ASRAC COMMERCIAL UNITARY AIR CONDITIONERS WORKING GROUP MEETING

JUNE 10, 2015

A P P E A R A N C E S

Karim Amrane, Ph.D.

Mary Anderson

James Battaglia

David Branson - via webinar

John Cymbalsky

Andrew deLaski

Jim del Toro - via webinar

Chris Granda

Jill C. Hootman

Long Huang - via webinar

Marshall Hunt

Diane Jakobs - via webinar

Michael Kito

Steven Maddox - via webinar

Michael J. McCabe

Sam McClive - via webinar

Charles McCrudden

Karen Meyers

Nicholas Mislak

Raquel Neto

Javier Ramirez

Mike Rivest
Greg Rosenquist
Harvey Sachs, Ph.D.
Amy Shepherd
Michael Shows - via webinar
Louis Starr
Rusty Tharp
Meg Waltner - via webinar
Detlef Westphalen
Robert J. Whitwell
Linda Wilson - via webinar
Dave Winningham
Sami Zendah

AUDIO TRANSCRIBED BY KYLIE S. SHEPHERD

P R O C E E D I N G S

MR. RAMIREZ: All right. Is everyone just about ready to go? All right. Let's go ahead and get started. And we're going to get started with introductions, just for the record.

Javier Ramirez with Federal Mediation

MR. HERMOSILLO: Isael Hermosillo with FMCS.

MR. WHITWELL: Bob Whitwell with Carrier.

MS. HOOTMAN: Jill Hootman, Trane.

MR. MISLAK: Nick Mislak, AHRI.

MR. THARP: Rusty Tharp with Goodman.

MR. SACHS: Harvey Sachs, ACEEE.

MS. MEYERS: Karen Meyers, Rheem.

MR. WINNINGHAM: Dave Winningham, Allied Air.

MR. STARR: Louis Starr, Northwest Energy Efficiency Alliance.

MR. HUNT: Marshall Hunt, PG&E and California IOUs.

MS. ANDERSON: Mary Anderson, PG&E, California IOUs.

MR. deLASKI: Andrew deLaski, Appliance Standards Awareness Project.

MR. McCRUDDEN: Charlie McCrudden, Air Conditioning Contractors of America.

MR. ZENDAH: Sami Zendah with Emerson.

MR. KITO: Michael Kito, DOE.
MR. CYMBALSKY: John Cymbalsky, DOE.
MR. ROSENQUIST: Greg Rosenquist, LBNL.
MR. LAU: Chris Lau, Navigant.
MR. RIVEST: Mike Rivest, Navigant.
MS. NETO: Raquel Neto, Navigant.
MR. BATTAGLIA: James Battaglia, Navigant.
MR. AMRANE: Karim Amrane, AHRI.
MR. McCABE: Michael McCabe, consultant to Trane.
MS. SHEPHERD: Amy Shepherd, AHRI.
MR. GRANDA: Chris Granda, ESAP.
MR. RAMIREZ: I'm sorry -- Detlef, you want to -- for the record?
MR. WESTPHALEN: Detlef Westphalen.
MR. RAMIREZ: And then online we have Diane Jakobs --
MR. WESTPHALEN: Detlef, Navigant.
MR. RAMIREZ: Sorry. Online we have Diane Jakobs, Jim del Toro, Linda Wilson, Long Huang, Meg Waltner, Sam McClive, Steven Maddox, and Dave Branson.
All right. So let's get rolling into this. I'll open up the floor for the industry group to share with us what they've been working on.
MR. THARP: Rusty Tharp with Goodman. So let me

get back over here to my notes. First, we want to thank everyone for waiting. I know we said we were going to start at 9:30, and it's an hour late.

We've done an awful lot of talking, we did gather early and have been discussing further the information provided for, I would say, about three hours this morning as well as some time last night.

I want to thank Navigant for the work that they did in providing us some information on some of the options. We want to, again, as everyone's aware, note that this, regardless of the outcome, this will -- I think it's our understanding it will be the second largest reported estimated savings in DOE history. So I've got -- this is the biggest?

(Off-the-record conversation.)

MR. RAMIREZ: Bob just had a few grimaces on his face, but it's off-the-record banter. Okay.

MR. THARP: Okay. So actually I have 12 points. Number 1, it's the second large -- first -- it is the largest in history.

Number 2 is that part of that is the ventilation energy. And so we think that, just the fact that we're including in ventilation energy is a give from the industry standpoint as we discuss these options. Reading from the statute 42 U.S.C. 6311, definition 3, the term

"energy efficiency" means the ratio of the useful output of services from an article of industrial equipment to the energy use by such article determined in accordance with test procedures under Section 6314 of this title.

So we believe that it's a pretty significant give to, at this point, be including ventilation energy in the analysis in total.

Item point number 3 is the energy model that's being used is the blast model. We feel it's an antiquated software that's not available today. Our preference would be to use other software that is used in other understanding Pro Energy Plus is what DOE is using and other programs internal to DOE, maybe not EERE. There's not much transparency -- not as much transparency as we'd like to see in that modeling.

Point number 4, there's the economizer operation, economizer failures is another area where industry feels that we're giving in this inclusion.

Number 5, the product life. We don't necessarily agree with the changes that were made to the product life, but we're going with it. That's a give on our portion.

Number 6, the external static pressures where we've jacked everything up to the higher values across the board. Whereas we feel that as high as a third of

the models are actually installed in big box style store operation where the actual operating could even be less than the test external static.

Number 7, we think that we're giving in the shipments forecast. If you look at the shipment history in the last decade and a half, it's relatively flat. And be it the shipments forecast is projected to increase over the next 30 years, we don't think that that's necessarily accurate.

The base economic models that are given as far as the retaining operating profit, operating margins, we don't think that those are realistic as to what happens in the world today, that's number 8.

Number 9, the employment levels, even after the adjustments that were made, are still measurably off by a factor of 2 to 3 still. So that would -- leads to much greater impact than what would be estimated.

Number 10, our operating margins were single-digit operating margins in this industry, and we're taking it down to even significantly lower levels. And when you're -- when you're talking of going from a 9 percent operating margin to a 7.1 percent operating margin, that's -- which was our, you know, so our proposal was basically cutting our operating margins by almost 20 percent.

Number 11, the product -- and this is something that was discussed last night, verified with Navigant -- that the product cost estimates that are given for each specific level are based on the base case shipments. And the reality is, as shipment volumes decrease, component parts, raw materials, are going to increase.

So if we chose a level where, if today's base case volume is 100,000 units per year, everything we're buying is based on 100,000 units per year. What's costed in the event that the shipments go down 75 percent or by 25 percent is that we're still buying 100,000 units per year. But in reality, we're going to be buying 75,000 units a year, and so all the parts are going to cost more for that level. And that metric is -- that delta is going to get larger as the EL level goes up. That is not taken into account in the current analysis.

There's been a lot of contraction in our industry. One of the things we want to point out is just that recently GE has gotten out of the business of white goods. So here's a major company, major company that's getting out of an industry because it's, you know, who knows the exact reason why, but it's probably a significant portion of it.

How do I just -- myself, I've worked for six different companies, but three of those other companies

bought the other three. So in reality, I've only worked for three companies. But that happens, you know, so companies buy each other. My company was actually bought by -- so I work for Goodman, which was purchased by Daikin a couple of years ago. So this contraction is -- is real.

So that said, in responding to the advocates last counter-offer, on the furnaces, we agree to the -- the 81 percent. I guess we think that's not necessarily a give. It is -- 81 percent is really what the numbers say where it should go. And that 81 percent would be going into effect with the air conditioning time frame.

On -- we agree to the EER where AHRI commits to continue its process of verifying the values that are submitted to AHRI by its members.

Third point, on the test method, we agree that there should be a -- some time frames set on the test method revision to include modifying the IEER for ventilation energy. We agree that starting by January 1st of 2016 is good. We do think that with the total process, everything else going on, that January 1st of 2019 instead of 2018 would be a target completion date.

Along with that on the test method, Sub-point A is that we think that these products that we're discussing now, the CUACs and CWAFs, should be not

included in the commercial industrial fans and blowers.

Sub-point B on test method is that we would add in that we will work with -- we will try to push -- once that test method is complete, we will try to work with ASHRAE and everybody at this table to get that metric included in ASHRAE 90.1.

On the phase 1, we have pretty much agreed that that goes into ASHRAE 90.1 values in 2018 that there's no change there. So then as we get to the big kahuna here on the phase 2, we'd like to point out that, you know, our initial offer was 12.2, and while the advocates position is as stated is that the 16.3 of EL-3 was sort of the target, for all of the reasons we discussed mentioned a minute ago, we really don't think that that's the best target to be basing things off of. But note that the advocates came down 0.9 quads, and our counter is coming up, I believe it's 1.3 quads.

