibility I would think to be able to 14 15 be going over 50 miles an hour and go out there and conduct something in the event that we needed a machine to go 50 miles 16 17 an hour. I know we have the emergency provisions of the Borough and we don't need a permit. We just say do it and press the gas 18 pedal by the way and get with it. And -- but I think that's 19 something. I hope the current laws don't hinder that ability to 20 be flexible like that. 21

MR. THOMAS: Yeah, this is Brad. I'll echo what Gordon said. It would not seem to me to be a good outcome of the technical working group or this larger working group to have reviewed all the data that we supplied and use it to make the

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case to limit drill rigs to their historical fuel use. That
 would not be a good outcome in my opinion because that
 flexibility that Gordon referenced and the unforeseen stuff that
 I can't even conceive of but drilling guys know about, it's out
 there.

б MS. EDWARDS: That makes a good point that, you know, we do need to be able to address. Gordon, I understand your 7 concern that, you know, you do have to be able to if you have a 8 9 situation offshore where you need to drill a relief well you need to go do that when you need to be able to do that. And so 10 that is a good thing to bring to this table for us to consider. 11 MR. BROWER: Let me just add a little bit. Not just 12 It's any drilling that has a projected plume should offshore. 13 something happen that can impact a flowing river into the 14 Beaufort Sea or it's adjacent on land, but the plume itself is 15 -- can be projected to go offshore. So it can be like Point 16 17 Thompson stuff, like Melanie Point (ph) stuff, practically drill at the shoreline areas. So -- and that's what -- how the 18 Borough has looked at this for quite some time and it's 19 primarily to protect bowhead whales and things like that before 20 So, you know, if you can -- if something 21 that migration starts. were to happen May 1 and it takes 21 days to complete a relief 22 well drilling operation I'm hoping they can do it in 10 days by 23 pressing the gas or something before broken ice season begins on 24 Those are just some of the things that we think about and 25 us.

1 -- when we're making a judgment call in terms of issuing a drill2 permit from the Borough side.

MR. KUTERBACH: So, this is John Kuterbach. So if I understand Brad and Gordon correctly then really we have to look at these drill rigs as quite possibly needing to operate at that high level that they've asked for, even though historically they haven't.

8 MR. THOMAS: Well, not based on the information that I've 9 collected, John. I just haven't seen it. That doesn't mean 10 they haven't. I just haven't seen it in my dataset.

MR. KUTERBACH: Well, no, I understand that you haven't seen that operation, but I think the point that you raised was there are things that you can't conceive that maybe the drillers can that they may need to use that high level of operation. And therefore we can't presume that they're going to only ever operate at the historical levels.

MS. CASTANO: John, this is Alejandra. Perhaps another way of looking at it is there are many situations that drilling can encounter and we don't want to get to a point where we've limited their options for well control and whatever else they might need to do to the well because of a fuel usage limit that we've taken.

23 MR. KUTERBACH: I agree. I agree. That means we need to 24 base our permitting decision on what -- how they could operate. 25 MR. THOMAS: Yeah, John, this is Brad. In the current

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paradigm, yes, you do. And this is the point we've been trying 1 to make from the beginning is that we have the ambient air 2 quality data to suggest that drill rigs don't threaten, don't 3 4 come close to threatening the ambient air quality standards. So is this working within this paradigm the right thing to do. Ι 5 6 mean even if they could realize more fuel use because of a, you 7 know, unforeseen event on a pad. I mean we just don't have the information to show that they threaten the ambient air quality 8 9 or come close to it.

MS. EDWARDS: So Brad, I think we understood 10 (indiscernible), we understand that, but I think that the -- can 11 -- I guess this is what the technical group will go through is 12 that you've never violated, we understand that, but now all of 13 the data's suggesting that you're maybe operating at a quarter 14 15 to a half of what your permit is, I mean to do. So then that would probably raise a question about how well that data 16 17 reflects those maximum types of events which is what we look at as well because you want that flexibility to be able to address 18 any kind of issue. So I think -- this is why we have the 19 subgroups I think is to work through these kinds of issues. 20

21 MR. THOMAS: Yeah.

MS. EDWARDS: Look at both sides of those and figure out do we have enough data to really make that case. And so this is just one little piece of data that we're looking at in isolation right now because we haven't seen -- I mean the technical group

hasn't had a chance to go through all the other information
 that's in front of it.

3 MR. THOMAS: This is Brad.

MS. EDWARDS: But I think we need to be careful about -- I just think we need to be careful about taking pieces of information in isolation and not looking at the whole big picture.

