U.S. DEPARTMENT OF ENERGY

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PUBLIC MEETING ON ENERGY CONSERVATION PROGRAM FOR CONSUMER PRODUCTS: TEST PROCEDURES FOR CLOTHES DRYERS AND ROOM AIR CONDITIONERS

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WEDNESDAY,
DECEMBER 17, 2008

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The public meeting was held in Room 8E-089 of the Forrestal Building, U.S. Department of Energy, 1000 Independence Avenue, S.W., Washington, D.C., at 9:10 a.m., Doug Brookman, Facilitator, presiding.

PRESENT:

JAMES BATTAGLIA, Navigant Consulting, Inc.
BRICE BOWLEY, G.E. Consumer & Industrial
DOUG BROOKMAN, Public Solutions
DEBRA K. BRUNK, Association of Home Appliance Manufacturers
BELINDA CARR, Energetics, Inc.
NATASCHA CASTRO, National Institute of Standards and Technology
PAIGE DETRICK, BSH Home Appliances Corporation
BRENDA EDWARDS, Department of Energy
GARY FERNSTROM, Pacific Gas and Electric Company
LUKE HARMS, Whirlpool Corporation
RONALD LEWIS, Department of Energy
GRAHAM B. PARKER, Pacific Northwest National Laboratory

PRESENT (Continued):

JUDITH REICH, Navigant Consulting, Inc.
HARVEY SACHS, American Council for an Energy-Efficient Economy
JACOB TALBOT, American Council for an Energy-Efficient Economy
JOHN M. TALBOTT, Talbott Consulting
DETLEF WESTPHALEN, Navigant Consulting, Inc.
STEPHEN WITKOWSKI, Department of Energy

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P R O C E E D I N G S

(9:10 a.m.)

MR. BROOKMAN: Good morning, everybody, and welcome. This is the test procedures for clothes dryers and room air conditioners in NOPR public meeting for the Building Technologies Program here at Energy Efficiency and Renewable Energy. Today is December 17th, 2008, and we are in the Forrestal Building. Nice to see you all. Thanks for being here on time so that we can almost start on time.

My name is Doug Brookman, Public Solutions, in Baltimore, and I'm going to review the agenda here shortly, but before we do, we'll have welcoming remarks from Ron Lewis.

MR. LEWIS: Welcome.

(Laughter.)

MR. LEWIS: I appreciate everyone being here, all of the dozen of you. Although there aren't many people here as of yet, your

input is always desired, and this is no less important than the many meetings we have had in this room. So we hope that you'll feel free to exchange your viewpoints and give us input, and I look forward to having a productive day.

So thank you very much for being here.

MR. BROOKMAN: Thank you.

It's our tradition to provide an opportunity for each person to introduce him or herself. So if you'd do that, I'm going to start on this side of the room and work my way around. Your name and organizational affiliation, if you would please.

MR. HARMS: My name is Luke Harms with Whirlpool Corporation.

MR. BROOKMAN: And we're testing out these microphones. So we'll see if they work.

MR. FERNSTROM: So I'm Gary Fernstrom, representing the Pacific Gas and

Electric Company.

MR. BOWLEY: Brice Bowley with G.E. Consumer and Industrial.

MS. DETRICK: Paige Detrick with BSH Home Appliances.

MR. SACHS: Harvey Sachs with American Council for an Energy-Efficient Economy.

MS. BRUNK: Debra Brunk with the Association of Home Appliance Manufacturers.

MR. BROOKMAN: Judy?

MS. REICH: Judith Reich from Navigant Consulting.

MR. LEWIS: Ron Lewis, DOE.

MR. WITKOWSKI: Stephen Witkowski, DOE.

MS. CASTRO: Natascha Castro from the National Institute of Standards and Technology.

MR. TALBOT: Jacob Talbot. I'm with the American Council for an Energy-Efficient Economy.

MR. PARKER: Graham Parker, Pacific Northwest National Laboratory.

MR. BROOKMAN: Okay. Thank you.

So we're about to launch into the first substantive element after I finish this agenda review. We provide an opportunity here at the outset for any of you that wish to do so to make brief opening remarks about issues that are important to you, things you'd like to highlight at the outset and perhaps for further development as the day goes on.

Following that we're going to have a brief introduction and background on the legal authority for this NOPR from Stephen Witkowski, and following that a more complete description of the test procedure of the covered products on all of those issues from Judy, Judith.

We'll take a break mid-morning, around about 10:45 or so, and then we'll get into more details on the test procedures specifically, the test methods and

measurements for standby mode and off mode testing.

We'll continue from there a calculation of energy uses associated with standby modes and off modes for room air conditioners, and we'll take a break for lunch around about noonish, and we'll proceed as you can see in your agenda with the calculation of energy use associated with standby modes and off modes for clothes dryers; following that, measures of energy consumption; following that, for technical corrections issues; then compliance with other EPCA requirements; and then finally an opportunity for conclusions and closing remarks.

We intend to adjourn today mid-afternoon or so, 2:45, three-ish at the latest, I think. Okay? So that's the plan for today.

Questions, comments about the agenda? And in particular, anything that you would like to add that would supplement the

agenda if it's not covered here.

(No response.)

MR. BROOKMAN: Okay. I see nothing. Then I'd ask for your consideration of what I think is not much more than common courtesy. Please speak one at a time. Please say your name for the record. If you would keep the focus here, please turn your cell phones on silent mode. If you need to have a sidebar conversation with someone, we'll understand if you take it out of the room. It's distracting.

Despite the fact the microphones don't work very well, the acoustics are pretty good. So if you'd hold down your sidebars.

I ask you to please be concise and share the air time, and I'm going to be queuing people to speak as best I can by name. I also wish to encourage follow-on comments.

As I queue you by name, you don't have to repeat everything back, your entire organization and affiliation, but for the

record, please just say your name.

And I think that's all that I intended to cover at this point. Additional questions, comments here before we begin?

(No response.)

MR. WITKOWSKI: Well, again, thank you for coming to this public NOPR meeting, and the purpose of this meeting is to examine the test procedure in NOPR, and I will present the department's proposed test procedures for clothes dryers and room air conditioners.

We seek comment from the participants on the proposed test procedures. We will be discussing specific issues or questions related to the proposal and discussion and gathering of information on the next steps for the rulemaking.

As far as the steps go in the clothes dryer and room air conditioner testing procedure rulemaking, we're at the NOPR stage and move next into the final rule.

The NOPR, as most of you know, was

issued by DOE on December 2nd, 2008. Today, of course, is the meeting. Comments on the NOPR from interested parties, transcripts, records, oral comments for today's public meeting will be available some time after the meeting.

The written comments, the comment as far as written comments, the comment period close 75 days after publication in the Federal Register. DOE reviews and considers all comments.

The final rule, the final rule publication will be issued by March 31st deadline. It is required by EISA, the Energy Independence and Security Act of 2007.

Test procedure overview and status, and we'll be going through the products covered by the test procedure changes, the effective date for the amended test procedure, incorporating by reference IEC Standard 62301 from the first edition, 2005 to six, for measuring standby mode and off mode power in

clothes dryers and room air conditioners; determination of the modes to be incorporated; adding specifications for the test methods and measurements for clothes dryers and room air conditioners; standby mode and off mode testing.

The calculation of energy use associated with standby and off mode; measure the energy consumption; correction of tests describing energy factor calculation for clothes dryers; correction of text reference to room air conditioner test standard; and compliance with other EPCA requirements.

Comments and issues from the participants, as always, workshop participants are invited to provide summary comments or statements. Participants are also invited to raise their issues on the test procedure NOPR for discussion today.

The regulatory history, this is always the most interest part. Clothes dryer test procedure final rule, 41 Federal Register

27,324 was issued on May 19th, 1981, established test procedure with provisions for measuring the energy factor. It currently provides for measure of standby mode energy consumption only for gas dryers in the form of pilot energy consumption.

The room air conditioner test procedure final rules, 42 F.R. 27,898 of June 1, 1977, and F.R., and so on, of June 29th, 1979. This rule established and amended test procedure with provisions for measuring the energy efficiency ratio EER; incorporated by reference ANSI Standard Z234.1 issued in 1972 for room air conditioners; and ASHRAE Standard 16-69, method of testing for rating room air conditioners. It does not currently provide for a measure of standby or off mode energy use.

And then we have the Energy Independence and Security Act of 2007, referring to as EISA 2007, which provides amendments to the Energy Policy and

Conservation Act, or EPCA, and EISA directs DOE to incorporate a measure of standby and off mode energy consumption into its test procedures for residential clothes dryers and room air conditioners by March 31st of 2009. It directs DOE to integrate such energy consumption into the energy descriptor.