So we propose to keep the values to go in effect in 2024, that the small equipment would be at 2.5, which is the same as our prior offer, and we would move the large up to 3.0. We will move the very large up from 2 to 2.5, and that gives -- with 2024 implementation -- that gives 13.5 quads of savings based on the information that Greg has provided.

So as we talked -- so we've done an awful lot of

talking. In reality, there is not full consensus, there's not unanimity, and I have to reword that word, unanimity within the industry. But there are manufacturers willing to live with that.

So I guess at this point, turn to my members to add in anything -- anything that I might have missed or any additional comments from industry before we take any questions.

MR. WHITWELL: Yeah, thanks, Rusty. This is Bob Whitwell from Carrier. So just adding to what Rusty said, there -- we see that the analysis, although we've worked over the last month or so to improve it, there are still lots of concerns that we have with the analysis. And in the end, the -- the quads, there's -- they're not -- it's not precise. There's some directional -- we can take it as a directional value or indicator of direction.

There's huge savings as you pointed out, 13.5 quads is -- is a huge number. I don't know if it's number 1 or number 2, but anyway, it's a huge number. So just wanted to add that that, you know, we're not looking at precise precision as we look at this analysis and the quad savings. So just keep that in mind, you know, as you think about our proposal.

MR. deLASKI: Just one clarifying question,

Rusty. When you say the -- I just can't follow your math -- the advocates, I don't understand your claim the advocates came down .9 quads.

MR. THARP: Okay. Well, that came from the offer yesterday was 15.4 quads; is that correct? And the TSL-3 from the sheet yesterday is 16.3.

MR. deLASKI: Yeah, we were at 19.6. Our last offer was TSL-4, so I had a little different math than you.

MR. THARP: So that .9 wasn't from the prior offer, that was actually from the TSL-3. So that's the delta there. So thank you for clarifying that, I apologize for that statement.

MR. deLASKI: Just to restate that, our offer yesterday, compared to where our initial offer was, is a reduction in savings of 2.4 quads in the analysis, subject to the uncertainty that Bob rightly points out.

MR. SACHS: This is Harvey. And it's really a tangential issue, and I very much appreciate your bringing up all the sources of uncertainty.

It's my understanding from the press that General Electric's decision is one of two strategic moves; one to reduce its exposure on the finance side where you've been a very major player, and the other is to move entirely out of consumer goods into industrial

goods to return to its original -- an original focus on industrial goods. And that industry is vastly more consolidated than -- than your industry.

So I think recognizing the consolidation that has happened in this one, I -- I still just want to clarify that I don't think GE suffered a -- a lack of arrogance -- self-confidence that it could compete in this industry that it no longer fitted the new CEO's strategic direction.

MR. deLASKI: And of course, we probably shouldn't talk too much about GE since it seems a little bit far out of field. But Electrolux, who's purchasing the company, is no shrinking violet.

So I suggest that we need -- we should caucus, unless there's other clarifying questions or --

MR. CYMBALSKY: I had one, this is John from DOE. You mentioned the fans and blowers in -- as a sub-bullet to the test procedure action. I guess I wasn't clear exactly how your words lined up with the test procedure for the follow-on work here.

MS. HOOTMAN: So if we're going to change the test procedure such that we're including something for fan and fan energy, we don't feel it needs to be double-regulated, nor double-counted, nor regulated under commercial fans and blowers. It would be a system metric

that would include fans. And so therefore, it should not be covered under --

MR. CYMBALSKY: So your --

MS. HOOTMAN: -- commercial fans and blowers.

MR. CYMBALSKY: Your request is per action in a different docket if I'm understanding that; is that correct?

MS. HOOTMAN: That's correct.

MR. CYMBALSKY: And in a docket that would conclude prior to this thing even kicking off?

MS. HOOTMAN: Possibly. Not a working group, but the docket would, yes.

MR. CYMBALSKY: Yeah, so I --

MS. HOOTMAN: But some of the very same people are in that one.

MR. CYMBALSKY: No, I get that. But I don't think anyone at this table's prepared to agree to that. I'm just going to state that up front.

MS. HOOTMAN: Well -- well, we're not -- we would be --

MR. CYMBALSKY: It's a different --

MS. HOOTMAN: We would be very hesitant in opening up that test metric and including that fan energy if it looks like it's going to get also regulated --

MR. CYMBALSKY: So I don't --

MS. HOOTMAN: -- under commercial fans and blowers.

MR. CYMBALSKY: We don't want to double-count anything. Let's -- I want to be clear about that.

MS. HOOTMAN: But if I'm going to pull that fan out and I've got to test it in a separate metric --

MR. CYMBALSKY: Right.

MS. HOOTMAN: -- I have way more increased test burden, and I design my units completely differently now. So I don't know that I'm at the table any longer for changing the test metric.

MR. WINNINGHAM: And this is Dave at Allied Air. To that point, John, then we need to go back and really take a look at, we're taking many of the things we've done here, as far as including ventilation air, including increasing the static pressure out of this energy savings.

MR. CYMBALSKY: No, so I think -- so I think we've -- we're doing stuff here that's going to impact the other docket. I guess that's the point I'm trying to make.

MR. SACHS: This is Harvey --

MR. deLASKI: From a process point of view, I mean, what I -- the problem is that we don't have -- this committee doesn't have portfolio.

MR. WINNINGHAM: No, but there are --
MR. deLASKI: Now, there's overlapping membership.
MR. WINNINGHAM: -- overlapping membership, right.
MR. deLASKI: There are many people that are in that working group that are not in this working group. So I -- you know, we'll caucus, you know. But I'm not going to --
MS. HOOTMAN: I think if this -- if these members went to that section, went to that group and also supported it, it would be a done deal.
MR. SACHS: Okay. This is Harvey. I'm interrupting, I do that once in a while.
It seems to me that this can be resolved through contingency language, which basically, in the term sheet says these organizations and those they represent believe that this is a good idea and commit to working toward that end if that eventuates in the fans reg/neg, then this is released to go forward on the -- on the test measure.
So it has a contingency that allows us not to feel either committed to the IEER revision under all circumstances or otherwise get locked in. So that would be my suggestion is just trying to -- if that would be

acceptable as a way of resolving this thing.

MR. deLASKI: So I think our groups should talk before we go any further. What I don't know -- and maybe this is a question -- so you've introduced the feature that we all knew going into this that there was this overlap between these two discussions, these two working groups, and you've now explicitly tied them. So here we are.

So I don't know whether the department, which is at this table, could even accept such a recommendation. And I don't know -- so I think that was John -- what I'm hearing underneath of John's remark. So whether ASRAC, the parent committee, we're going outside of our -- we would be going outside of our assigned portfolio.

So is there a mechanism to do that? I don't even know. But let us talk and then we'll -- we'll get back.

MR. RAMIREZ: Andrew, just for the folks online, about ballpark, how much time do you think you need?

MS. MEYERS: So -- but before we end, you know, the last working group that I participated in was enforcement of regional standards, and our whole terms sheet was contingent upon the test procedure guidance being released by DOE that would clarify how you rated a product.

So I don't know why you think we can't tie this contingency, as Harvey said, to our terms sheet. We've done it in the past. I think we did it even an AEDMs, although I can't remember the specific issue. But we have done this. We have tied a term sheet based upon a contingency. These things are moving at very close to the same pace, so I -- I think that we can definitely put a contingency on the terms sheet.

MR. deLASKI: Half an hour.

MR. RAMIREZ: Thank you, Andrew. So we'll be back at quarter after.

(Recess taken.)

MR. RAMIREZ: All right. This is mainly for the folks online, but also you all as well. But they -- it looks like they're going to try to get a proposal and they want to have it to you all before lunch.

The timing on that, I'm not exactly certain, but maybe about another 15 minutes. So hang out, as soon as they give it to us, then we'll have a working lunch. Then we can break then. Okay? Thank you.

(Recess taken.)

MR. RAMIREZ: All right. Let's go ahead and get started back up here. And I understand that the advocate group is ready now to present a proposal. And Andrew, we were told that you were out there polishing it up so that

you could do as good a job as Rusty did in presenting his, so let's --

MR. deLASKI: Three hours.

MR. RAMIREZ: All right. So Andrew, whenever you're ready.

MR. deLASKI: Okay. So thank you, and thank you to the industry caucus for your counter-proposal this morning. And I appreciate that, you know, it's a difficult process for you to improve your offer.

And Rusty, I'm not going to try to go back through your list of, what did you have, 11? You were counting them off --

MR. THARP: 12.

MR. deLASKI: A dozen, not a bakers dozen, but a dozen. You know, and I think we're at the point where we're accepting the analysis with all of its warts as a basis for negotiation. And, you know, if we don't get the consensus, we'll continue to slug it out over that and DOE will make their decision.

I'm pretty confident that the analysis will support a standard at least as strong as the NOPR in 2019, and maybe better. So that's kind of where I'm personally at, what I -- you know, tea leaves, as I've said, there's lots of different factors out there. There's threats of litigation, there's threats of going

to the hill, you know, be that as it may, that's not what we're here to negotiate.