MR. THOMAS: Yeah. This is Brad again. You know, when 8 9 we're talking about these fuel usages of 8,000, 9,000, 10,000, 11,000, 12,000, 13,000, 14,000 gallons, you know, we're talking 10 about events that are in my time nonexistent, except for in one 11 12 case that I saw, very infrequent at most. I mean very, very infrequent, like less than once a year is my guess infrequent. 13 And we're dealing with -- you know, the ambient air quality 14 15 standards we're dealing with are statistical standards, 90 percentile. You know, you throw off the top seven every year 16 17 and you average over three years. So talking about these extremely infrequent events in the context of statistical 18 ambient air quality standards, it just doesn't seem like a smart 19 way to build a regulation. You know, because we've got the 20 historical record that shows historically we don't threaten the 21 ambient air quality standards. Yes, there could be events where 22 we burn more fuel, but they're going to be so infrequent and 23 we're dealing with statistical standards so why build a program 24 around that infrequent stuff. 25

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MR. BROWER: Yeah, I -- this is Gordon. I tend to agree. 1 Sometimes when you look at the ratio of drilling operations in 2 Alaska itself in comparison to some other parts of the United 3 4 States or some other place, you know, it's -- there's a drastic, you know, difference here. And what I was describing earlier 5 б may have -- meaningful drilling, I can't recount a time when there was an event that took place in Alaska. I'm sure it has 7 maybe once before my time and I've heard of maybe one in Canada 8 9 maybe. But it seems to me it's a -- there's almost like a one size fits all process when you need to think out of the box to 10 make these things more effective. To me it's almost like you're 11 12 permitting truckers out there on the highway too and, you know, it's just -- that's the way I kind of see this is, you know, I 13 don't know how many drill rigs are operating up in the North 14 15 Slope or in Alaska maybe. It's probably a handful maybe.

16 MR. THOMAS: Yeah.

17 MS. CASTANO: We can't talk.

18 MR. THOMAS: Statewide.

19 MR. BROWER: I mean I could under....

20 MS. EDWARDS: Can I go ahead and give you guys an overview 21 from the options side?

22 MR. BROWER: I'm ready for that.

MS. EDWARDS: Okay. So I thought I would go ahead and do this, but I know that there are a number of folks on the phone that are part....

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1 MR. TURNER: Alice, we lost you.

2 MS. EDWARDS: Okay. I -- am I back now?

3 MR. TURNER: Yeah.

MS. EDWARDS: Okay. Every once in awhile I'm getting a nice operator voice that says my entry is not valid. So I don't know what that's about, but apparently you can't hear that but I can.

So the options subgroup has -- I was just saying I thought 8 9 I would just do a quick overview from my perspective of the options subgroup, but a number of you all have been on those 10 calls as well so if I miss something that -- we can -- please 11 feel free to jump in. But the options subgroup has also met 12 twice, the first time on January 16th and then again on the 30th 13 of January. During the first meeting we've been tracking sort 14 15 of what the technical subgroup's been doing, so we -- every meeting pretty much we try to get a little update from the 16 17 technical subgroup as to where they're at. We also talked about some of the basic sort of boundaries that we need to address 18 when we're looking at an alternative approach to our current 19 drill rig permitting program and we brainstormed some ideas on 20 how to proceed in developing those options while the technical 21 subgroup is reviewing the available data. And I think the 22 options group is -- subgroup is very aware of the fact that we 23 need the output and information coming from the technical group 24 to really hone in on options and specifics. 25

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So that was sort of the first meeting. Then we met again 1 on the 30th and during that call we went back through some of 2 the regulatory and statutory frameworks that the current program 3 4 is based on as well as how this data -- you know, sort of how this data implementation plan works and what we -- and what the 5 process would be to be for updating the regulations or the steps 6 to address a new approach. And that was sort of the meat of 7 that meeting and then we talked a little bit more and kind of 8 9 came to the conclusion that before we could really hone in on which options to explore and examine further that we were going 10 to need some of the feedback from the technical side. 11

12 So we are scheduled to meet again in early March, I 13 believe on March 6th, and the goal of that meeting at this point 14 is primarily just to figure out where the technical group is. 15 And of course you heard Alan say that they're going to be 16 meeting again here in the near future as well, as well as to 17 respond or start thinking about anything that may have come up 18 through this particular meeting.

So that's sort of my very short synopsis of what the options group has been doing. And I did want to note that for both of these groups for those of you that haven't been involved in the subgroup discussions, Jeanne Swartz who's not on the call today, she is posting little meeting summaries up on the website. So if you are interested in what they're working on or what they talked about she is trying to get those up pretty

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quickly after the subgroup meetings so that folks will have
 those notes and those are all posted up on the website.