If technically feasible, DOE must prescribe a separate standby mode and off mode energy use test procedure if technically feasible.

And finally, DOE must consider the most current version of IEC Standard 62301 and 62087, which will be discussed in considerable detail later on in this meeting.

And then there's also reference to IEC Standard 62301 and IEC 62087 at the bottom of page 7.

And at this point we're going to have a test procedure overview that Judy Reich will give.

MR. BROOKMAN: Before Judith

starts, I did want to provide -- we kind of switched the two items in the agenda. So I want to provide now an opportunity for anybody that wishes to make opening remarks, brief summary statements about their concerns and issues that they'd like to raise and perhaps develop further as the day goes on. So let's just do that now.

Yes, Gary.

MR. FERNSTROM: So I'm Fernstrom representing the Pacific Gas and Electric Company, and I'd like to make a brief statement about PG&E's interest in test procedures specifically.

PG&E is interested in having accurate test procedures that correctly reflect the energy use and energy efficiency performance of products as they are used by users, which may be consumers or industrial customers. This is important for PG&E for two reasons: one, because PG&E has a codes and standard program through which it advocates

for improved minimum efficiency performance, and it has an incentive rebates program through which it rewards products in the market that offer superior energy efficiency performance.

So having test procedures that properly reflect energy use and performance is important in both of those opportunities. It's also necessary that this information be widely available to PG&E and the public so that it can determine which products fall into exceptionally good and not so good categories.

MR. BROOKMAN: Thank you.

Other opening remarks? Yes, Debra.

MS. BRUNK: Debra Brunk with AHAM.

First of all, I just want to thank DOE for having this meeting today, for getting us the draft version of the NOPR to us a little bit earlier before it was actually published in the Federal Register. That was very helpful for us to have that little bit of extra time there.

And I think, again, I will follow on to PG&E's comments. AHAM believes in the importance of these test procedures, that they be accurate and reliable, and that they adequately measure the energy use of the appliances.

I think our biggest comment today, which we will come back to, I think, several times, but I will just summarize here, is our concerns at this point with the differences in IEC 62301, the current version, and the IEC 62301, committee draft two, which is nearing publication at the IEC, and there are some very significant differences there, and as such, there are some significant differences between what DOE is proposing and that version.

So again, AHAM's main concern is around that and harmonization with the rest of the world.

Thank you.

MR. BROOKMAN: Other opening

remarks?

(No response.)

MR. BROOKMAN: Okay. So then --

MR. WITKOWSKI: Just one quick announcement. I also want to mention that the Websites are up and the information that you have in front of you is available online if you would want to.

MR. BROOKMAN: Thank you.

So then Judy.

MS. REICH: Good morning, everybody. I am Judith Rich from Navigant Consulting.

The first topic that I'm going to be going through is exactly which products are covered by the proposed amendments to the test procedures, specifically the test procedure amendments to address energy consumption in standby and off modes.

The definitions for covered products are codified in the Code of Federal Regulations under 10 CFR 430.2, which contains

definitions for a whole variety of products, and specifically for clothes dryers, provides definitions for both electric and gas dryers.

The key descriptors here would be that they are appliances that utilize a tumble type drum with forced air circulation where the heat source is either electricity or gas, depending on whether it's the electric or gas clothes dryer.

It is anticipated that these descriptions will cover and the test procedure amendments will cover dryers that are both the conventional vented type of both gas and electric, including standard size and compact size units, and also condensing type dryers, the so-called ventless dryers.

And in that category, it would also include combination washer-dryers which are appliances which have utilized the same drum for both the washing and drying functions. This would be somewhat distinct from a stacked dryer where the dryer would just be considered

as an independent unit from the washer.

For room air conditioners, the same section of the Code of Federal Regulations defines this product as distinct from packaged terminal air conditioners, but that is powered by a single phase electric current and is designed for mounting in either window or through the wall, and further it describes the function to provide conditioned air, which can include not only cooling but ventilation and heating as well.

So, again, it's anticipated that the amendments to the test procedure are going to cover products that are roughly analogous to the product classes that are specified in the energy conservation standards, namely, that these are room air conditions that are either for single or double hung windows, and under that category they can either be with or without louvered sides and with or without a reverse cycle to provide a heating function.

Additionally, the covered products

would include casement mounted, casement slider or casement only, window type room air conditioners.

Talk about when the effective date is for the proposed amendments. DOE defines the effective date for the test procedure as when these amendments are codified in the CFR, and that is proposed to be 30 days after the amendments are published as a final rule in the Federal Register, but it's important to note that on that date, the test procedure itself is effective, but that manufacturers are not required to use those amendments to calculate standby and off mode energy consumption or for calculating to determine compliance with the existing energy conservation standards.

And, in fact, in order to provide for those amendments to be used for calculating standby and off mode energy use, the concurrent energy conservation standards rulemaking that's including standby and off

mode power will remove the clarification that's going to be in the CFR at the date that that energy conservation standard rulemaking becomes effective, which is expected to be in 2014.

So let me get into the discussion of the methodology and test conditions that are being proposed to add into the test procedure in order to perform these measurements. The standard that is considered, particularly as a result of the requirement by EISA to do so, was IEC Standard 62301, and the current edition is the first edition which was published in 2005.

I also want to point out that EISA requires DOE to consider IEC 62087, which relates to video and audio equipment, but since we're talkinga bout clothes dryers and room air conditioners and not things like set top boxes or VCRs, IEC 62087 was determined to not be suitable for consideration for these amendments.

Alternatively, IEC 62301 is appropriate. It covers household appliances, measurement of standby power in various household electrical appliances, which include clothes dryers and room air conditioners, and so, therefore, that one is applicable.

DOE is proposing to incorporate by reference certain sections of IEC 62301, the first edition. Specific parts of IEC 62301 that are proposed to be incorporated would be clauses that relate to the test conditions and clauses that relate to the actual methodology that's used for making the standby power measurements.

Section 4 of IEC 62301, the clauses that are proposed to be incorporated relate to, first, the characteristics of the electrical supply, namely, the voltage, the frequency and the wave form; also proposing to include tolerances for the power meter measurement, and these are areas which the existing DOE test procedures don't address

and, therefore, are being added in.

The third part of Section 4, the third set of clauses that are proposed to be incorporated relate to the ambient room temperature specifications, and in that case, the existing DOE test procedures do provide for ambient temperature requirements, but they are somewhat different than would be necessitated for standby and off mode measurements. So we'll get into that in a few sections, but specifically for the standby and off mode measurements, proposing to use the requirements from IEC 62301.

Then from Section 5, which relates to the methodology, DOE is proposing to incorporate a clause that clarifies that the measurement of standby power is to be conducted at the lowest possible power state if, in fact, there is a short duration higher power state which precedes that, for example, if the display is inactivated after a certain period, that the measurement would take place

at the lower power state.

And, secondly, the IEC clause provides for a technique to measure an average standby mode and off mode power if the measurement is unstable. So it allows for a measurement for either stable or unstable standby power conditions and provides for a description of measuring it over a representative cycle of that power.

At this point we invite comment on the adequacy of IEC 62301 for measuring standby power in both clothes dryers and room air conditioner, and specifically on the suitability of incorporating those clauses that were just discussed, and this is identified as issue number one in the NOPR.

MR. BROOKMAN: Gary.

MR. FERNSTROM: So you mentioned that the IEC standard calls for measuring the power demand at the lowest level if, for example, the display shuts off after a period of time. Is that period of time defined?

MS. REICH: No, it is not, not in IEC 62301.

MR. FERNSTROM: So lacking that definition then, how would you know how to apply the lower power use? Would it be, for example, after two minutes, after a day, after a month?

MS. REICH: Well, I assume that if the product is used on a daily basis, that we're talking about time periods that are somewhat less than a month or a week or probably even a day. The IEC test procedure, I believe, does not provide a specific time period because it allows for latitude among different products that may take five minutes or 20 minutes, and it would require some determination in advance of how long that time period is before the lower power state in order to then conduct the test procedure.

MR. FERNSTROM: So I agree that some latitude is merited, but I also think that DOE would be well advised to provide some

sort of general guideline as to what is acceptable.

MR. BROOKMAN: Would you suggest what that would be?

MR. FERNSTROM: I haven't thought about it enough to have a specific suggestion, but I do think it's a loose end that should well be tied down.

MR. BROOKMAN: Okay. Other comments? Yes, Harvey Sachs.

MR. SACHS: Harvey Sachs.