So we think the analysis is a reasonable, we think it's done as DOE analyses are typically done in terms of taking into account the actual field energy consumption as opposed to consumption under the test method and has been the case for 30-odd years. I shouldn't say for 30-odd years. I should say for as long as I've been doing it, since I don't know the experience before then as closely, which is 15.

So I think the analysis is a good basis for this discussion, and I think we all accept it as a basis, imperfect as it may be for this discussion, this negotiation.

You know, we came into this discussion -- into this negotiation, you know, as I described yesterday, looking for ways to get to win-wins. Right, outcomes that are better for industry, we do share costs, but yet still deliver, you know, the benefit that we would expect from the NOPR.

And, you know, it's a better way to get to the public policy objectives of energy savings and the national economic benefits, the energy system benefits, the CO2 reductions and other environmental benefits that come with the standards if we all can get around a table

and, you know, shoot for that target, but do it in a way that is going to be less burdensome from industry than if DOE did it on their own, right, that's why we've been working at.

So that continues to be our framing for this in how we approach this task. So let me -- so we'll respond to your -- to the point starting in the same order as you presented them.

On furnaces, I think we've got a consensus tentative to the overall package, and, you know, the thing that you all outlined for us from our very early meetings was a desire to align effective dates. And we've heard energy has a lot of testing burden on furnaces, it's a tough-to-test product, and a tough to, you know, so I think the additional time on that product is something that I -- I believe that you value and that we believe has been an important development in this negotiation to align those -- that date with the late -- with the phase 2 on air conditioners.

On EER, I think we have consensus there. There's been some wordsmithing Marshall shared around some text there. I think we're at the point of trying to get down to the words down to what will be the specific phrasing in a terms sheet. But you all have seen that, Marshall shared -- I think it went around.

MR. CYMBALSKY: I'm sorry, this is John. For some reason, I'm not on his e-mail list. So I haven't -- I actually didn't get that.

MR. deLASKI: You don't know a lot, then.

MR. CYMBALSKY: But I did -- I did take what Marshall wrote and rewrote it in DOE acceptable words.

MR. deLASKI: So we hope that you'll consider that language and that would be our proposed proposal on how to tackle that.

MR. WINNINGHAM: Don't want to interrupt here. We have some questions around that, but we can talk about that following.

MR. deLASKI: Okay. On the test method, we do want to see this test method completed in a timely way. We think it's important that it get done sooner rather than later as I expressed yesterday.

However, we also want it done right, so we can accept your notion of doing -- having that -- so the framing would be that DOE shall initiate a rule-making by next January and shall complete it, issue a final rule by January 1st, 2019. So we're accepting your proposal for a year more time for that.

Let me skip over fans and blowers for a moment. With respect to -- we had a clarifying -- a question for you to clarify, which is, you said as your item 3B, at

least the way I number it, test method B, that you would work to get the metric into 90.1. So I guess we wanted a little more clarification for you, what you had in mind there and what your objective was.

MR. THARP: You want that now?

MR. deLASKI: Yeah.

MR. THARP: So the idea would be to -- whatever procedure, whether it's a combined metric or a separate metric, whatever comes out of that -- although most of the industry is in line with a single metric for mechanical cooling and ventilation energy.

So whatever that would be, maybe we come out with IEER Sub-B or something of that nature. Whatever that metric would be, we would try to get that into ASHRAE 90.1 so that there would be some requirements in 90.1 for especially for new buildings, so that that would be semi-regulated for the building code aspects sooner rather than later.

Because, as what we discussed was that the intent long term would be for this revised IEER, IEER Sub-B would be what would be discussed at the next rule-making for CUACs. But we would try to get that implemented sooner via ASHRAE 90.1.

MR. WHITWELL: Like we did for IEER? Okay.

MR. deLASKI: Well, that -- it raised the

question for us, you know, introducing the ASHRAE topic. And Marshall, do you want to follow up with your -- your question?

MR. HUNT: Yeah, this is Marshall Hunt, PG&E. So for being able to do any kind of simulations and for building code, EER is very, very helpful.

Right now, ASHRAE does have an EER/IEER pair, as was clarified, so I don't know what's going to happen in the future. But I don't want to tie our hands that we might -- I would -- until convinced otherwise, I would want EER and IEER, whether it's A, Sub-A or Sub-B.

MS. HOOTMAN: We would still leave EER in there.

MR. HUNT: Thank you.

MS. HOOTMAN: EER would always be in there in ASHRAE. This would be just redefining IEER just like we went from IPOV to IEER. And that before that was ever defined by the government, this -- you know, that would go to IEER Sub-B, it would be accepted by building codes, it would have early adoption, essentially on the new construction site before DOE would likely come in with a regulation beyond what we're negotiating here.

MR. HUNT: Thank you.

MS. HOOTMAN: So what it's saying is that there's a transition period and you would have some priming of the pump, shall we say.

MR. HUNT: Well, that priming of the pump is what we call code-readiness, and we've put millions of dollars into the upstream rebate programs and really want to keep doing that. We get strong support from public utilities commissions, so thank you.

MR. deLASKI: Okay.

MR. THARP: Does that mean you accept 3B? Or --

MR. deLASKI: Yeah, I think, you know, subject to wordsmithing, you know, to make sure we address Marshall's concern.

With respect to sort of the overall three, the test methods, we have on timing and I think another question here was scope. So when we've expressed this, the scope was to address -- to better address fan energy consumption. But then I also have other topics. So if other -- if other parties bring other -- I guess I don't want to close -- I don't want to limit the scope of this.

If other good topics should be addressed in this time frame, then they should be addressed. You don't want to do it sequentially again. You've got a three-year rule-making. I would not -- I would not want to see it limited to just fin energy, because, you know, if there's other things that should be addressed in the same time frame, then you would want to do it then as well.

So I don't know whether your proposal meant to say the scope is fan energy and fan energy only or whether that was -- because when you said it, you said to address fan energy. So the question was: Did you mean that to be exclusive, to prohibit addressing anything else, or is the scope --

MR. THARP: Rusty Tharp with Goodman. I think the intent was ventilation energy.

MR. deLASKI: Yeah.

MR. THARP: And there's -- so there's -- it's basically the non-mechanical cooling energy that the RTU, as shipped without accessories, consumes.

MR. deLASKI: You know, I don't know -- I mean -- go ahead, Louis. You want to comment?

MR. STARR: So this is Louis with NEEA. I mean, in general, I guess sort of what I thought about when DOE looks at the test procedure, they'll probably look at every aspect of the test procedure anyway.

So in other words, they would look to see, is the static pressure an adequate number, is the ventilation mode really captured. And so probably they would look at all of that anyway. And I personally think there might be some other elements that might need to be added, and I don't even know what they are.

But it's just kind of going back and thinking

about maybe more elements needed to be added into that -- that test metric to really get a better idea of the real performance of the equipment. And so more it's just -- we'd prefer to leave that broad in terms of getting specifics of what might or might be incorrect about the test procedure.

So I don't know. I mean, I would fear that, you know, just from a real practical standpoint that if you just limited it to one thing, you might end up with a metric that's not really good; right? Just from a pure engineering point, I would worry about that.

MR. THARP: Rusty Tharp with Goodman again. So this is -- the details we're talking about now are really more outside what we discussed as an industry.

So I'm speaking it now for myself and my company as opposed to everybody else, but I think we would be onboard with not -- not a narrow scope. So keeping it open, to me, as I think about that sort of lends to the AHRI system steering committee, some of the work that it is doing to encompass the entire building as an envelope in considering the system and the system effects. And so I think that -- I think we're -- I think we're in --

MR. deLASKI: Yeah, our notion on three years is, you know, trying -- is to allow time to address, you know, that's going to be the people working on the test

method. And I don't want to sort of tie their hands because of some discussion we had here today, right, that ultimately would be -- that we could regret.

MS. HOOTMAN: Well, good point, Andrew, that, yeah, it's more than the minds here and all of the things that go into it. So yeah, I don't really want to say yes or no or what's in scope or out of scope.

But I do have a huge concern, and it would mean that the testing -- that there is no new testing required. If we have to go back and retest all of our models to some new metric, you can take that numbers that they have and quadruple them.

MR. deLASKI: So you mean no new testing to comply with the new -- with the current regulatory environment, you know, the tests that would be required --

MS. HOOTMAN: Or new test value then has some numbers or some methodology in it that has some requirements and it might very well be static pressure.

If I have to take all these models back into a test room, you can quadruple or 5 times those numbers, and industry takes about six years to get that done.

MR. deLASKI: Right. And you would have to do that when, for -- we're talking about doing -- that would have to happen for the next iteration. Meaning, not this

standard, the one that's going to happen sometime well after 2025.

MR. WHITWELL: But it would have to start before that, Andrew, so we would have an idea.