So I don't know if anybody else who's been participating 3 4 in the options group has anything they want to add. I would note that we have had Dave Bray from EPA Region 10 participating 5 6 on the options subgroup which I think has been helpful because he -- you know, ultimately whatever we do decide to do and 7 whatever changes we do make, decide to make to either 8 9 regulations or the state implementation plan will go to EPA, so he can provide some of that perspective as to what they would be 10 looking for in making those -- in trying to make something that 11 they can approve as well and also in -- he has great experience 12 and is able to really identify things sometimes where we do have 13 some flexibility to look at different options. 14

15 So that's sort of my summary of the options subgroup 16 unless somebody who participated would like to add something.

MR. THOMAS: This is Brad, Alice. I'll just add that I think you got it right. The options subgroup is kind of in the tread water mode waiting on the technical subgroup conclusions, so it's -- they're kind of limited in what they can do without the technical subgroup inputs and conclusions.

MS. EDWARDS: Right. So we're just kind of seeing where things will head next. But I do think, you know, even like the discussion we've been having so far on some of the information coming out of the technical group, ultimately I think that's the

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sort of discussion that the options group will have. 1 The technical group will probably do a little bit of that as well, 2 looking at the data, what does it mean. And then, you know, we 3 4 can look at it and say okay, well, given that data or these findings from the technical group what options and, you know, 5 6 can we go through the options that have been -- that, you know, AOGA and the Alliance put forward and how is that going to work 7 given the information we're getting from the technical group or, 8 9 you know, we can work through these and see what we think might be an effective way to move forward. So that's sort of where 10 we're at and, Brad, I agree we're kind of treading water a 11 little bit. Do other people have questions on what that group 12 is doing or want to provide some feedback to either of these 13 groups? Do you think we're all headed in sort of the right 14 15 direction?

16

MR. THOMAS: I do, yes. This is Brad. Yeah.

MR. BROWER: Well, I'm -- this is Gordon. I just like to 17 always express that I lend and bend my ear and just try to come 18 out with common sense in the -- in -- you know, I've been, you 19 know, doing a lot of reviews for better part of maybe 15 years 20 in planning and also seen through my past career as a heavy 21 equipment mechanic for many years. So I just try to put two and 22 two together and just try to spiel out something that to me that 23 makes common sense. And if there's a problem I tend to think 24 that if I know how to fix it I'll try to straighten the wheel 25

out, you know. But in this case you may need to change the
 wheel maybe. I don't know.

3 MR. THOMAS: Yeah.

MS. EDWARDS: Well, and that's I think what we're all --4 Gordon, this is Alice. I think that -- I think you're right, 5 б that's what we're all trying to figure out and certainly we want to come up with things that do make sense and that are 7 reasonable and, you know, if we can do something that's simple 8 9 that works then that's great. You know, that's, you know, usually preferable to something that's very complicated. So I 10 think that's a good -- I think it's a good perspective to keep 11 in mind. 12

Mike or Bill or Josh, I know you guys are all on the phone. Do you guys have any thoughts on sort of how this is going or feedback that you think we need to give to the groups? MR. MUNGER: This is Mike. I think it's going in the right direction.

MR. BARRON: Yeah, this is Bill. I would echo the same 18 I -- but I don't want to lose sight of as we look at --19 thing. to the technical group dialogue today. I want to make sure that 20 we don't lose sight of the fact that we still have an issue 21 relative to the modeling of the one hour standard. Because part 22 of this was a dialogue that's sort of around the axle of, you 23 know, the maximum use ever kind of discussion and is there too 24 much benchmark in there and too much (indiscernible). 25 But I

still want to make sure that we keep in mind that as activity on 1 the Slope increases that this problem is not going to go away, 2 it's just going to get more exasperated with the newer piece of 3 4 equipment. So we still have to look at very hard at are we modeling the right thing, is the model accurate relative to what 5 б we're actually seeing. You know, the permit may be -- the permitting process that the companies go through probably needs 7 to be reviewed in terms of what are they asking for, but we just 8 9 need to make sure we don't lose sight -- in my mind that we don't lose sight of the target of really asking the question 10 model versus actual and validation of those two. 11

MR. THOMAS: This is Brad and, Bill, you actually raised a 12 very profound point right there. We do have two modeling 13 standards that we're struggling with. One is the 24 hour PM 2.5 14 15 which isn't so bad, but the really hard one is the one hour NO2. You know, we look at historical fuel usage, you know, we look at 16 it on a daily basis, 3,000 to 5,000 gallons per day versus 17 10,000 gallons per day, that doesn't scratch the itch of the one 18 hour NO2. To model compliance with the one hour NO2 standard 19 you're talking about hourly fuel use limits. Those are where 20 you get to impossibilities. So that was a profound point you 21 just raised. 22

MS. EDWARDS: Other thoughts? You guys are all being so quiet.