I also had not thought about that, but second Gary's comments, only illustrate them with an example, that I could readily game this as we've seen with other products so that the default were a display on a device might be proclaimed to be five minutes going to sleep on that display, but in fact the consumer chooses and easily moves to leaving that on for an hour or for permanent. We have certainly seen this with some classes of office equipment, for example.

So that in that context I think that to level the playing field for all of the manufacturers, some guidance would be helpful.

MR. BROOKMAN: So if either of you or any of you had ideas about how that general guidance would be framed, I'm certain the department would appreciate having your comments as quickly as possible.

Debra.

MS. BRUNK: Debra Brunk with AHAM.

I want to address this point, and then I have additional comments.

MR. BROOKMAN: Yes, please.

MS. BRUNK: But I think it is helpful to note in IEC 62301, both current and draft versions, in the test procedure I believe it's under Section 5, it does suggest that you allow the product to stabilize for 30 minutes and then measure standby power.

So I think typically in, again, the IEC framework that 30 minutes is the time that, you know, the appliances or whatever is

allowed to get into it's low power state, and then you would measure the standby power at that point.

MR. BROOKMAN: And are you suggesting that is what --

MS. BRUNK: Yes, I'm suggesting that.

MR. BROOKMAN: I just wanted to clarify.

MS. BRUNK: For harmonization purposes. So I just want to throw that out there, but that is actually in the standard.

MR. BROOKMAN: Thank you.

And did you have some comments?

MS. BRUNK: I did. In general AHAM does support use of IEC 62301. I think as we've noted in many of our comments on all of these products, we believe that this is a standard that is, you know, most widely accepted throughout the world, and everybody is looking at that.

I think there have been

1 considerable issues and concerns around the
2 current version, 2005-2006 Edition 1. I think
3 a number of us have all looked at that and
4 been somewhat confused at to what that means
5 and how to interpret it.
6 The committee draft two version,
7 which is out for comment at this point,
8 comments are due in January, and it is
9 expected to be published in July of next year.
10 It really provides some excellent
11 clarifications on all of these points.
12 In terms of the set-up and the
13 testing it remains very much the same, but
14 when it gets into the definitions of the
15 modes, it is very clear what should and should
16 not be incorporated.
17 So AHAM's proposal at this time is
18 really that we understand EISA 2007 and its
19 requirements. We believe it could be
20 interpreted that the standard does not
21 necessarily have to be finalized in order to
22 incorporate the most recent version, and I

think we're just looking at the effective date of the standard is 2014, and concerns around the rest of the world sort of moving forward much faster than DOE in terms of some of these definitions, and we feel it would be best to use the information that we do have available at this time.

And, again, the international community through IEC has done a tremendous amount of work in further defining standby and off mode in particular power and what should be incorporated into that.

Another option --

MR. SACHS: Excuse me. Can we ask questions about that before we move to another issue? Because you raise some important --

MS. BRUNK: Sure, sure. That's fine.

MR. BROOKMAN: Go ahead, Harvey. Ask a question.

MR. SACHS: This is Harvey Sachs.

And I want to make sure that I

understand the import. I would like to interpret this as asking for a delay of the final rule without a change of the effective date of the standard. Is that consistent with what you meant to imply?

MS. BRUNK: This is Debra Brunk with AHAM.

No, it is not what I meant to imply. I'm not talking about a delay or suggesting a delay. All I am proposing is that DOE consider harmonizing with the IEC draft version, knowing that that will be moving forward.

MR. BROOKMAN: Even if those timetables aren't consistent?

MS. BRUNK: Well, I think it's a question of how that might be done, and to Mr. Sachs' point, maybe that would be through a delay if the department felt that that would be the best way to deal with the version issue.

But I think in general what we're

trying to put on the table is that that version is out there and it is almost done. Is there some way that either clarifications from the committee? While the department may not be able to reference the standard directly, there may be a way to incorporate clarifications of that standard into the department's language for the test procedure.

I think there are multiple paths that could be taken.

MR. BROOKMAN: Okay. Thank you.

Harvey.

MR. SACHS: Thank you very much.

My concern that I did not express would be that if the final rule were to adopt the draft that's not yet -- definitions from the draft, it might improve the final rule, but it would seem to me that it might project a message of unilateralism by the U.S. in an international standard process, and you had stressed harmonization. So that was why I jumped to the conclusion that there might be

an implied request that we delay the final rule until adoption of the draft version now so that we could be effectively harmonized.

Were there other paths you were thinking of?

MS. BRUNK: This is Debra Brunk again.

That is one path. A separate path might be to develop clarification language that is based on the current committee draft that could be incorporated into the DOE rule.

MR. BROOKMAN: Or you said earlier incorporated by reference or something like that.

MS. BRUNK: Well, again, I don't know everything surrounding this. It may be very difficult to incorporate by reference draft language. But that's where I think we're proposing some sort of clarification language that could be developed utilizing that draft.

MR. BROOKMAN: Gary.

MR. FERNSTROM: Gary Fernstrom.

So if I could weigh in on this issue, too, for PG&E, PG&E similarly supports harmonization, but does not want to see any significant delay.

MR. BROOKMAN: Thank you.

MR. BOWLEY: Yeah, this is Brice Bowley. I'm with G.E.

I mean, I agree with you, Gary. We'd have this date set out there at 2014, and we don't want to see a delay either. I mean, we'd like to process.

But as with AHAM's comments, we think we need to harmonize with the draft IEC version. Again, either whether that's delaying or just incorporating the current language of the draft into the DOE ruling.

MR. BROOKMAN: Okay. Thank you.

Yes, Debra.

MS. BRUNK: Debra Brunk.

If I might clarify, I think, I mean, just to clarify it, I don't believe we

would certainly be looking at any delay in the 2014 effective date. I think the date that may be at issue is what's in the law on EISA 2007, which is that March 31st, 2009 date that I think is probably more or less what's under discussion.

MR. BROOKMAN: Okay. Yes, please. Luke.

MR. HARMS: This is Luke Harms with Whirlpool.

I just want to echo AHAM's comments that we support formalizing with IEC 62301.

MR. BROOKMAN: Okay. So then proceed.

MS. REICH: The next question that's raised is what exactly is standby mode. EISA amendments to EPCA require that DOE consider IEC 62301 in defining that, and if we look at IEC 62301, it says that standby mode is the lowest power consumption mode that can't be switched off or influenced by the user and that may persist for an indefinite

amount of time when an appliance is connected to the main electrical supply in accordance with the manufacturer's instructions.

This is somewhat at odds with what the EISA amendments in EPCA provide as a definition of standby mode. Those definitions are that standby mode is a condition in which the product is connected to the main power source, and it offers one or more of very specific functions that are either user oriented or protective, and it goes on to list them.

It can be that it reactivates the unit by means of a remove switch or a remote control; has an internal sensor or timer to do the same function; or that it provides some consumer function, such as providing information or status displays or a sensor based function, some sort of temperature sensor, end state humidity sensor.

And in considering, in weighing the options for defining the standby modes, DOE

also notes that prior to the implementation of EISA 2007, that a definition for standby mode that was nearly identical to IEC 62301 was incorporated into the dishwasher test procedure.

Upon evaluation of these various definitions, DOE decided or is proposing to adopt the broader definition of standby mode that's provided under EPCA for reasons that it is more specific and provides greater clarity by defining exactly what those user functions are, and in addition, it also provides for or allows for the option of measuring multiple standby modes which could have different power consumption characteristics, and it would be desirable to accurately represent standby energy use by capturing each one of these modes.

So DOE is proposing to use that EPCA definition for the test procedures for both clothes dryers and air conditioners.

We invite comment on what the

differences are between these definitions, and those that are provided under EISA and those that are provided under IEC 62301.

MR. BROOKMAN: Debra.

MS. BRUNK: Debra Brunk, AHAM.

I think this is a good illustration of kind of where we are at in the harmonization process. The language in EISA 2007 was developed, in part, by using IEC 62301 committee draft one. And again, to clarify, they are now committee draft two.

And it was recognized at that point that the standby power mode definitions were changing from lowest power mode at the standby power definition to low power modes. And then also these additional clarifications were added.

So I think that describes the differences between the EISA 2007 language and the current draft of IEC 62301, and then to my point earlier, then what has happened with the second committee draft is just some additional

clarification even further on what standby power modes would be.

So I think that just sort of highlights how this process is sort of in the middle of the international development and clarification of this standard.

MR. BROOKMAN: How long has draft two been available?

MS. BRUNK: Draft two has been available since, I believe, November 1st, October 15th, around that time.