MR. deLASKI: So I understand --

MS. HOOTMAN: What that idea is.

MR. deLASKI: But this test revision is going to kick that -- is going to --

MS. HOOTMAN: We would have to do it as soon as you define it because then we would know, be able to tell you whether we can do new models. All of our simulation models have to get redone, all our ADEMs have to get redone. So what's in scope and what's out of scope, I really worry about anything that would start to add to more test -- to a different test.

MR. WHITWELL: Yeah, I mean, I think about it --

MS. HOOTMAN: All those tests.

MR. WHITWELL: -- the IEER metric is already adding more testing, right --

MS. HOOTMAN: It did.

MR. WHITWELL: -- because you have four points that you have to test at, as opposed to the one for the EER. So we're already adding some more to that.

So the hope would be that we can, within that, take the measure -- take data that will help us to get

the -- quantify the ventilation energy; right?

So, you know, we just have to be careful about adding additional burden by expanding -- depends, right, by expanding the test procedure changes too far.

MR. deLASKI: And that requires of course this test method proceeding will be conducted like any other DOE test method proceeding. They're going to have to, you know, the parties -- the people involved are going to make those points and weigh these things back and forth.

I don't want to -- I don't think we're going to predetermine these things right now. I just want to make sure that we're casting the scope that's sufficiently broad.

MR. SACHS: That is Harvey --

MS. HOOTMAN: I'm just saying, I can't sign up for anything that would start to get those --

MR. deLASKI: And I don't want to take it off the table, so I don't think we're kind of like signing up for anything other than the DOE initiated rule-making. So again, the term sheet -- what I would suggest is the term sheet would say something along the lines that DOE shall initiate a rule-making by January 1st, 2016, it shall refine a rule by January 1st, 2019 to address ventilation energy consumption and, you know, other topics.

MS. HOOTMAN: Okay.

MR. SACHS: I'd like to just sort of add to it. The lessons learned a couple years ago in the certification reg/neg that we certainly would hope that we can use what we've learned to build on the basic model concepts and allow more qualifications and certifications through simulations rather than dragging all this steel into the lab.

MS. HOOTMAN: So I agree, Harvey, but there are constructs of going that I can see that would mean I have to redo my simulation models. So if I have to go back and retest to redo my simulation models, it even then starts to get very hairy.

MR. SACHS: Jill, I hear you. And I think what Andrew and -- if I could put words around what Andrew's saying, we're talking ventilation and leaving the rest of the wording a bit nebulous right now.

MS. HOOTMAN: And I agree with his wording.

MR. deLASKI: Okay. So that's --

MR. SACHS: But I haven't forgotten the number crunching.

MR. deLASKI: So I hope we have a verging consensus on that point.

MS. MEYERS: So Andrew, a question. So when this new method of tests, et cetera, is finalized, are

you -- is it going to be a new metric or a revised metric and that will be the only metric that is regulated, or are you looking at two metrics?

MR. deLASKI: No. Okay. There's two different questions. Let me answer your question -- I'm not sure what the question is, so let me -- if your question is -- let me just tell you how I envision it, and maybe see if that will answer your question.

MS. MEYERS: Okay.

MR. deLASKI: So that there would be a revised -- so a revised metric would be developed, IEER Sub-B, or maybe it's something different. Rusty intimated that maybe we come up with something that, you know, is something different.

But that, then, it would be -- so it would go into the Code of Federal Regulations as, you know, a test method as the other one still exists in the CFR. So you test to the current one for the standards that we're negotiating now. So it's IEER Sub-B would be my -- my expectation.

MS. HOOTMAN: And then, I think as we discussed yesterday that the two test metrics can be out there with some overlap or something --

MR. deLASKI: Yeah.

MS. HOOTMAN: -- is what was in clothes dryers

or whatever it was?

MR. deLASKI: Right.

MS. HOOTMAN: And so the second one would have some overlap, and you would choose which one you are testing to. Is that what you are saying? Or at some time the other one kicks in?

MR. deLASKI: At some point at some time, the other one kicks in. The mechanics of saying you choose which one you test to, I'm not familiar with.

MS. HOOTMAN: Okay.

MR. deLASKI: Okay. So that seems to me to be a different -- I don't know the answer to that. Because the standard is the standard; right? So --

MS. HOOTMAN: Right, but if you have a phase overtiming, I guess I'm thinking of a phrase overtiming you have all these products that you've gone along and they're tested to this one. And then now, this phase over is happening and it's usually by a manufacturer date.

So you know, you have stuff literally in inventory that is out there that will literally be by an old test metric plus maybe new test metric. Is that what happened in -- is it clothes dryers? I can't --

MR. CYMBALSKY: So this is John from DOE. So my recollection is, how we did it was for stuff that was

already tested, it was to the old one. If you were introducing new models -- this might not be specific to the clothes dryer one -- you had to use the new test procedure at that point. Right, for clothes dryers, the new one wasn't required, you could use it, but it wasn't required until the compliance date of the new test procedure -- the new standard.

MR. deLASKI: Voluntarily, you could voluntarily use it?

MR. CYMBALSKY: Right, but if you were introducing new models and you said, "I don't want to retest it again in another" -- so the better option would be to use the new test procedure because you're introducing new models.

MS. MEYERS: Okay. So that's helpful, but I'm still just a little bit off. So the step 2 that we're negotiating as an IEER level, but we would finalize a new test procedure with some new metric in 2019.

So I'm trying to figure out, its got this new metric, but we have a negotiated standard on a step 2 with an IEER. So how do we get from Point A to Point B in those five --

MR. deLASKI: Not until much later.

MALE SPEAKER: Beyond those --

MALE SPEAKER: Beyond that.

MS. MEYERS: So even though it's -- so even though you finalize this test procedure in, say, 2019, you're not required to --

MR. CYMBALSKY: Until the next set of standards. That's the way we've done it in the past.

MS. MEYERS: So it would be post the step 2. Thank you.

MR. deLASKI: We heard you that you wanted a test method done first.

MR. HUNT: This is Marshall Hunt, PG&E. Rusty, I have a clarifying question. You said "accessories," so what kind of things are accessories? And for me, the elephant in the room is the economizer.

MR. THARP: Yes.

MR. RAMIREZ: Rusty, is your mic on?

MR. THARP: Rusty Tharp, Goodman. I guess that would be -- I guess that would be something that the -- I think the group would have to address as they come -- come with it.

MR. deLASKI: Do we have to address it now or can we leave it open or can we live with that? Because -- big deal for me.

MR. THARP: As part of the commercial certification, I mean, we've -- the agreement from the commercial certification was that several of the

components would not be included in the testing as long as the product was available without the accessory; correct?

So what would need to be addressed is how you account for the energy consumption of any accessory items. And that's where really where I tend -- it tends to go back to the AHRI steering committee and other things of that nature where they're working on how to account for those types of things.

MR. HUNT: Thank you.

MR. deLASKI: Let me keep going here. So on the fans, this is a really difficult topic. We don't -- we're -- we're -- we're a little perturbed -- I say a lot perturbed now to see to try to link these two negotiations since we're not -- we don't have everybody from that negotiation here in this room. I don't think so, Bob.

MR. WHITWELL: Sorry, I misunderstood what you said.

MR. deLASKI: And even -- even within our -- even -- there are additional parties, entities that aren't here. And the individuals aren't the same. Okay? Whether it be from my organization or several of the others, we don't have them sort of here. But I think the more important issue is that we don't have a lot of the

entities who are part of that negotiation.

We hear your point, though. Okay? And you've been making it repeatedly. We understand the arguments, we make our counter-arguments, but we don't need to revisit them today.

I don't know the mechanics of how we would handle this. Harvey floated an idea. Those of us in the advocates caucus are prepared to, what we think is a huge concession on this point, and making this concession in the interest of getting an agreement on air conditioners.

It's a -- it's a -- it's a desire to make this docket, which is, you know, we think we're very close to getting to an agreement. We want to make it happen. Okay?

So to make it happen, we're willing to make this -- what we think is a major concession and one that I think goes a long way to addressing the regulatory burden that you have continued to describe and to emphasize.

So the concept, and it's -- we would need some time to work together for it to work out the mechanics of it, and I'm not convinced that we can, but here's the conceptually.

The advocates who are here, part of our caucus, can agree to an approach that would say that fans which

have their energy efficiency covered or represented in the IEER metric would not be required to comply with the fan regulation. We could live with that kind of outcome, those of us who are here, right.

So I can't speak for the fan reg, for that working group, but I can speak for the five of us who are in this part of -- who are sitting here with you today.

MR. SACHS: This is Harvey. And there's been some sort of quiet questioning, and so I think it may be worth just emphasizing that we are with you in concept that if a fan is just -- "just," in parenthesis -- a component of a regulated -- a product regulated in this rule-making, then it should not have to be separately certified. Obviously, there's a lot of detail and nuance if --

MR. deLASKI: I don't want to do --

MR. SACHS: We don't want to get into.