25 MR. SCHULER: Alice, this is Alan. I'll speak in

(indiscernible). You know, Brad's comments about hourly fuel 1 use limits, I don't know if we've ever had that level of 2 conversation with industry of what kind of limits we would need 3 4 for one hour NO2 demonstrations, modeling. We have just -- we have never really gone through that process. Most of the 5 6 permits were developed before the one hour NO2 or 24 hour PM 2.5 standards even existed, at least on our books did not even 7 include those. So what the permit would look like to meet the 8 9 one hour NO2, we've never really flushed that out. And Brad mentioned before too, you know, the probabilistic standard and, 10 you know, the standard is set up to, you know, accommodate 11 variations, if you will. And, you know, this weighs with that 12 modeling too. So I would not want to presume what would come 13 out of that because we've really gone down that path to a 14 15 sufficient degree to work out all those details.

MS. EDWARDS: Thanks, Alan. This is Alice. I had a -- I 16 17 have a question back, Alan, maybe on the technical side. Ι don't know if you're the right person to answer it or if it --18 maybe it's Brad, but -- or one of the folks on the industry 19 But you had said that the technical group has decided 20 side. they're going to start with going through the monitoring data, 21 which I get, and then decide whether or not they need to look at 22 the modeling. Because that would be a little counter to what I 23 think Bill brought up here as far as wanting to really make sure 24 that we understand the modeling. So I just -- I don't know that 25

we need a huge amount of detail on what the technical group discussed there, but I just want to make sure, is the technical group going to be -- is planning to look at both pieces of that, the monitoring and the modeling still?

MR. SCHULER: Well, at this point no. And maybe we need 5 6 to get redirected based on the comments here. What came out of that one discussion in the technical workgroup is that EPA is 7 working on new revisions to the model to improve it. And so 8 9 then it became a question, okay, at what point in this moving target do we look at? Do we try to accommodate some of these 10 newer provisions to try to correct some of the conservative 11 nature of the model? Do we just use what's on the books right 12 now? How do we deal with that? And we decided let's not even 13 deal with that issue right now, let's just look at what the 14 15 monitoring data tells us. If that is sufficient for answering this question of, you know, are drill rigs, you know, causing a 16 17 problem. You know, if we can conclude that drill rigs are not causing a problem maybe we don't need to try to tackle this 18 moving target question with the modeling. And so at this point 19 it's not a given although it could happen and based on the 20 comments today from the large group maybe we need to make sure 21 it stays on the table. 22

23 MR. THOMAS: And this is.....

MR. KUTERBACH: Alan, when you're looking at the monitoring -- this is John Kuterbach. When you're looking at

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the monitoring are we looking at the ability of that monitoring demonstrate that drilling won't cause ambient air quality problems in any area of the state?

MR. SCHULER: That will ultimately be the question we need to answer. At this point in time what we're trying to assess is what data do we have, what does it tell us, what does it not tell us. And so we're still trying to really understand the data itself.

9 MS. EDWARDS: Okay. Thanks. That helps, Alan. I think 10 we might have talked over someone else as well. Was somebody 11 else trying to talk there?

This is Brad, Alice. I was just going to add 12 MR. THOMAS: to what Alan said regarding the technical group's looking at the 13 monitoring first rather than modeling. We really know what the 14 15 fundamental problem is with the modeling I think. There's not a lot of question about what the problem is with the modeling. 16 17 It's modeling potential to emit or permit allowable and, you know, modeling at lower values than those starts to move us into 18 the area of extreme discomfort. But the principle problem with 19 modeling is, you know, EPA is looking at fixes. 20 They're trying to come up with low wind speed fixes. They're trying to come up 21 with various algorithms to address other things within the 22 model, the ozone limiting stuff. But those are going to be --23 you know, they'll result in minor improvements compared to, you 24 know, what we would see if we modeled it other than potential to 25

emit or permit allowable. That's -- the permit allowable,
 potential to emit piece is what's really killing us on the
 modeling.

MR. SCHULER: Well, and Brad, this is Alan again. 4 I quess what I'm asking, you know, is it time to pare back on what's 5 б being assumed in the modeling. If industry has not been using those higher levels over time one of the questions it seems in 7 my mind would be are they truly needed, is there a way to pare 8 9 it back or is there a way to even reassess in the modeling what's really being used and try to make decisions off of that 10 rather than a what if scenario that doesn't appear to happen. 11

MR. THOMAS: And this is Brad again. Alan, in response this is the bright light that Bill threw open or threw on in my head when he spoke a moment ago. It's not so hard to do that on an annual basis. It's not so hard to do that on a monthly basis. It may be even achievable to some degree on a daily basis, but a lot less so. But I can't see doing it on a one hour basis.