MR. BROOKMAN: Okay. So it has only been out for a couple of months.

MS. BRUNK: It has bene out a couple of months, correct.

MR. BROOKMAN: Okay. So then for the department to figure out a way to incorporate that in midstream here, you could imagine that would be something of a challenge.

Gary.

MR. FERNSTROM: Yes, it would be.

However, it might be easier for DOE if all of the parties agree to it.

MR. BROOKMAN: Ron Lewis.

MR. LEWIS: That's going to be a question for General Counsel, and they're unfortunately working on some high priority items right now.

MR. BROOKMAN: I'm just thinking about practicality of this in addition to the content.

Ron Lewis.

MR. LEWIS: Part of the dilemma we have you have just highlighted, that there was a draft one and now there's a draft two, and there's nothing saying that there wouldn't be further revisions. So at what point, we have things we have to move along with. So I think the EISA language was general in nature. However, the standing operating procedures as far as I understand it is that we can only incorporate -- in fact, we're going through some issues with the Federal Register that is

very, very granular and they scrutinize heavily incorporation by references, and they demand that we give copies of the things that we're incorporating by reference that they review for consistency. So something that's only draft mode I know would not get through the Federal Register and be published as a standard.

So we've got some issues that General Counsel will have to make some calls on. I think the issue is more how do we take the knowledge, be informed by the activities right now to believe that we can enhance the current version that's existing right now and finalized right now and do it in such a flexible way that it doesn't become obsolete before the effective date.

So it's going to be a challenge, but to the degree that we've got information that would help us to carve the text and develop language that's sustainable, but adds some clarification, I think the essence of

your point, we would want to do that. The methodology and our flexibility to do that, I think, is somewhat limited, but it doesn't mean that we don't want to try to do that.

MR. BROOKMAN: All of which means that your comments today are especially helpful to the department.

Harvey.

MR. SACHS: Harvey Sachs.

As I'm trying to think through these things, I'm first of all very appreciative of comments by the manufacturers, by G.E. in particular, that the effective date is not the issue because that's when we begin to harvest the energy savings from this procedure.

What might be very helpful to us who are not directly in this industry would be to get a better understanding of which changes really are going to cause heartburn if they are not done in terms of the ability to harmonize products internationally so that we

can focus on those which really would make a difference.

Some things will have differences in wording, but lead to very small differences, if any, in how products are tested, and there may be a few that are very important, and this might be helpful as we try to work with you with the department.

And the other thing that we would very much like to think about with you all and on our own will be the implications in kilowatt hours per year for divergent possible definitions as we go forward, which are things that will make a difference in energy consumption versus things that are inconsequential in the national picture.

Thank you.

MR. BROOKMAN: Debra, do you want to follow on?

MS. BRUNK: Yes. Debra Brunk with AHAM.

I think a follow-up to Harvey's

comment, as well as Ron Lewis' comments, I would note that AHAM has developed a set of guidelines for these different modes based on the committee draft two for IEC 62301. Those will be incorporated in our comments, but really, this is an effort by the industry, all of our divisions because they are affected by standby power, to come up with something that is representative, recognizing that the committee draft two has not been available for very long and recognizing that there are issues with any kind of referencing of a draft document. So those will be incorporated in our comments and made publicly available.

MR. BROOKMAN: Harvey.

MR. SACHS: Thank you very much.

And we very much appreciate the chance to review these. This is Harvey Sachs.

Ron, I'm hearing from you that it may be possible not to incorporate by reference, but to incorporate specific language derived from the 63201 in the

rulemaking.

MR. LEWIS: Again, I would specify --

MR. BROOKMAN: Ron Lewis.

MR. LEWIS: -- General Counsel will need to try and meet on this, but EISA directs us to consider, and there's a current version that's the only thing that we can really consider right now from adopting by reference.

However, the language that helps to clarify if there's something that's vague, something that could use elaboration, we certainly would explore the flexibilities there with GC. How can we express things that are DOE's interpretation of things that aren't specific?

I don't want to speak on behalf of the team, but GC will make that determination of what flexibilities we have. EISA does direct us to the IEC, you know, code there, the specific code, and the standing directive from General Counsel is their interpretation

is when we are told by the statute to go to a specific code and incorporate by reference, it has to be a specific year, a version. That's not a general thing that just is automatically updated when somebody updates something. It has to have, you know, a linkage to a specific one so that somebody knows exactly what they're being held to.

So we don't have the luxury of saying, you know, as amended, as will be amended, as will be changed. We have to link to what's there, but to the degree that there is confusion or lack of clarity or something, that the definition is open to interpretation of what it actually means, you know, we certainly want to explore that to incorporate any of these enhancements that are out there.

MR. SACHS: Harvey Sachs again.

Let me frame this as a very specific question, and I apologize for taking the time now, but it's in the hopes that it will help the process along. If other

affected such as our community and the utilities were to comment in support of the AHAM interpretations and of incorporating that language, would this help you in your fight with the absent GC ?

(Laughter.)

MR. BROOKMAN: Let me note for the record the GC is not in the room at the moment to defend themselves.

(Laughter.)

MR. LEWIS: That's correct.

MR. SACHS: I would have said the same thing had they been here. Oh, I'm sorry.

MR. LEWIS: Certainly whenever there's agreement and, you know, people feel this is the right thing to do, that's always helpful to have at hand. I think it's going to come down to if there is any conflict between what's existing.

Where it's clarification, where there's something that's vague and this is helpful in adding precision and helping

interpretation, but if there's a conflict of language or if there's a different instruction, that's where we're going to have a problem, and General Counsel is going to have to make a call on that.

So to the degree that everybody else is in agreement and supportive of the language, it's good to know that, and it's always better to have a sense of that, but I can't make the call for General Counsel, and I don't know as far as the team and Judy's reviewing of the document if there are any things that you're aware of that are in conflict or look like between the second draft, if you've seen that, and any conflict --

MS. REICH: I have not seen the second draft. So I can't say.

MR. BROOKMAN: And so, Debra, you volunteered earlier that there may be several different pathways to achieve this harmonization for draft two. So you can

suggest those in your comments, any of you, all of you. That would be helpful to the department.

Ron.

MR. LEWIS: And, in fact, if you have this document within AHAM that is reflecting on the current draft, the second draft, while we don't have a copy of that, we're not party to that; that might be helpful to better understand that draft.

MR. BROOKMAN: So Gary.

MR. FERNSTROM: Just to go back to the question raised earlier about when the lowest power mode begins, I think the reference to after a 30 minute stabilization period is fine with PG&E. So I'd like to bring that point out.

MR. BROOKMAN: Thank you. I appreciate that specificity and that clarification. Okay, good.

So then final comments on this segment before we move on?

(No response.)

MR. BROOKMAN: Okay.

MS. REICH: Let me just comment that while EISA requires considering IEC 62301, DOE actually looked more broadly at whether there were other test procedures that should also be considered. So reviewed test procedure and methodology that was being used or anticipated to be used in countries that are recognized to be leaders in the standby power arena, namely, Japan through its Top Runner Program and Korea with its E-Standby Program, and Australia which is very active in standby power, and it was determined that the procedures in use there are either similar to IEC 62301, at least the existing version, or actually reference that standard as well.

I think that we have talked about the issue in some detail already about this updated version of IEC 62301 and why DOE at this point is considering using the existing version of the 2005 version, and I just want

to point out as Ron indicated that in the event that IEC 62301 is finalized in an updated version, that it's anticipated that those amendments could be incorporated into the test procedure only through another DOE test procedure amendment.

All right.

MR. SACHS: Doug.

MR. BROOKMAN: Yes, Harvey.

MR. SACHS: Harvey Sachs.

Question, assuming that this really does matter, the definitions, and we're not able to get where everyone wanted to be within the statutory time limitation, how quickly could a technical revision of the test procedure to update it be undertake? Could that be done within a time frame that would not impact the 2014 date?

This is perhaps exploring one of your alternative paths.

MS. REICH: I can't comment on the DOE's scheduling of rulemakings. It, of

course, would also depend in part on when the IEC 62301 standard is finalized, second edition.

MR. BROOKMAN: Do you know when they anticipate the second edition will be complete, Debra?

MS. BRUNK: They are anticipating it will be published in June or July of 2009.

MR. BROOKMAN: I'm not sure that you're in a position. Ron Lewis.

MR. LEWIS: I can't comment on how quickly we'd do it. It depends on appropriations and the schedule, all of the things that we have, obligations to updates right now, and trying to fit it in. We certainly would want to do it as quickly as possible, but I can't give you, you know, that we would immediately start on it.