MR. deLASKI: And there's a group working on that, neither Harvey nor I are part of that group. Louis is, you know, so we have -- Meg is, but I don't want to negotiate the terms of that.

But I gave you a principle and how that principle is applied, I think, I would look one: Can that working group live with it? And two: How they would apply it.

And I, for one, and we as a caucus, are extremely concerned about -- there's two issues here. One is that there are millions of fans that go into -- this is a lot of fans in the stock, right, so it's a lot of efficiency. That's why you care about it in part, because there's a lot of fans. And we care about it because there's a lot of energy consumption. We are optimistic that this test method is a way to address it.

And -- but the -- what I also don't want to end up with, and again, it's not something to negotiate today, but is a fan rule doesn't work for the other fans because we end up with a loophole that a truck can go through, right. So you know, how do we -- and I think you guys were supposed to come back with a proposal to the fan working group -- I wasn't there -- on how you would do that, how you would define these fans in a way that was loophole-proof, but I guess that's work to be done. Okay?

So continuing along, phase 1, we have consensus on that. Phase 2, so where we started out this week was with a proposal that would save 17.1 quads, that was the advocates proposal. This was outlined in the slides that DOE presented yesterday.

We're at a proposal that would save -- I'm sorry, I'm looking at the slide 11, I was quoting the net

present value at 7 percent. The quads were 18.2 quads from our proposal, slide 11 from yesterday. And the industry proposal was worth, once you corrected for the fact that it was EL-2.0 for the small, was worth 12.1 quads. And that -- we reframed it yesterday, so let's shoot for a target that's at least as good as the NOPR, and that number was 16.3.

So I think you hopefully had that target in mind when you were meeting yesterday. We came back with a counter-proposal yesterday that under the DOE analysis would save 15.4 quads by reducing our proposal to 3.5 -- EL-3.5 across the board. And we argued, and I think, you know, were persuaded, that that proposal was worth considerably more than 15.4 quads.

My argument is that it's closer to -- that that gave us -- we were pretty confident that that level at EL-3.5 would yield savings close to the NOPR level because there's a bump in IEER from 3 to 3.5. Okay? The analysis shows increased energy consumption, you know, going from EL-3 to EL-3.5 for the small units. But, yet, we think that's a flaw in the analysis that yields to a big underestimation of the savings at 3.5. We just don't think that you're going to go up an IEER point and also see energy consumption go up on a population of equipment.

So our proposal yesterday of 15.4 quads, 3.5 TSL across the board, which is 3.0 for the very large, although in the DOE math it represent -- DOE analysis it's 15.4, we believe it's actually closer to -- gives us -- at least getting in the neighborhood of the NOPR value of 16.3.

Your proposal this morning increased the savings up to 13.5 quads. We're prepared to make some movement on the ELs and the TSLs. But we're not prepared to see the savings in this docket go to a level that are -- that is as far below the NOPR levels -- NOPR savings as your proposal does. So the difference now, so the NOPR's at 16.3, your proposal is at 13.5.

We would -- so our -- we're willing to move on both the -- come to the years in a minute. But what we're willing to do is to drop the level for the small equipment from 3.5 to 3.0. Okay? We've heard you that your proposal for the smaller equipment has been lower across the board in your proposals, it was lower this morning than for the other equipment. So we hear you that there's -- what I'm hearing from those proposals is a desire to push less on the small equipment than on the other categories.

So we're willing to drop our -- drop to 3.0 on the small equipment from our prior proposal of 3.5. And

again, that's directly because we're interpreting your proposals which have been lower for the small equipment than for the large and very large to mean that you'd rather push on the large and very large more relative to the small. We're hearing that, but yet, you know, dropping a full TSL from 3.5 to 2.5 takes too big a bite out of the energy savings. These things -- this is a large volume unit. So our proposal is to stick at 3.0 for the small -- or to drop, rather, from 3.5 to 3.0.

And then for the large, we would propose that those stay. We're going to keep our proposal at the same level with 3.5. And the very large are already at 3.0, and we're proposing to leave those at 3.0.

The math on that -- and then on the years we propose to split the difference. Okay? We heard 2024, we heard 2022, let's call it 2023. We've had the consultants run some scenarios yesterday, it looks like each year of delay costs about .4 quads pretty much in any one of these levels, right, because it's worth about .4 quads.

And the thing about that .4 quads is that that's a relatively firm .4. Because a lot of these savings are pretty far out in the future, whereas the ones that are closer in in time have a greater expected value in our world in our view of the way the world works, then things

that are happening out in the future, right, you get a greater sense that those are things that wouldn't happen anyway.

So that's a valuable .4 quads. And we're willing to give a year to split the difference on that, and it costs .4 quads. So when we have the consultants run those numbers, run that scenario --

MS. HOOTMAN: Very large was?

MR. deLASKI: 3. The savings are -- work out to about -- let me get my notes. Unfortunately, I've got two pads going for some reason.

Work out to about 15.4 quads. So the anomaly here, back to the analysis anomaly, is that our savings number is about -- is the same as what the DOE analysis showed the savings numbers were yesterday from our proposal, even though we've dropped the IEER levels for the small equipment, right. And that's just that funny anomaly in the analysis.

MR. HUNT: And given a year.

MR. deLASKI: And given a year.

But so to us, that 15.4 is a number -- is a number that represents a true cut from the NOPR. Whereas I was suggesting, our view of the world is that our proposal yesterday was giving us parity with the NOPR. We're now looking at a proposal that's almost a quad cut

from what DOE had proposed in the proposed levels.

So in our view, that's a significant -- it's significant movement. A lot of our group are uncomfortable with a proposal that is less than what was -- than a level of savings that's less than what you would get in the NOPR.

And when we look at the -- sort of the overall picture here, we're looking at a standard that's going to happen five years later -- sorry, four years later than what would happen under the DOE proposal. And to make up that time -- and in essence, sort of the basic trade here in terms of time versus stringency, is you lose -- to go four years later, we have to go up somewhere to make up -- to begin to make up those savings.

So we're saying the place to go up, compared to the NOPR, is in the large equipment. And that helps to make up the difference; it doesn't cover it, but it helps to make up the difference between what the NOPR level would yield and our proposal.

So it's the combination of that -- getting very large to 3.5, and then the earlier ASHRAE levels, you know, erode the losses, so to say. But we are willing to take something of a loss compared to the proposed -- the proposed rule. But you know, a quad is a quad; it's a large number.

So we think in exchange for the kind of flexibility that we built in here with more time, aligning effective dates, agreeing the levels on furnaces, taking fans out of the fan docket, taking a cut on the -- on the energy savings, that that's a pretty good package. That's a lot in this for all parties. But it is less energy savings than what would have happened in the NOPR. And I will say that all parties in our group are not completely comfortable with this.

So I'm happy to take any clarifying questions.

MR. AMRANE: Andrew, this is Karim with AHRI. You've focused on quads, but did you look -- did you run the impact on industry, the IMPV at those levels and how they are compared --

MR. deLASKI: I'm not sure if you were here yesterday, Karim, but we had quite a lengthy discussion in the morning where the consultants prepared their information showing that they don't really have a GRIM right now that models the two-tier, right. So there's a lot of benefit in -- so what we're doing -- I don't own the GRIM, Karim, you know that.

So you know -- so the answer is that we're trying -- what we're doing is, we're trying to come up with an approach that addresses what you've been telling us all along about trying to align effective dates, give

us more time. And, you know, the fact of the matter is, these guys understand -- the analysis that matters is what they're running inside their companies, and that's for the contested docket in my view, right. The analysis that matters is what these individual manufacturers note, and that's confidential to them, of course. So I don't think arguing over the GRIM output -- and I think we can argue over it, but I don't think that's a good use of our time.

MR. AMRANE: Yes, but that --

MR. THARP: Rusty Tharp with Goodman. I'll say -- Mike, correct me if I'm wrong -- but there were some -- that was part of the analysis that Navigant did last night was two-step stuff.

And compared -- from what we asked them to run to what you, you know -- so the max scenario they ran for us compared to what yours, and I'm going to suggest -- you know, Mike can speak up -- but I'm going to suggest that it's probably in the range of a negative 30 percent IMPV. So they could --

MR. deLASKI: So I didn't really want to get into this debate, but okay. Let's do it.

MR. THARP: But it needs to be something in serious consideration because it's a 30 percent reduction in industry. And that -- that's the -- you know, I'm

speaking for Karen and my friend John back there, but it's for all of us.

You know, my company, I -- you know, for the company that I'm representing, Daikin America and Goodman. Goodman only plays in the small stuff, and we're a small player; Karen's a small player.

And so it is -- it's a significant issue for me, even though I'm part of a larger company, for my division of the company, it's significant. So I -- I don't want to leave it off the table.