MR. SCHULER: Well, and -- yeah, Alan again. I don't know if we've really tackled that one side. I don't want to say yay or nay to it at this point in time. EPA offers some flexibility for how do you look at intermittent operation and actually I think there's a lot of flexibility there. And so I don't think we should say that just because something could happen that's what the assumption needs to be at all times when dealing with

these newer standards. I don't think that's the case. You know, the details for how you work through that, well, that's where, you know, you roll up your sleeves and work through, but I think there is some options there on the modeling side.

This is Alice. This was something I was MS. EDWARDS: 5 6 thinking too as we were having the conversation earlier about -that Gordon had brought up about emergencies and we might need 7 to have a maximum operation for something because we can't 8 9 perceive every condition that comes along. But, you know, there are -- I just kind of wonder and, Alan, your discussion here 10 kind of brought it back into my mind too about intermittent 11 operations or, you know, this concept of sort of an exceptional 12 event or, you know, something where, you know, you have sort of 13 routine operations, but then, you know, given the probabilistic 14 15 standards, given other issues is there a mechanism within the Clean Air Act, and maybe this is something we can talk about at 16 17 the options group as well, where it's -- we don't routinely operate in the -- with that kind of a condition, is there a way 18 to figure out how to handle that as a non-routine event and deal 19 with it in a different way. So that's just something -- I don't 20 know the answer to that or whether that's even possible, but 21 that's what's kind of hit my brain sitting here listening to 22 this. 23

MR. SCHULER: Yeah, and this is Alan. The simple answer to that is for the one hour NO2, one hour S2 as well, the answer

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is yes. EPA provides flexibility for how to deal with those 1 intermittent operations. You know, they are looking at a longer 2 They aren't looking at a single exceedence or a single 3 term. 4 perturbation, if you will, to drive everything off of that. They're acknowledging that the probabilistic standards they're 5 б looking at are more normalized or typical operation and that's what you're based off of. And so there's various ways to handle 7 these unusual perturbations. And so we haven't worked through 8 9 all those details in this context. We have for other types of intermittent operations, emergency generators, that type of 10 situation. So there may be some modeling options out there that 11 12 we have not fully explored yet.

MS. EDWARDS: Thanks, Alan. That was helpful, at least 13 helpful to me anyway. So we're about an hour in now. Do 14 15 members of the group have other thoughts or things that they would like to talk about or bring up for the subgroups to look 16 17 at or consider? I'm just trying to figure out. It seems like we're having a pretty good -- we've had a pretty good discussion 18 here today and I'm hoping everybody's feeling like they kind of 19 have a feel for what's going on now in the background. 20 But are there other things that people would like to talk about or raise 21 or have the subgroups -- make sure the subgroups are focused on? 22 MR. KINDRED: This is Josh Kindred from AOGA. One thing I 23 was going to mention is that during our two options subgroup 24 meetings it appeared to me that -- not that this was necessarily 25

the catalyst, but there was a industry proposal that I quess 1 serves as a basis for these two subgroups to work. However, as 2 we've had discourse in the options subgroup we haven't really 3 4 discussed the merits or lack thereof of the industry proposal and it seems to me that we may benefit in the long run by using 5 6 that as the template and if we decide that it's deficient in one way or the other try to address it there as opposed to what 7 we've been doing which is trying to create different 8 9 possibilities in the dark of what regulations may look like. Now I'm not suggesting at this point in time that we know 10 whether or not the industry proposal is sufficient moving 11 forward, but it does seem to me that there may be some benefit 12 from using that as the starting point or the template and evolve 13 from there. 14

MS. EDWARDS: And Josh, this is Alice. But I think we've 15 already thought that that was -- that we would at least want to 16 17 work through that whole proposal and make sure we understand it and make sure as the data's coming in to see how well it would 18 work. So I don't know that I -- I don't -- I wouldn't say that 19 I disagree with you in that respect. I think that was the idea 20 was to get the information back on a number of pieces and then 21 start working through the industry proposal to see how well it 22 was going to fit within the frameworks of -- framework in 23 24 process that we would have to go through to change the program at the state side, but also just to make sure it will work and 25

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meet those requirements of the Clean Air Act. And so I think --1 I don't -- I think that that's my understanding of what we are 2 starting with, although clearly there's a lot of different ways 3 4 that -- I mean clearly we have the existing program, clearly we have an industry proposal and in my mind there's probably many, 5 б many different things that we could look at. And you're right, we could go down -- change a lot of radicals. I think it's 7 always been my thought that we at least work through that 8 9 industry proposal for sure just to see whether it could work or 10 not.