MR. BROOKMAN: This may be the kind of question you would direct toward General Counsel. Is there a precedent for something like a technical revision or something like

that for our existing test procedure?

MR. LEWIS: I believe that there are technical corrections that are possible quickly, but if there's something that was in error, you know, that was put in that was a mistype or something else, but actual especially changing -- if we're doing incorporation by reference, it's fairly complex.

The timing to make that happen, the one thing that has been available for a while that we would like to utilize wherever possible, and this is where your recommendation if we've got a note from everybody saying we are in agreement to this issue, that we do have available for us right now that wherever we get a consensus proposal presented to us, that we can do a NOPR and a direct final rule simultaneously, and if there are no serious objections to the NOPR, we can execute the final rule very quickly, and that saves us months of time, several months of

time.

So at a minimum we could do that, but I can't give you a commitment right now without looking at the schedule and without knowing appropriations and all the rest.

MS. BRUNK: Debra Brunk of AHAM.

I think I'd just throw out on the table that we do also have another NOPR rulemaking on this test procedure to incorporate some of the other changes to the test procedures that were suggested at the framework meeting.

So we have the standby issues, and we also have at some point later on -- I'm not sure what the timing is for that -- changes to things like RMC and number of cycles and those kinds of things to the test procedure. That is also coming along with that. That may or may not be an opportunity for something like this.

MR. BROOKMAN: Gary? Okay. So we're going to be moving on then.

MS. REICH: In order to determine exactly what are standby modes, DOE needs to refer to EPCA provisions for defining not only standby mode but active mode and off mode as well, and it's noted by reviewing what the definitions are for active and standby mode that for each one of these products, for both clothes dryers and room air conditioners there are going to be specific functionality associated with each one, and in fact, for standby modes there will be multiple standby modes that we'll talk about in the next slide.

Active mode is defined under EPCA as the unit is connected to a power source and is providing a main function. So it's necessary to define exactly what that main function is.

For clothes dryers DOE is proposing that active mode is performing the function of tumbling clothing with or without heating the air that's being circulate for the purposes of removing moisture from the clothing and/or to

prevent wrinkling of the clothing, if that would be a period after the main drying cycle where there's a little bit of tumbling going on to keep the load fluffed up. That would still be considered part of active mode.

For room air conditioners, the proposed amendments define active mode as the function of heating or cooling a conditioned space or circulating the air through the space by means of fan or blower, and these can be accomplished with or without energizing certain air cleaning components, and it might be a UV radiation function, filters, ozone generator or some other means for air cleaning.

We've talked about standby mode, and the key here is that it's defining --

MR. BROOKMAN: We will pause now. Gary?

MR. FERNSTROM: May we go back to active mode for a second?

MS. REICH: Yes.

MR. FERNSTROM: The power demand in the active mode tumbling, depending upon whether the heat is being utilized or not, would yield two different readings. Does the definition and test procedure allow for two different measures of power demand or energy use in active mode?

MS. REICH: In the existing DOE test procedure for energy factor? Is that the question?

MR. FERNSTROM: Well, I suppose I'm not clear with respect to what. I just want to make sure that we can get two measures of energy use in active mode because the one with heating would be different than the one without.

MS. REICH: Right. It is my recollection that the test procedure which is calculate the existing methodology for active mode is calculating an energy factor, and I believe that that test is based strictly on a heating tumbling cycle, that it does not

incorporate a measurement of tumbling without heating.

MR. FERNSTROM: Okay. Then let me modify my question. Is the test procedure consistent with the definitions then?

MS. REICH: Again, the test procedure is intended to calculate an efficiency for a drying cycle based on the amount of energy required per pound of clothing being dried. So the existing efficiency metric is a per cycle metric for a drying cycle with heat.

MR. FERNSTROM: Many of these products have different drying cycles that you can choose. So in which cycle mode, let's say, are we taking the measurement?

MS. REICH: I believe it's a mode that's defined as normal, which I assume is intended to represent average conditions that a user would be using the dryer under.

MR. FERNSTROM: Okay. Well, let's leave the question with respect to this

definition as it aligns with the test procedure. I'd just like to make sure that that's clear and tied down.

MR. BROOKMAN: Brice, did you want to comment?

MR. BOWLEY: Yeah. This is Brice Bowley.

I guess to Gary's point, I mean, talking about tumbling being a different active mode than tumbling with heating, I guess the problem you come to is that there are so many different energy consumptions depending on exactly which functions you select, I mean, I haven't gone through them all in a dryer, but I expect depending on which functions you select you've probably got ten or more energy consumptions, and it's just real hard to define, you know, what percent of the population is using that function for a certain period of time. Just quantifying it and tying an actual energy use to every specific function I think is very difficult.

MR. BROOKMAN: So, Judith, you thought that what's being proposed is the term "normal use" or something like that?

MS. REICH: Not being proposed. What's existing in the current DOE test procedure, the condition in which the dryer cycle is conducted is a representative normal temperature setting.

MR. BROOKMAN: debra.

MS. BRUNK: Debra Brunk with AHAM.

I think to Brice's comment, a couple of things. First of all, I think as we get into these definitions of active and standby, we're segregating out these different functions more than we ever have before. So I do agree that the DOE test procedure needs to take a look at all of those things that may never have been defined specifically as active or standby before, and look at, okay, does it make sense to incorporate this measurement into the test procedure. What is the energy use? Is there some factor perhaps that could

be used that might adjust for this, that kind of thing?

I think something like the tumbling without heating might be something like that where the energy use is relatively small compared to tumbling with heating, but does the test procedure capture it? And I think that's a good question, and it would need to be addressed.

So I think to Gary's point, I think it's important to make sure that the active use test procedures are consistent with what we're talking about here.

MR. BROOKMAN: On my dryer at home, you can do low, medium, high.

MS. REICH: Right.

MR. BROOKMAN: You know, there are lots of variations. So I'm going for a point here. Should the department try and specify a minimum and a maximum within active mode or how would you? This has a lot of potential --

MS. BRUNK: Again, this is Debra

Brunk.

I think the way that certainly the industry has tried to do this and certainly AHAM standards try to do this as well is you really try to take a conservative approach and a representative approach. You don't want the test to be burdensome. You want it to be reasonably reflective of what the consumer is going to use, and again, I think we tended to err on the side of conservative. So you might set it on all the highest settings. That's going to give you the worst possible case.

I think it's just a matter of making sure that some of these things are actually addressed in the active use test procedure so that we do know that it has been accounted for or has been thought of.

I think the key thing to keep in mind though is the way that the DOE test procedure is set up is it is a per cycle use, and so if you have a cool down cycle or you have -- well, we're going to do some of this

later -- it really kind of gets lumped into a cycle from start to finish, and it's really just a question of what you actually measure there and how it's defined.

And I don't think -- certainly as an industry we're not supportive of, you know, having to separate all of these things out because from a testing perspective that becomes terribly burdensome, and you are also looking at measuring extremely small amounts of energy compared to the large amount of energy that is actually what we're trying to deal with here.

MR. BROOKMAN: Gary.

MR. FERNSTROM: Well, to go to Debra's comment, you also wanted to be consistent and fair among all the manufacturers. So brand-to-brand comparisons are valid.

MR. BROOKMAN: Harvey.

MR. SACHS: Harvey Sachs.

I think we need to draw a

distinction between what it is that we measure in the laboratory and the numbers we generate in terms of an energy factor or its equivalent. As I've been thinking about this this morning, it seems to me that if I do my tumbling test on something that's arbitrarily defined as normal, there's an awful lot of permutation, combinatorial arithmetic that could get involved.

If instead -- and there's a lot of gaming that could get involved in terms of encouraging manufacturers to shorten up the cool-down cycle, to shorten up any kind of a tumbling cycle, and to make that drum tumble as slowly as possible, none of which I think is particularly valuable for consumers.

So the question I would ask is if the measurement of the active cycle could not be done in terms of watt-hours per rotation of the drum with the heating element done. Now, that can be done on a five-minute interval. It's a steady state integration. I realize it

sounds preposterous, but from that basic number, you both preserve, I think, some flexibility for the manufacturers to vary cycles and calculate some ES and a consistent measurement that's a relatively straightforward one to do. It's a counter in a watt army, and obviously that's with the same standard load.

But you're indicating that I'm totally off in left field.

MR. BROOKMAN: Well, let's hear another comment.

State your name for the record.

MR. BATTAGLIA: James Battaglia, Navigant Consulting.

I just want to clarify in the DOE test procedure it says to measure it at the highest temperature setting, not the normal.