MR. deLASKI: No, I know. That's not off the --

MR. RAMIREZ: Let me jump in. Andrew, just because the -- its been clear, and I think its been made clear by both sides that more so on industry that this is something that's obviously going to be weighed and industry is looking at this very closely.

The question that I have for you all though is that we have about two hours and ten minutes, is that what we want to use our time on or do we want to see if we could finalize a deal?

You all are going to look at that data, I have no doubt that you're going to do that, and that's going to impact how you respond to this. So the question is: Do you want to use that time to give a response or do you want to have this discussion?

MR. THARP: I guess the question would be, Mike, how soon can you run some numbers for what they've proposed?

MR. RIVEST: We have them right now.

MR. THARP: You have them right now?

MR. RIVEST: I mean, I can give them to you --

MR. RAMIREZ: I'm sorry. Michael, could you get a mic for us? Thanks.

MR. RIVEST: I'll provide the numbers to Rusty.

MR. deLASKI: And I wouldn't be surprised if they're not going to be terribly different, right. You know, so I think we kind of know the numbers and that that particular DOE analysis kicks out. And it's a -- you know -- you know, you all probably heard me give you this -- I hesitate to get into this because I don't think it's a constructive use of our time.

MR. RAMIREZ: Well, that's why I asked the question if you want time to have this dialogue or you want to take the time to respond.

MS. MEYERS: So why did you make that statement? I'm trying to understand why --

MR. deLASKI: Here's my point, okay. I'll try to make it simply and not sort of -- because I don't want to -- the issue that drives the manufacturer impact is -- is shipments; right? And the issue that drives reclining

shipments is the increase in price.

So part of the reason that we're -- we're agreeing to an approach that gives you more flexibility to comply, more time, aligns effective dates, aligns time with the refrigerant phase-out, is because that will reduce your costs to comply. Okay?

Once you -- once a standard is set, there is a lot of talent, a lot of smarts, a lot of capital, a lot of effort put into, "How do I comply with the standard at the lowest possible cost?" Right, because you've got to, right, because you know your competitor is.

So a few years ago -- we've been bothered for many years that, you know, DOE comes up with these analyses, they predict these cost impacts, and then we observe in the market that the cost impacts don't arise at the same level that DOE predicts.

You asked for the speech, so I'm giving it.

MS. MEYERS: I'm just getting ready to reply.

MR. deLASKI: And -- and what we found was that the average observed price increase was 5 to 10 percent of that predicted by the DOE analysis. And one of the products of that was this equipment from the 2005 rule that took effect in 2010, the DOE's analysis.

So DOE's analysis underestimated the price impact by a wide margin. DOE overestimated the price

impact by a very wide margin in that docket.

MS. MEYERS: Right, and you're saying that's 5 to 10 percent? That wide margin?

MS. HOOTMAN: 95 percent overestimated or 90 to 95 percent.

MR. THARP: 5 percent of --

MR. RAMIREZ: Yeah, I'm sorry --

MR. deLASKI: So the focus on my point here is that the impact on shipments is only what is predicted if the prices attain at the levels predicted. But there's lots of drivers to get those -- to get to a better price.

Now, I can't tell you for sure, right, and I know it's your job to be conservative to expect -- because your bosses expect you, "Tell me the worst that can happen," right, to be conservative. But once the regulation is in place, incentives change. Now it's, "I've got to comply with the regulation, and I've got to do it in a way that's" -- and that's why I think the effect we observed in ten dockets that looked at that we had data that the costs didn't attain that were predicted.

So that's why I -- I do not discount that there are -- I believe there are impacts on manufacturers that are costs for the shareholders, but what I don't believe is that they are as severe as what are predicted by

DOE's -- by the scenario that you're pointing to. And DOE does run two scenarios, but I don't believe it's the scenario, it's the shipments that I do not believe will decline at the rate that are predicted, and those shipment impacts are what drive it.

So we, again, it's not your job. I expect your job is to be as -- is to expect the worst, but I don't think it's going to be as bad as you're predicting.

MS. MEYERS: So this is Karen with Rheem and I just want to respond to a couple of those points.

So my numbers would be very different from you, and I have the -- the insight into seeing what has happened to our average pricing and what has happened to our margins as standards have changed. So I would disagree with that, and you know, you can cherry pick pricing all over the place and come up with some analysis.

But I would also agree that, perhaps, in some of the DOE analysis -- especially the 2005 to 2010 -- it could have been overestimated. But the reason that that happened is thousands of manufacturing jobs moved south of the border, and that is an impact to American jobs. And it is an impact to this industry that has been caused, and I will say the number 1 factor is due to federal minimum efficiency standards.

So sometimes maybe that it's not -- you're not seeing that because we're moving a lot of jobs, we're closing facilities to manufacture elsewhere so that we can keep our product affordable, which I think we've far surpassed that already for the American consumer. So you've got to do something; right?

So shipments are flat, efficiencies are up, common, basic -- as it was drilled into me by thermodynamics, you know, more copper, more aluminum, more whatever, it's going to increase your cost.

So there's -- you know, there's several things that we try and do to keep our, you know, profits and shareholders. But, you know, there's only so much you can do. There's only so much you can squeeze.

But, you know, you make that comment, but you forget about what that does to contraction in the industry and to jobs. And I don't think that's something that a federal agency should discount when they are setting regulations. Maybe it's not part of, you know, what they're supposed to look at, but it is a fact of what happens.

MR. deLASKI: So I'm still hopeful that we can reach an agreement. I don't -- you know, I don't know that it's great use of our time to continue this debate; we have a different view on it.

And my view is that on the jobs question, I think, you know, it just takes one manufacturer to make the decision that they're going to move production to a low-wage country to put pressure on the others to do the same. And that happens with or without a regulation; right? And the regulation may create the moment where you have to invest, and therefore, the moment arises because the regulations then have to invest and now I have to choose where do I invest, but someone's going to make that decision at a point where they recapitalize the new plant whether there's a regulation or not. It effects the timing, no doubt.

MS. MEYERS: So to your point, we have a different viewpoint on this issue. And I will agree to drop this issue with you, but you keep, you know, you said your part, I said my part. We need to stop or I'm going to come back. So decide what you want, Andrew, because I can -- I can --

MR. RAMIREZ: Let me see if I ask -- how much time does industry need in order to respond? And keeping in mind there's probably some grumbling tummies in here. And that's fine, so how much time would industry like? 30? All right. So let's be back at 1:30.

So we'll be back at 1:30. So if anyone could squeeze in a quick bite, squeeze in a quick bite and

we'll be back at 1:30.

(Recess taken.)

MR. RAMIREZ: All right. Let's go ahead and get started back up. Sami had to catch a flight, so he -- he was going to try to call in; correct? Let's -- 2, 4, 6, 8, 10. Yeah, we're good. Okay.

So whenever you're ready, I give the floor over to the industry group.

MR. THARP: Okay. So for the industry response, as the normal, we truly appreciate everyone working together and trying to come to a consensus. And we appreciate the offer that the advocates have as far as coming closer together in what we're looking for.

I guess one of the -- one initial point I would like to make is, I know that the -- Andrew, you've mentioned several times that you've trying to -- you know, the advocates are comparing to the NOPR levels of TSL-3 and the quad savings there. From an industry -- and so your last offer is, you know, less than that savings.

I guess from an industry standpoint, what the normal process is is ASHRAE 90.1 values, which would be 4.9 quad savings. And so the last offer that we came is, you know, almost triple what we normally would expect as far as ASHRAE 90.1 values going into place. So I'm

trying to sort of think what all of our conversation was here.

So for the EER, I think we do -- we generally agree with, again, that it will continue to be regulated by -- or verified by ASHRAE -- AHRI, sorry. We do not -- we want to -- the wordsmithing to be that members will continue to submit EER values to AHRI, and AHRI will verify those values. So that's -- that's where we want to go. We don't want to submit unregulated information to Department of Energy. So -- but we're still fully onboard with the EER values are being verified.

So in reality, in practice, there's no difference than what we're doing today on EER as reporting through the AHRI system. And -- and just, you know, the AHRI certification program, we check product -- so within five years, 100 percent of product is verified at the values submitted.

So to next step, I think to keep it simple, is our response is coming to -- trying to think, is it -- coming approximately halfway between the difference in quads. And we're going to move the small to 3 from our last response. The large will be 3, and the very large will be 2.5 in 2023. And I believe that gets us to -- I'm trying to find my numbers here -- that's 14.8 quads; is that right?

MR. WHITWELL: 14.3.

MR. THARP: 14.3 quads, thank you. So the numbers are 3, 3, 2.5.

MR. WHITWELL: And 2021?

MR. THARP: And 2023.

MR. SACHS: So the 2.5 is the very large.

MR. THARP: Correct. And is that correct, Greg, 14.3? Yes, 14.3. Thank you.

MR. deLASKI: So I think we should caucus. And then we'll go get lunch. That seems fair.