MR. THOMAS: Alice, this is Brad. To follow on what you 11 12 and Josh just said, the industry proposal was not the kind of thing we talked about today. Today we talked a lot about it 13 seems like how to redefine, salvage an existing permitting 14 15 program and that's not the industry proposal. So we've got the industry proposal on the table. And I -- Josh, I don't want to 16 17 put words in your mouth, but it seems like, you know, we make a decision on that proposal first to see if it'll work or not and 18 then if not then we look at how to redefine or salvage a 19 permitting program. Because, you know, the idea of redefining a 20 permitting program or somehow making a permitting program work 21 for drill rigs, you know, when you listen to some of the things 22 that Alan suggested they may well work, I don't know, but it 23 would be very complicated, very time consuming, complex and at 24 the end of the day we'd still have a permitting program, one to 25

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which we would have to return in five years when the ambient air
 quality standards change again.

MR. KUTERBACH: So -- this is John Kuterbach. So basically any kind of permit program is off the table as far as industry's concerned?

6 MR. THOMAS: You know, John, that's a pretty hard way to 7 put it.

8 MR. KUTERBACH: There's no possibility of us doing 9 modeling or any sort of a permit related program.

MR. THOMAS: You know -- this is Brad again. John, I can't tell you what you can and can't do. It's my opinion, it's our opinion that a permitting program is superfluous. You know, we think there's a better way.

MR. KUTERBACH: Well, I'm just -- I'm -- Brad, this is 14 15 John. I'm just trying to understand the concept of the workgroup here. I thought we were working at a way to allow 16 drilling to go and just -- on and to solve the problem that you 17 identified with the short term emission standards. Now if 18 that's not the purpose of the workgroup anymore and really the 19 purpose of the workgroup is just to get rid of the permitting 20 program here I'd like to understand that and get buyoff from the 21 rest of the workgroup. 22

MR. THOMAS: Well, the proposal we gave to you guys, I think it was in September, is what we're working from and that's the thing we thought we were actually working on with these

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1 options and technical subcommittees.

MS. CASTANO: And to rephrase it a little bit. This is 2 Alejandra. It -- the remit was to work on a sustainable 3 4 solution. Whether that was a different permit scheme or no permitted scheme at all, that wasn't determined at the 5 б beginning. That was the remit of the workgroup as -- at least as I understood it. The proposal we've put together is based on 7 the data that we've seen that we believe the permitting is 8 9 unnecessary. But I think that's what we were trying to get at in saying let's discuss that proposal first and see if we can 10 get to at least a -- use it as a starting point and see what we 11 12 can agree and disagree on, on that.

Thanks, Alejandra. So this is Alice, 13 MS. EDWARDS: obviously. You know, I think we're working through the industry 14 15 proposal. I don't see that as being a problem. I do think that this group -- I mean it's one thing to be working through a 16 It's another thing to shut down all other options. 17 proposal. And clearly we do have a program in place. Clearly if we decide 18 that we're going to move forward with the industry proposal, 19 some iteration of the industry proposal or something else we 20 want -- I think Alejandra put it correctly. We want to come up 21 with something that's sustainable that's going to work that 22 addresses the issues that have been raised. That's my 23 understanding of what we're trying to do here. So I'm hoping 24 that in the spirit of this group that that's what everybody is 25

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willing to do. But we still have a lot of work to go on looking 1 through the technical pieces and trying to sort that out and I 2 know when we talked in the options group at the last meeting 3 4 that we talked about the fact that when we do these revisions to our regulations or our SIP or whatever we decide to do, whether 5 6 we agree that we're going to move forward in a completely different direction, if we're going to modify the program we 7 have or do something in between we are going to have to 8 9 demonstrate through monitoring and modeling that this program is going to be -- that it's going to work, it's going to meet the 10 Clean Air Act and it's not going to demonstrate that we're going 11 to have violations both now or in the future. So we have 12 aspects of this that we are going to have to go through to make 13 the -- to make any changes. So we -- I hope everybody will keep 14 15 that in mind.

MR. KINDRED: Alice, this is Josh Kindred from AOGA and I 16 17 didn't mean to suggest that it was a sort of deal or no deal I think my fear all along has been, you know, 18 type proposal. our endeavor is to ensure or give some peace of mind to federal 19 or state agencies that ambient air quality standards are being 20 met, but at the same time create a program that is less likely 21 to frustrate production and development. And so the -- on the 22 back end of that I think the fear -- my fear has always been 23 that we will substitute a current system that is -- frustrates 24 25 development and production with an alternative system that may

seem on purpose to be better, but ultimately leads to the same 1 types of problems. So I didn't mean to suggest that it was 2 either the industry proposal or nothing, but the ultimate goal 3 4 of the industry proposal at its very basic level is to create a system that both encourages production and development but at 5 the same time provides safeguards to the State as far as ambient б air quality standards are concerned. So I didn't mean to 7 suggest that it was an all or nothing proposition, but that is 8 9 from industry's perspective our fear, that we are going to substitute the current system for something that may be just as 10 arborous, if not more so. 11

MS. EDWARDS: Thanks, Josh. So I feel like we've stepped back and evolved a little bit and now I'm hoping we're going to build back again here. So....