MR. SACHS: I understand that, but we are talking about the --

MR. BROOKMAN: Harvey, speak so we can hear you.

MR. SACHS: Harvey Sachs.

We are talking about the active mode this will carry forward, but we are talking about the active mode energy consumption, and let's assume now it's a gas dryer. So we're not worrying about the heating element, the active mode when the heating element of whatever type is turned off in a cool-down cycle or an anti-wrinkle cycle.

Maybe I'm missing something.

MR. BROOKMAN: Yes, Brice.

MR. BOWLEY: Well, I kind of have a question because dryers are not my area.

MR. BROOKMAN: You have a question rather than a clarification?

MR. BOWLEY: I do, yes. I guess it's a question on the test procedure. If there's a tumbling, if there's an option to have tumbling or to turn it off, does the test procedure allow the tumbling to be turned off? Does anybody know that?

MR. BROOKMAN: Can anybody answer

that?

MS. DETRICK: Paige Detrick, BSH Home Appliances.

Today's procedure is a pure time dry at the highest possible setting, and with a fixed finishing percentage moisture. That means you don't come to the point of this cool-down state at all. So today it is not incorporated. It is with being the highest temperature program, it's a heated measurement. You may get a little off-on in any given dryer, but it's pretty much all heated.

MR. BROOKMAN: I see, and so going to Judith's earlier point, normal then it's specified in the test procedure as the highest or high.

MS. REICH: Yes, I was incorrect in stating that it requires a normal setting. It requires the highest setting.

MR. BROOKMAN: Okay, great. Thank you.

Gary.

MR. FERNSTROM: So then to go back to my earlier point, if I understand what has been said about the test procedure correctly, there is no element of the test procedure that provides for measuring tumbling action without the heat on.

MR. BROOKMAN: Paige is that what you said?

MS. DETRICK: Yes. Paige Detrick.

In today's procedure that is absolutely correct.

MR. FERNSTROM: But the new IEC procedure, do we know?

MS. BRUNK: This is Debra Brunk with AHAM.

The IEC 62301 procedure only addresses mode definitions. What it says is there are specific departments and energy standards that should be used to deal with how you would measure active energy use.

MR. FERNSTROM: Okay. So that the

conclusion --

MR. BROOKMAN: Just a second, Gary.

So could you be a little more specific? Could you say a little more about the direction it's heading in?

MS. BRUNK: The IEC 62301 standard only addresses how to measure energy in standby and off modes. It very clearly states under active -- it will define active mode, but then it very clearly states that there are specific standards for each product that are being developed to measure active energy use in a product, and that standard does not undertake to do that.

So there are DOE test procedures for measuring active energy use in a clothes dryer. There are other test procedures around the world that are used to measure active energy use.

MR. BROOKMAN: They don't choose to define it themselves. They rely on DOE and other test procedures?

MS. BRUNK: They define what active mode should be, and then what they say is that other standards should then define how high active energy use is measured and then further specify how standby and off mode energy will be measured for those.

MR. BROOKMAN: So thank you. Thank you.

Gary.

MR. FERNSTROM: So my conclusion is we have a mode of operation we've identified for which there is no test procedure to determine the performance measure.

MS. REICH: This is Judith Reich.

These are all very good inputs, but I'd like to clarify that the current test procedure amendments are specifically for addressing measuring standby and off mode power. The reason why we introduce the description of active mode is to say this is not a standby situation that we're considering, and so we are not in the current

rulemaking for this test procedure contemplating how to more effectively measure the active mode.

MR. BROOKMAN: I see.

MR. FERNSTROM: Thank you. That helps a lot.

MR. BROOKMAN: That helps a lot, yeah. Okay, okay.

So then additional comments on this point before we move on? Yes, one moment. Luke, please.

MR. HARMS: This is Luke Harms with Whirlpool.

Debra, correct me if I'm wrong, but according to you IEC 62301 active mode would also include delay start and cycle finish; is that correct?

MS. BRUNK: Yes, we'll get into that, I think, with later comments.

MR. HARMS: All right.

MS. BRUNK: But thanks for bringing that out.

MR. BROOKMAN: Okay. Thank you.

MS. REICH: We've already discussed with the EISA definitions are for standby modes, specifically the fact that it provides some function, either the reactivation of other functions or some consumer interface or sensor based function.

The reason why it's also important to define both active and standby mode up front is that we are proposing amendments to address off mode, and off mode is defined as it's connected to the main power source and isn't providing an active or standby mode function. So we need to know what it is that is excluded for off mode.

Let's delve into the details of what DOE is proposing to define as the specific standby modes in off mode for each product.

First, for clothes dryers, apparently unlike what the new version of IEC 62301 is proposing, DOE is considering cycle

finished and delay start mode to be standby modes rather than an active mode.

Cycle finish mode would be the period after the drying or tumbling cycle is completed, and that there is some sort of continuous display available to the consumer, whether that's status lights or a display indicator that shows that that cycle has been completed.

Delay start mode would occur prior to the initiation of the tumbling cycle, and in this case the user would be programming in a certain period of time that the dryer would be waiting prior to initiating the active mode. Again, it's typically defined by a display that shows the number of hours remaining until the start of that active cycle as a one or two-digit display.

So the fact that both of these modes provide some status or display information to the consumer would categorize that as a standby mode under the EPCA

definitions.

I talked about those first because inactive mode then is a standby mode that has some sort of a standby function, but that's not a delay start or cycle finished.

And then finally, again, off mode is a condition in which DOE interprets that definition to say that the product is consuming power, but not for any of the functions that are specifically called out under the EPCA definition of standby.

I certainly invite comment on these specific modes, the inactive delay start and cycle finish standby modes and the off mode, and would further invite any discussion on whether there are additional modes that haven't been identified.

MR. BROOKMAN: Yes, Debra.

MS. BRUNK: Debra Brunk with AHAM.

I think, again, we're going back to the committee draft two version for our comments. So you know where these are

referenced from.

AHAM's feelings are that delay start is not standby mode, again, based on this CD2 version of IEC 62301. Specifically in this draft it states delay start mode is a one off user initiated, short duration function that is associated with an active mode, and I think, again, this just highlights one of the clarifications in this draft that we've been talking a lot in the last year about where some of these things fall because this very clearly specifies where IEC believes this should fall, and we believe this makes sense with kind of what we talked about before.

It's part of a cycle, and it is a consumer use function. The consumer determines what they want to do with that.

Secondly, cycle finished, very similar issue there. We would argue that it is not a standby function. It is a limited time feature. I think it goes back to our 30

minute stabilization period. If that cycle finish display is, you know, power down prior to your -- you know, while you're stabilizing, then you know, that would not be incorporated into your standby power measurement.

Obviously, if it stayed on, it would fall in there. So actually describing it as the second mode or separate mode may not actually make sense. It may just need to fall into standby if it does not have the capability of powering down.

I will say that the definition for inactive mode is consistent with the CD2 draft of IEC 62301, although it is a little, I think, confusing, and I'm wondering if we might want to just call it a standby mode or something like that to be consistent so everyone is clear what that means, but certainly the definition is consistent.

And then finally, I think one thing that will come up, and it is something that IEC is struggling with right now as well, but

the idea of not work mode is prevalent out there in the international community. I think when we start talking about things like peak load sharing, ISO 2007, you know, requested DOE and us to look into the smart grid technologies. I think things along those lines are going to come up.

So it's really a question of where networking functions should fall, and I think there are a couple of different things in terms of how you look at what the appliance is trying to do and where those fall, and again, community draft two of IEC 62301 does address some specifics on network load.

MR. BROOKMAN: Thank you.

Gary.

MR. FERNSTROM: PG&E agrees with AHAM, with the caveat that if network mode is on all the time, we think that should be considered a standby function. If it's on for limited times the user selection, then it should be part of active.

MR. BROOKMAN: Additional comments on this series of mode descriptions?

Okay.

MS. REICH: For room air conditioners, we've already discussed what the active mode is defined as, and again, I'm going to start by talking about two standby modes that DOE is proposing as distinct from an active mode, and the first one of these standby modes is delay start. It's similar to delay start for a clothes dryer in which the user programs a certain time at which the room air conditioner would be activated, typically characterized again by some sort of time display showing remaining time prior to energization.

The off cycle mode has been proposed as a condition in which the room air conditioner is being used to provide cooling on a time average sense, but during this period there's a certain portion of the time when the compressor and fan are cycled off,

turned off as a result of the temperature sensor, indicating that at that point in time no cooling is necessary.

But it's waiting for a signal from a thermostat or the temperature sensor to tell it that at a certain point when the ambient temperature gets high enough that it would come back on.