MR. THARP: Are you hungry now, Karen?

MR. deLASKI: We'll caucus, you guys sit here and starve.

MR. HUNT: Marshall Hunt, PG&E. One quick thing I would -- we do need to see the wordsmithing, although we may not need to settle that today, EER.

MR. deLASKI: We'll talk about it per caucus.

MR. RAMIREZ: So how much time? I guess the question is: How much time do you need to eat?

MR. deLASKI: Let's take a half an hour --

(Off-the-record conversation.)

MR. RAMIREZ: Be back in a half-hour.

(Recess taken.)

MR. RAMIREZ: Okay. So Andrew, I'm going to let you go through what you have, and then I want to talk

about timing after that so -- because we're crunching the time here, go ahead and hit the ground running.

MR. deLASKI: So we're about out of time for today as I understand it. We appreciate your offer and, you know, I think this has been a good process. In the interest of time, I'll dispense with some of the preamble, I guess, you've all heard it before.

On the EER point, so you know, this strikes me as something that we can and should work out the details there. I don't think we should try to wordsmith it here today. Okay? I know that DOE's got a strong interest in this topic and we do, too, you do, too. And just -- there's complications here that are probably outside the scope of probably where we started at least in the negotiations that need to be sort of tackled by people who are more familiar with them than I am.

And so I think it's a very important point to us, Marshall's emphasized it throughout this negotiation about the EER values being available. But we need to, I would say, take some time to get that right.

I'm really happy to see that we have consensus with respect to the small equipment. Okay? So we've come to a point where we've got a consensus on a category, so that's a big step forward for all of us.

The way we see it is that we're at a proposal

that would achieve 15.4 quads of savings under the analysis, and you're at a proposal that would save 14.3. We are -- you know, compared to the NOPR, our proposal is 1.5 quads below what we would save with the proposed -- with if the NOPR were adopted as a final rule.

We have made huge concession on fans, we have done everything we can to get one redesign phase, we have gone to a 2023 compliance date. We will make one last step on quads, and this is the last step. Our group will not take any further cuts beyond what I'm going to describe for you right now.

It's in our proposal that we split the difference from where we stand. Let's split the difference in quads. You tell us the best way to get there. And the way to get there, I mean, the options are -- we've narrowed them. Because we've got consensus on the small, so that leaves it to the large and the very large.

So on the large, we're at 3.5 and you're at 3. If we were to bump that up to 3.5, you get to 14.8, 14.9 quads, split the difference. If you do it on the very large -- on the very large, you're at -- we're at 3 and you're at 2.5. We come to 3, that covers the difference.

So what we're saying is that we're willing to take a difference of 1.5 quads below what would be

accomplished through the NOPR, and there are two different ways to get there. But you guys know better than us which way is least painful.

We've come a long way; our group can't go less than that. In essence, what we're saying is what we're -- what we're bargaining for here, in essence, is certainty, that we get certainty, but we take -- but there's less energy savings that would have been accomplished if we didn't -- if we went through all the challenge of a rule-making.

But at some point you're saying, well, how much, you know -- I work on a lot of dockets that are worth 1.5 quads, the whole docket, soup to nuts, three plus years of work. And it's a big difference.

So I hope that -- I would -- so we're -- we're putting forth two options, either of which would get to the same quad result.

MR. THARP: Rusty with Goodman. Would you be -- if we had an option besides those two that you specified, would you be willing to listen to that?

MS. MEYERS: That got us halfway?

MR. THARP: That got us halfway.

MR. deLASKI: Well, this is halfway.

MR. THARP: Well, if we had something different than you. So still halfway.

MR. deLASKI: Yeah, I understand. So you're suggesting -- so yes, just leave it at that. Yes, I mean, there's no -- I think -- we aren't -- if there's another way to get there, I mean, in our group we talked about some ideas, but we didn't put them forward because some of them were locked down we didn't want to come back to for example, TSL-1 -- I'm sorry, phase 1.

MR. THARP: Could you reread your numbers for me, please, for the options?

MR. deLASKI: So small we have consensus at 3.0; right?

MR. THARP: Yes.

MR. deLASKI: For the large, you're at 3 and we're at 3.5. For the very large, you're at 2.5 and we're at 3.

We're saying, taking your position for one, taking our position for the other, you have a blend -- takes 1, to -- you know, I think 1 could go to 2.75 and 3.25; right? So one doesn't -- not locked into the IEER values if that's -- you don't --

MR. SACHS: Andrew, let me see if presenting it row-wise instead of column-wise speaks to the geeks easier.

(Laughter.)

MR. RAMIREZ: What?

MR. SACHS: So the proposal for a large, very large -- small, large, and very large.

MR. RAMIREZ: I think he said "us geeks," sorry.

MR. SACHS: This is Harvey. Is 3, 3, 3. Or 3, 3.5, 2.5 were that small, large, very large.

MS. MEYERS: What was the second one?

MR. SACHS: I'll do it slowly. 3 --

MALE SPEAKER: Can you say that more slowly?

MR. SACHS: 3, 3, 3, or 3, 3.5, 2.5.

MR. THARP: And what were your quads for each one of those?

MR. SACHS: They're essentially identical at 14.8 and 14.9.

MR. deLASKI: One, 14.8 and one, 14.9.

MR. THARP: So can you give us five minutes?

MR. SACHS: Sure.

MR. deLASKI: Is that okay, team?

MR. SACHS: And your question was: Is there an option 3 --

MR. THARP: Yeah.

MR. SACHS: -- at the same hit, and I -- I don't -- we're open.

MR. THARP: Okay. We'll be back in five.

MR. RAMIREZ: All right. Thank you.

(Recess taken.)

MR. RAMIREZ: Well, that was -- you guys were solid on the five minutes. Nice job.

MR. THARP: Do we have more time?

MR. RAMIREZ: No, no, no, you don't. All right. So what are you thinking?

MR. THARP: Okay. So actually, one thing I just remembered, somebody asked me since this is all court reporter if it's -- if you're on record, is everything I say on the record. I said yes. So they told me that I need to say "Go Cowboys." So I'm planning -- already planning my trip to San Francisco for February of 2016. Okay.

FEMALE SPEAKER: Against the Bills.

MR. RAMIREZ: Now you're out of time. All right. Let's hear --

(Laughter.)

MR. THARP: All right. So we would like to propose our option 3, which is taking the IEER delta across the board from a 0.3 back to 0.2. By our back of the envelope calculations, that's half a quad.

Based on discussion with Greg, it's a .4 quads. So that gets us to 14.7, if you take Greg's number. And we are also be willing to go to a .7 delta across the board for heat pumps instead of a .7, .8, 1.0. And ballpark, we're guessing that's the -- at least a tenth

of a quad, which gives us to the 14.8 range.

MR. deLASKI: Say that again, slower.

MR. THARP: Zero --

MR. deLASKI: We're talking about the -- go ahead.

MR. THARP: So it's keeping our offer of 3, 3, 2.5, changing the IEER delta for gas heat from 0.3 to 0.2, and changing the IEER delta for heat pumps from .7/.8/1.0 to .7 across the board.

MR. deLASKI: So Greg calculates that to be worth --

MR. THARP: Greg calculated the gas heat delta to be .4, and we didn't discuss the calculations on the heat pump IEER. But it's roughly -- I guess my approximation, as an engineer, is it's about the same. As course there's less volumes on heat pumps, so just my back calculations is that's at least a tenth, if not two-tenths.

And Greg, I just -- off the cuff, your thoughts are I'm correct?

MR. ROSENQUIST: Yeah, I mean, since we were close on, you know, the other heatings calculation similar matter, then I would assume I would get the same sort of result.

MR. deLASKI: But your math, Rusty, is that

takes your offer to 14.7 quads?

MR. THARP: Total 14.8, 14.8 or 14.9.

MR. SACHS: I'd like to ask for a few minutes.

MR. RAMIREZ: All right. The clock has started.

(Recess taken.)

MR. RAMIREZ: All right. Let's get started.

MR. THARP: So before you get started, I need to make a correction to what I said earlier -- a clarification, rather, a clarification. It's Dallas Cowboys, not Oklahoma State Cowboys.

MR. RAMIREZ: Now that the record is straight, Andrew?

MR. deLASKI: So we have an agreement with a contingency. Okay? So we have agreement with a contingency, and our contingency is that we want Greg -- we want the analyst to run the numbers. When we said 14.8, 14.9 was our bottom line, we'll go with 14.8, but we meant that.

So we want to see the numbers run by the analyst, if they hold up, then we're good to go. If they don't, then, you know, you're going to have to nip and tuck somewhere else, Rusty. Because we -- that's as far as we're going to go.

And I know we're in the error factors, Bob, but the error factor has been on a lower number every time.

So we -- we -- we'd like to see the numbers.

MR. THARP: Can you give us one minute?

MR. RAMIREZ: Sure, stretch the legs. A quick, one-minute break.