MR. THOMAS: No, we're still -- we're all still Kumbaya.
 MS. EDWARDS: It's hard, I can't see the body language in
 the room, so I apologize.

18 MR. THOMAS: Tom sees me smile. We're all good.

MS. EDWARDS: I do think -- I mean I think we're ultimately -- hopefully I think we're all okay. I just think we need to continue the process of looking through this data and then working through the industry proposal and seeing where it takes us, where it leads.

24 MR. THOMAS: Yeah.

MS. EDWARDS: And we can go from there and I don't know

1 where we're going to end up, but.....

2 MR. THOMAS: No, this is Brad. That -- I'm sorry, Alice. 3 Go ahead.

4 MS. EDWARDS:(indiscernible).

5 MR. THOMAS: I trampled on you, Alice. I'm sorry.

6 MS. EDWARDS: That's all right, Brad. Go ahead.

7 MR. THOMAS: I was just going to say that I think this is 8 the kind of frank conversation we got to have. So the 9 questions, the issues John raises are valid and we got to work 10 through them. We have our view, I have my opinion on what a 11 good regulatory program would look like and, you know, it's a 12 rare occurrence, but I may be wrong.

13 UNIDENTIFIED MALE: That never happens.

14 MR. KUTERBACH: It's not that rare.

MR. THOMAS: So it's -- you know, yeah, we got to work 15 through it because at the end of the day, Alice, you're right, 16 17 what we come up with we've got to -- it's got to pass muster with the public and with EPA. And that's fair and that's one of 18 the reasons why I'm willing to stake a lot on the ambient 19 monitoring data and continue to fight the fight to keep 20 collecting it. Because I think it's powerful and I think it 21 does tell the story that -- you know, it paints an accurate 22 picture. 23

MS. EDWARDS: Thanks, Brad. So we know we've got a technical group coming up. Alan, what was the date for the next

1 technical group call?

2 MR. SCHULER: February 20th.

3 MS. EDWARDS: The 20th?

4 MR. SCHULER: Next Thursday.

MS. EDWARDS: Okay. So we've got the technical group's 5 6 going to meet again on the 20th and the options group is planning to meet again on the 6th of March. So I think the work 7 goes on, at least this is my perspective. So the work's going 8 9 on. We'll keep moving forward. What does the -- what's the wishes of this group? Do you want to set another meeting a 10 month or so out or -- and check in and see how the groups are 11 doing? What would you like to do next? 12

MR. THOMAS: You know, Alice -- this is Brad again. I'm 13 going to go totally off the rails on you here. And Randy 14 15 Kanady, this is a conversation you could participate in and this builds on what we talked about yesterday, so stop me if I'm 16 17 going even farther than what you want me to. But we can -- you know, we can design and begin collecting -- design a study and 18 begin collecting data around a drill rig as soon as May to, you 19 know -- you know, where you guys could actually help locate the 20 station on a pad, define some parameters, define some data to 21 collect and we could, you know, fill any gaps that you guys see, 22 you know, as soon as within a couple of months. Because again, 23 I go back to this ambient data. It's powerful and where you 24 have reservations or concerns let's start filling that right 25

1 now.

25

2	MS. EDWARDS: So, Brad so you're thinking you would be
3	willing to try and work to set up a monitoring some sort of a
4	monitoring study around an operating drill rig and try and
5	collect some additional data specific to this modeling question.
6	MR. THOMAS: Or monitoring question, yeah.
7	MS. EDWARDS: Or monitoring question.

8 MR. THOMAS: Yeah.

9 MS. EDWARDS: I mean I think that's a -- could be a very good idea and -- but I would want to try and defer to the 10 technical folks on that issue because they probably would have 11 some ideas. They would be the ones that would probably want to 12 work to figure out what the details of that would be and what 13 gap it might be closing since I don't know the details of all 14 the data that's out there. But I think that would be a great 15 thing to do if it will help close some of the data gaps. 16 That's my -- that's just my personal opinion. 17

MR. KANADY: Yeah, this is Randy Kanady. I think, you know, Brad was just offering up a preview of an agenda item we'll be discussing in our next technical workgroup. So absolutely, Alice, we'll be working -- we'll be putting this to the -- to workgroup. It's something that we just recently got approval internally from our management on and we're going to be progressing it here over the next several months.

MS. EDWARDS: Thanks, Randy. I think it's -- I mean to me

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1 that's really great news because I think that -- my guess is
2 that this could really be helpful in maybe perhaps filling some
3 data voids.