And it was considered that this off cycle mode really could be thought of as part of the active mode because the compressor is cycling on and off and trying to maintain on a large time scale the average temperature of the room.

But it was noted that the existing DOE test procedure for active mode only covers the condition when the compressor is turned on, and that it was felt that this was a way to capture that energy use during the period when the compressor and fan are not operating.

Oh, let me go back up. The inactive mode then would be a standby mode,

again, that's not delay start or off cycle mode. And similar to clothes dryers as well, the off mode would be a condition which the room air conditioner is consuming power for something, but not any of the features that are associated with standby power.

Again, very interested to hear inputs on the definitions of these various modes and whether there are additional modes that should be considered.

MR. BROOKMAN: Debra.

MS. BRUNK: Debra Brunk with AHAM.

Same comments on the delay start as we have for the clothes dryers. The same definition we believe would apply.

The off cycle load, as DOE proposes it, is of concern to us. AHAM would argue that that is an active mode and, again, going back to this IEC 62301(c)(2), this draft defines thermostats or temperature control devices as part of the operating load or the main function, and IEC 62301 then goes to

describe what active load is the main function.

So, again, there's some consistency or I should say some inconsistency there with DOE's proposal and, again, these clarifications on the draft of IEC 62301, and AHAM does believe that thermostats should be part of active load.

I think another thing to bring up with both of these, delay start and the thermostats, is these are features that could be seen or should be seen as energy saving devices, and what happens is if you start to include these into a standby power -- and Brice, help me out here if I'm wrong -- but what you end up with is these units actually get penalized for having these energy saving features, including standby power as opposed to the active energy use.

MR. BROOKMAN: Brice.

MR. BOWLEY: I'll comment on that. I mean, again, the delay start and off cycle,

they're not available on a large number of units. Most of the mechanical control units don't have delay start or off cycle, and they are intended to provide some energy savings to the consumer.

Delay start, I mean, obviously, you know, you leave your house in the morning, you turn your air conditioner off and set it to turn on two hours before you come back in the evening. You know, that's considered an energy savings for the consumers in our minds. You know, they're able to use that to maintain control of their house and not use the appliance throughout the day basically wasting energy, and again, the off cycle is basically where you're cycling the compressor and the fan off. Again, that's not available on most mechanical units. Usually the fan runs continuous. So the off cycle is, again, seen as an energy saving function that, you know, saves energy by turning the fan off when you reach the set point temperatures.

And the way basically these functions have been grouped under standby power, you're penalizing appliances with delay cycle and off cycle models. They actually look like they use more energy than a mechanical unit that doesn't have these functions.

MR. BROOKMAN: Gary.

MR. FERNSTROM: I'd add that it's confusing to think of the air conditioner being in an off cycle when I've turned it on and it's just at the point in its active operation where the compression and maybe the fan has chosen not to run because the cooling requirements have been met.

So in my mind it's not very reasonable to consider that an off cycle mode. It's much more reasonable to consider it as part of the active mode.

MR. BROOKMAN: Debra.

MS. BRUNK: Debra Brunk with AHAM.

I just want to make one more

comment again similar to what we made with clothes dryers and certainly room air conditioners also, have this issue of network mode and your peak load power usage issues.

And so I think the idea of network mode really gets to be a realistic and to be consistent with the rest of the world, should be incorporated into this test procedure.

MR. BROOKMAN: Can you be more specific in what way it would be incorporated?

MS. BRUNK: Well, again, I think under clothes dryers I think it's a couple of different things. I think if you're looking at things like your peak load sharing, that that really becomes an active mode because your interaction with the grid is going to happen while the air conditioner is on.

I think other network modes if there's other things going on inside the house or whatever should be specifically placed under this network mode, which is set aside by IEC 62301.

MR. BROOKMAN: Okay. Thank you.

Gary Fernstrom.

MR. FERNSTROM: Well, a further thought on that. If the network mode energy consumption to maintain communication with the network and determine when an appropriate time to operate is and is not is consuming energy all the time, then I think it should be part of standby. If it's like delayed start and it's an occasional user activated communication to maybe check and see what the power grid condition is at the moment, then it probably should be part of active mode.

MR. BROOKMAN: Additional comments? Yes, Brice and then --

MR. BOWLEY: Well, one comment on the network model, probably to Gary's point. My understanding, some utility companies are basing rebates on, you know, peak load sharing, but there are some requirements in there that you can't turn off the peak load sharing. I mean, that's the only concern.

I agree if we can turn off the peak load sharing basically, you know, consider it as network mode according to the new IEC test procedure or new IEC standard, my only concern is that some utility companies may mandate us in order for consumers to get the rebates stay in peak load bearing mode.

MR. BROOKMAN: Gary.

MR. FERNSTROM: Okay. So regardless of whether the utility mandates that the communication capability be continuous or intermittent, there is an implication for standby power demand and standby energy use, and I would hope that these networks would be designed such that the power demand would be as low as possible and the communication would be intermittent rather than continuous, requiring a lot of annual energy use.

MR. BROOKMAN: Gary or pardon me. Harvey, did you have a comment?

MR. SACHS: Harvey Sachs.

I'm not sure if this is as relevant to this product class as it is to others, but in parallel with my comments on clothes washers and tumbling efficiency, I have a sense that one of the areas of future product efficiency improvements is in the air handling capabilities of the room air conditioners. You're seeing a couple of advanced motor types for small appliances. There are certainly some other options in terms of the fans.

In that context it makes the potential for the ventilate mode that's just bringing in unconditioned air to be larger as an energy saving opportunity, and as I'm listening to this conversation without having read the test procedure, I am concerned that we don't want to do something that would penalize efforts to enable greater efficiency paths through the air handling. In fact, if anything, the test procedure somewhere -- and I don't know if that's active or yet another defined mode -- might want to be looking at

the ventilation efficiency as a surrogate for the fan performance in general.

Again, I don't know how to do this. I only want to flag this as an issue where we want to encourage technology progress rather than discouraging it.

Brice, I like your --

MR. BROOKMAN: Are there additional comments on this section? Because we're going to shift to a different section next, right? I would suggest maybe we're about ready to take a break at this point.

It's by my watch 10:40, and so I'd like to suggest take a break and we can resume at five minutes till 11.

For those of you who aren't familiar with the building -- I think most of you are -- there are restrooms on both ends of the hall. Down on it would be the ground level, or is it one --

PARTICIPANT: Ground.

MR. BROOKMAN: -- ground, the

ground level, there is a coffee shop down there and they have refreshments and the like. Please make sure you wear your badge while you're in the building, and we're on the eighth floor and 8E is the corridor so that you can find your way back here.

Okay. So we're going to resume five minutes to 11. Thanks for a good start on the day.

(Whereupon, the foregoing matter went off the record at 10:41 a.m. and went back on the record at 10:59 a.m.)

MR. BROOKMAN: So then we're going to continue. We are now going to hear from Detlef, specifications for the test methods and measurements for standby mode and off mode testing.

MR. WESTPHALEN: Thanks, Doug.

And in case anybody didn't get my name, Detlef Westphalen. I'm with Navigant Consulting.

I'm going to be talking about, I

guess, the test procedures and, you know, additional specifications beyond IEC 62301. As was discussed earlier, you know, the test procedure has been based on the first version of 62301, and you know, there may be some debate there. If IEC could get a version two pushed through immediately, then we could seriously consider that.

But anyway, so 62301 was written in a general way to allow specificity to be put into different test procedures that would be relevant to the particular products involved, and so I'm going to be talking specifically about those additional specifications.

First, for clothes dryers, auto dimming displays, displays that might initially come on at a higher energy level and then dim down, DOE proposed that the test be conducted after the power level has dropped to its low level.

On delay start, I guess the thought process and developing the approach here comes

out of observations of, you know, what some of the different displays do, for instance, indicating the hours until the main function will start and different ways in which that indication could be provided.

So there was also an observation not specifically in tests of clothes dryers, but other products that different indications can lead to different standby wattage measurements. So there was a desire to set a standard test cycle for delayed start that would cause numbers to be displayed that would provide a representative average of the range of numbers which would be likely to be displayed, you know, over the course of what, you know, typical consumers would put their dryers through, you k now, typical use patterns.

And I'm not going to go into the details of how this particular sequence was set up, but that's sort of the thought process that went through in order to get an average

representative wattage measurement out of this test, and so we settled on setting the time delay for five hours and then waiting for the power equalization or stabilization and then doing a 60 minute test.