(Recess taken.)

MR. THARP: Okay. So question to Greg, who's going to win the Big 10 next year?

MR. RAMIREZ: Go Blue.

MR. THARP: Okay. So through the contractors, how long will it take for you to crunch the numbers on this last one? And not of the contractors, to Greg and his crew, how long will it take you to crunch the numbers to verify our last proposal?

MR. ROSENQUIST: I was just telling Javier that, you know, I'm flying back tonight. I'll get this done tomorrow, send it out to John, you know, that's my best confirmation, right, or, you know, a set of numbers. Whatever that means.

MR. RIVEST: We were thinking minutes.

MR. ROSENQUIST: Oh, you're thinking minutes?

MS. HOOTMAN: We just want to know.

MR. THARP: We just want to know about how long will it take you to run those numbers.

MR. deLASKI: We've got Monday, right?

MR. THARP: We'll have the answer tomorrow,

right.

MR. WHITWELL: We don't want to be spending Monday --

MR. RAMIREZ: Well, that would then go to what -- assuming that the numbers hold up, who's going to take a shot at drafting this term sheet?

MR. deLASKI: Well, on the other hand, Rusty, if you got another couple tenths of a quad in your back pocket --

MR. THARP: We don't.

MR. deLASKI: -- lay it out there, buddy.

MR. RAMIREZ: All right. Rusty, where are you stashing the quads?

MR. THARP: So I think at this point industry will go ahead and ask you guys to run the numbers and then we'll go from there.

MR. RAMIREZ: All right. So let me --

MS. HOOTMAN: Let's have a conference call on Friday.

MR. SACHS: This is Harvey, and I'm misunderstanding something. We have made a commitment of accepting contingent. Am I hearing the same thing or -- okay. Thank you.

MR. RAMIREZ: Okay. And then, thank you, Harvey. That's where I was going.

MR. THARP: The industry accepts the offers of contingency, and we'll wait to see also what the numbers come out.

MR. WHITWELL: Yeah, I mean, they may -- this is Bob Whitwell. So the issue is, we don't have nothing more, either.

So the question is: What are we going to do on Monday; right? Are we going to be finalizing the terms sheet or are we -- are -- do we still -- are we still arguing about a tenth of a quad?

MR. THARP: So then is it acceptable -- so I have high confidence that the numbers are going to be at least a tenth, if not more, on these quads.

So to the point you made, Javier, are we going to -- who's going to develop the term sheet? Because I think it would be a great idea to have the term sheet out Sunday night at the latest so we all have a little bit of time to review it before we have a teleconference, because we don't need to be sitting on a teleconference, you know, shuffling wordsmithing stuff.

MR. RAMIREZ: Right. So and that's a question for the group. Who's going to -- and --

MS. MEYERS: So Javier, I don't mean to be flip here, but this is about my fourth working group, and the moderator always develops the terms sheet. So I thought

that was you.

MR. RAMIREZ: You know what, we normally had not, but I could talk to -- I'll talk to John and we'll work that out. We'll work it out.

MS. MEYERS: Okay. I mean, I just was surprised --

MR. RAMIREZ: We'll work it out.

MS. MEYERS: Right. Okay.

MR. RAMIREZ: So as far as I'm understanding, then -- and you know what, maybe let's do a tentative vote on it, right, that assuming that everything works out, then we're going to finalize the language and we'll formalize the vote then. But let's see a show of thumbs just to make sure that everyone's on -- in principal is okay with what we're discussing.

MR. deLASKI: Before we do that, I think it's worth highlighting a couple of points that we have left that need some work and we might want to designate a couple of working groups on those topics.

And one of them was the EER reporting because, again, that struck me as needing some work.

MR. RAMIREZ: Okay. So that's Marshall and who?

MS. HOOTMAN: Karim or Nick, whatever, AHRI.

MR. deLASKI: I don't think I have time the next three days. I --

MR. RAMIREZ: So Nick and Marshall will work on the EER language?

MR. deLASKI: Yeah, and I -- I think DOE has an interest in this. And so I think DOE probably would -- John's not here, but I think there's an interest in this from the agency.

MR. RAMIREZ: So John's volunteered? He's volun-told?

MR. deLASKI: Yeah.

MR. RAMIREZ: Okay.

MR. deLASKI: What else? I felt like there was something else out there that we probably need to spend a little time on here.

MR. THARP: The test procedure wording.

MR. deLASKI: The test procedure wording (simultaneous talking) oh, and the fan and blower piece.

MR. RAMIREZ: So test procedure?

MS. HOOTMAN: Yeah, you mean the part that you read --

MR. deLASKI: Well, yeah, so that's fine for us. I'm just not sure how it works in a terms sheet. Because again, the problem is that we're binding these -- the terms sheet is something that the agent -- I need to under -- I don't understand. Again, back to what I said, preface that with how what we as stakeholders agree to

effects how the working group. Right, so I just have a mechanics issue.

MS. HOOTMAN: But your other statement that you raised (inaudible).

MR. deLASKI: Yeah, so I think that's a question back to the agency, which is, I think a question for the agency. So maybe that's -- I don't know if John -- is John listening in? Do we know?

MR. RAMIREZ: Yeah, I thought he was, but I don't think he has --

MR. deLASKI: So Javier, I guess I'd ask you to bring that back to John as a question how to handle what we've agreed to -- tentatively agreed to conceptually as a mechanical matter.

MR. RAMIREZ: Okay.

MR. deLASKI: Maybe it's not purely mechanical is what I'm concerned about.

The fans, the EER, and what was the third thing you said, Karen? Was the --

MR. THARP: The test procedure.

MR. deLASKI: Oh, the test procedure? Language of the test procedure.

MR. RAMIREZ: I'm sorry, that's the EER; correct?

MR. deLASKI: No, it's different.

MR. RAMIREZ: So what's the test procedure?

MR. deLASKI: I think we had that. We had it, we agreed to that.

MR. WHITWELL: We agreed to the test procedure, so just the question is the -- (inaudible).

MR. deLASKI: Right. Yeah, so I think what we'd want to see --

MS. HOOTMAN: Say our names I guess.

FEMALE SPEAKER: If you're going to speak, have your microphone on (inaudible).

MR. deLASKI: So what I would look for -- what I would hope, Javier, is that we can have a terms sheet drafted for review by, you know, COB Thursday think that we have to leave some things to -- you know, because we're trying -- we're meeting on Monday?

MR. RAMIREZ: So the numbers to make sure that this is a deal will be tomorrow.

Marshall and Nick, can you get us the language by the end of tomorrow as well? (Inaudible.)

MALE SPEAKER: Yes.

MR. RAMIREZ: By the end of tomorrow, can you and Nick work out the language for the EER?

MR. deLASKI: And you need to consult with the agency.

MR. HUNT: Yes. And we've got to get Cymbalsky

involved somehow. Trying to catch a plane right now.

MR. RAMIREZ: All right. Yeah, so let me take that tentative vote. Let me see a show of thumbs that assuming that we work out the language that everyone's onboard.

All right. And there's one person, Steven? I don't think she's on or Michael -- Michael Shows, is his mic on? Michael, you okay with it?

All right. So I'm not hearing a thumbs down. Okay. He said yes? Okay. All right.

Any other logistics, then?

MS. MEYERS: Monday at 9:00 a.m.?

MR. RAMIREZ: 9:00 a.m. and we will e-mail out the link and the call-in number. Okay.

So congratulations, a bit rush, a bit anti-climactic, but we'll -- congratulations. And we do need one last piece of business to offer public comment.

MR. deLASKI: By the way, Nick voted thumbs up.

MR. CYMBALSKY: Okay. Thank you.

MS. MEYERS: Hi, it's Karen. So Cymbalsky, where's the champagne, Cymbalsky?

MR. RAMIREZ: Michael?

MR. McCABE: This is Michael McCabe. On the test procedures, it wasn't clear -- you had the January '19, '16 date to January '19, 2016, 2019. It wasn't

clear what you expected by January of 2016. Because there's no way the department can publish a proposed rule by that date just to make -- that you'll start working on it and have the final rule published by three years after that.

MR. RAMIREZ: Yes. Okay. Thank you.

Any other public comment? Are the mics opened up, Alex?

MR. SACHS: This is Harvey. And just, thank you to everybody. Thank you for DOE for authorizing the consultants work in advance to get this thing started. Thank you to you guys for doing your job, and to all of my colleagues on both sides -- all sides of this table.

MR. RAMIREZ: Thank you, Harvey.

Are the mics open? Okay. So no public comments, then? Congratulations, and I'll hear you all on Monday.

(End of audio.)

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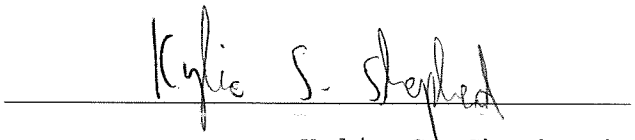

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