MR. BROWER: 4 If we're going to -- this is Gordon Brower. If we're going to have that help fill data gaps and monitoring 5 6 and actual drill rig emissions and -- I think we should have an opportunity to visit the drill rig in question and be around at 7 least one time. You know, I often take a entire planning 8 9 commission to -- for a rezone project or something like that for something they're going to change status from -- land status for 10 large scale development proposals to go through saying go see 11 and -- the site. And you are going to be transforming the 12 landscape here indefinitely and you're going to be making this 13 recommendation to the North Slope Borough Assembly to make those 14 15 types of changes. So putting boots on the ground as decision makers was a -- sometimes a very important aspect of doing some 16 17 of this stuff.

MR. KANADY: Gordon, yeah, this is Randy Kanady. 18 Absolutely, we can certainly work in a fieldtrip and -- well, 19 it'd have to really be after this -- the winter construction 20 It is extremely busy up on the Slope right now with CD-21 season. 5 and the SCP waterline, 30 inch waterline construction. So 22 it'll -- you know, we can work towards that, but it'll have to 23 be into April or May before we can make that happen. Which will 24 -- well, I guess yeah, we need to kind of -- I don't know if we 25

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-- you guys want to take a look at the monitoring station as
well, but yeah, there's a number of possibilities out there that
we can work towards.

4 MS. EDWARDS: Great. Thanks. So coming back to my -- one of my questions was when -- so if we've got a couple meetings 5 б coming up does this group want to get together again in the March timeframe or do you want to wait until April? 7 I'm thinking maybe April to let the groups have a little bit more 8 9 time to move along, but I want to see what you all think because it's -- we can meet again in a month or we could meet again in 10 six to eight weeks. 11

MS. CASTANO: Alice, this is Alejandra. I think we've been kind of nodding our heads over here. Since the technical group, we still don't know what the timeline is for reviewing all the data it's kind of hard to make a decision on that now, but I'm thinking maybe April might be -- early April might be a better date because we might have actually more to discuss at that time.

MR. THOMAS: And this is Brad. To echo that, it gives the technical workgroup a lot more time to flush out some of the stuff that we've been talking about here today so that instead of us talking about, you know, five, six, seven, eight different ideas, you know, you're -- the big -- the larger working group will have a few recommendations rather -- just work through. Hopefully.

MS. EDWARDS: Okay. It sounds like maybe we've got some 1 consensus around early April. I can have Jeanne and Tom send 2 out a poll to the workgroup members to see what timeframes would 3 4 work best in the first half of April for another meeting. And we can decide amongst -- we can -- we've got a little of time, 5 б so we can decide whether we want to try and do that one in person or whether we can do that like we did this one, by 7 But we always can do the webinar option if people webinar. 8 can't travel, but hopefully, you know, we can decide whether --9 what the agenda's looking like and maybe we can do it face to 10 face if that makes more sense. Mike, does that timeframe work 11 12 for you?

13 MR. MUNGER: That will work, Alice.

MS. EDWARDS: Mike. That would work for you? Okay.
MR. MUNGER: Yeah, can you hear me? Yeah.

MS. EDWARDS: Yeah. Okay. And Josh, would that work for you?

MR. KINDRED: Yeah, the end of April I'm not available and as soon as we can determine meeting dates it really does help with the planning. You know, I think everybody here has other jobs too, so.....

MS. EDWARDS: Yeah, exactly. I always figure the earlier we can lock those in the easier it is for everybody, so we'll get to work on that right away. And Josh and Bill, do those -does that sort of timeframe work for you guys?

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1 UNIDENTIFIED MALE: Yes, ma'am.

2 MS. EDWARDS: Okay.

3 UNIDENTIFIED MALE: Gordon, (indiscernible)?

MR. BROWER: Yeah, I'm -- for me, Gordon, I got a broken arm, so I can't go on any annual leave, so I'm stuck to my desk for about six months. So I'm ready to go to all the meetings. If you want to have them once a week I'll come in once a week. MR. TURNER: All right. Alice, we'll go ahead and send out a survey and hit the workgroup members and send that out and look for the first -- before April 15th, before tax days.

11 That's Tom speaking.

12 MS. EDWARDS: Okay. Does anybody else have any thoughts for today? I know we've only used about half our time, but I 13 think we covered a lot of ground and hopefully everybody's got a 14 15 feel for what's going on, like I said, behind the scenes in the subgroups. And those of you that are participating on the 16 17 subgroups, I do want to thank you all for that effort because I know it's taking some time and I appreciate that. All right. 18 Well, not hearing any other thoughts are good to adjourn, 19

- 20 everybody okay with that?
- 21 MR. THOMAS: Yeah.
- 22 MR. TURNER: Yeah.

MS. EDWARDS: All right. Well, thanks everybody. We'lltalk to you soon.

25 UNIDENTIFIED MALE: Thank you.

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