For clothes dryers, test room ambient temperature, DOE proposes test room ambient temperature consistent with the IEC standard. This is not identical to the temperature range for dryer testing, but the temperature range for dryer testing in the current test procedure is within the IEC range.

And so manufacturers would have the option depending on how they test the dryer if it's sequentially a test chamber that would also test the drying functions that they could use either range, you know. If they test the product separately from a dryer main function, then they could use the more relaxed IEC standard.

MR. BROOKMAN: Gary.

MR. FERNSTROM: Could we go back to the ambient for a moment? If I understand this correctly, the room from which the dryer draws make-up air could be 73 degrees plus or minus nine degrees. Is that correct or am I misunderstanding here?

MR. WESTPHALEN: Well, what we're talking about is now specific specifications for a standby test, not a dryer performance test.

MR. FERNSTROM: Thank you.

MR. BROOKMAN: Additional questions on this or comments?

(No response.)

MR. WESTPHALEN: Okay. Now, for room air conditioners, some additional specifications. We're following a similar procedure, you know, similar thought process in coming up with the delay start specification, the test specification, and we essentially came up with exactly the same procedure using -- set the time delay for five

hours after stabilization to a 60 minute test.

Now, specifications for standby and off mode testing of room air conditioners on test room temperature, essentially the specification here that was proposed is using 74 plus or minus two Fahrenheit and to use a set point temperature of 79, and again sort of a similar thought process that was followed for setting the delay start specifications that we wanted to select conditions which provides representative average level of wattage in what the display might be using that would represent a broad range of, you know, the likely conditions that consumers and the product would see.

And so we settled on the 74 plus or minus two. Now, the understanding is that some room air conditioners might have a temperature display that is the actual room temperature and some might have a temperature display which is the set point temperature. So we wanted to capture both of those in, you

know, a reasonable band and obviously with more leniency on the set point temperature for the space or the room ambient temperature because that would be more difficult to control.

And so we settled on the 74 plus or minus two and the 79 for the set point. These conditions obviously are a little bit different than the ASHRAE 16-80 plus or minus half a degree Fahrenheit, which is specified, you know, for the DOE cooling performance test. But the feeling is that these, number one, would be perhaps more representative of the actual -- the 74 would be perhaps more representative of the actual space condition during actual use of the product and also setting the set point higher than the ambient was selected so that the unit wouldn't actually be running and that you'd actually be in a standby mode.

MR. BROOKMAN: Brice.

MR. BOWLEY: A question regarding

this. Is the room temperature setting, is this just for delay start or is this proposal also for off cycle?

MR. WESTPHALEN: Well, this was done for all the standby testing. Okay. You're going to have a test room for standby. You wouldn't necessarily change the temperature if you then test off mode or inactive mode.

And so we invite comments.

MR. BROOKMAN: Comments on delay start test procedure, Debra.

MS. BRUNK: Debra Brunk with AHAM.

I think just as was noted earlier, AHAM believes that delay start should actually be incorporated into active energy. I think some of the considerations that DOE has put forward in terms of how that might be measured should be looked at for the active energy test procedure perhaps.

One concern there is the measurement and the fact that it can be

measuring a very, very small amount of energy over, you know, a ten minute time frame roughly and then incorporating that into the much larger active energy use does lead to some issues with accuracy.

I think the other concern that we would just have is I think it would make sense if DOE were to decide to measure delay start or incorporate an actual procedure for measuring delay start. It really should be consistent with, again, kind of carrying on this consistency mainly with IEC if it were decided that it would be measured in some kind of standby mode that you have your 30 minute stabilization period and then your ten minute measurement period.

Again, AHAM doesn't support that approach but rather supports the approach of incorporating it into an active mode measurement. And this would be true for both clothes dryers and room air conditioners.

MR. BROOKMAN: Yes, Brice.

MR. BOWLEY: A couple of comments, one being the room temperature. You know, basically we're putting a very tight tolerance around this room temperature control with this product which requires, you know, specialized rooms and labs, which we have for measuring the energy consumption during the active power model.

But basically to stabilize a room takes a significant amount of time, and to have basically a lower temperature means there has to be a dedicated room other than the room used for measuring active power. So it does add to the requirements for testing. Basically it would be a dedicated facility just for measuring standby.

Looking through the test procedures and the proposals, the only function that actually would require a different temperature setting than the 80 degrees would be potentially the off cycle model, and when you look at the energy calculations, I know

there's a question later on, but it accounts for approximately 0.01 percent of the total energy use of the project.

Again, we think of that as an active mode cycling off of the thermostat. It contributes very little to the actual energy use, and it adds a lot of burden to the manufacturers to have to add a new facility just to accommodate this new temperature range.

MR. BROOKMAN: Yes, Harvey.

MR. SACHS: If it cannot be shown that the temperature range tightness is required, we certainly don't have problems with relaxation. I would only want the record to reflect that the fraction of the energy use for the electric dryer in this cycle is quite different from the fraction for the gas dryer. Electricity use has become an energy consideration that has been introduced.

So the .01 percent would probably not be a good reflection of the energy use for

the gas dryer. I think that's why we're having this conversation.

MR. BROOKMAN: Okay. Thank you.

Yes, Brice.

MR. BOWLEY: One other comment. These have very defined set points where we set at 79 degrees, but many of them we have units that have basically mechanical control knobs that still have some of these functions that you would be measuring and there's no set temperature to actually -- you know, I can't set it to 79 degrees.

MR. BROOKMAN: Okay. So what then would you propose?

MR. BOWLEY: Well, again, really the only time we're interested in this, again, is off cycle. So my proposal would be that we consider off cycle an active mode and not try to incorporate it into the standard. But let's see. Basically it would be just to set it to a low temperature -- to the highest temperature. Excuse me. To set it to the

highest temperature and leave the room at 80 degrees. I think most of the units would accommodate that.

My proposal would be to include in the active mode.

MR. WESTPHALEN: Yeah, I think if you had a mechanical unit, you wouldn't be measuring -- you may be measuring off cycle, but you wouldn't see differences because there wouldn't be a display.

MR. BROOKMAN: Additional comments? Yes, Debra.

MS. BRUNK: Debra Brunk with AHAM.

Just additional comments to support G.E.'s comments in regards specifically to room air conditioners. Again, there is the issue of the difference in the ambient temperatures between the standby mode measurements and the active mode measurements and that is some concern. Again, we're looking at different test chambers, and that can be difficult when you're trying to do

these climate control rooms.

I think the other concern that Brice brought up is as we mentioned before, this off cycle measurement of the thermostat we feel really should be put into active mode, and if you do that, then that no longer becomes an issue for what the temperature needs to be for measuring standby. That could actually be measured then in the control room that you do for the active test, and it still is within the IEC bounds. It's on the upper end, but it is within the IEC bounds for the temperature specifications.

MR. LEWIS: Before you move on.

MR. BROOKMAN: Yes, please. Ron Lewis.

MR. LEWIS: I just checked with General Counsel on some issues that came up earlier, and I was correct that we can't incorporate anything in the draft that has not been approved and is not a final product. The pathways that may be open to us as far as

flexibility with language, the quickest pathways if it's just a correction, so if the draft two was only correcting errors in the earlier version and there wasn't anything of substance, there's a quick way to do that, but what I heard this morning it didn't sound like that was limited to corrections. It's changes in actual criteria.

So we need to look at the language, and the more you can put in your comments as far as specifics and trying to see how we can incorporate it, but it is not possible for us to reference a document that has not been approved and incorporate it by reference.

MR. BROOKMAN: Okay. Thank you.

So then before we move on, additional comments on delay start test procedure.

MR. WESTPHALEN: I think these comments apply to all of the specifications regarding all of the test procedures.

I think we already covered comments

on test room conditions. So the next section addresses calculation of energy use associated with standby modes and off mode.

I guess first of all, calculating the energy use essentially is wattage times hours in the year equals energy use for the year. That's pretty straightforward. What's not straightforward is establishing what are the correct number of hours per unit, and so most of this discussion addresses that.

So starting with clothes dryers, looking at the current test procedure, there is a precedent set by the gas pilot where number of hours are selected as being active mode hours per year, specifically 140, and that the rest of the year is associated with the gas pilot or standby mode.

So DOE proposes to adopt the 140 hours that set as a precedent for the active mode, and then associate the remaining eight, 620 hours with standby and off modes.

And so some investigation was done,

really very limited data that would really indicate how many hours are associated with each of these modes, especially since some of these features of these products haven't really made their way into the bulk of the existing market.

One study that was looked at was one conducted in 2000 in Australia. That admittedly is some time ago. The average age of the dryers was 11 years, which puts us back to 1989. However, here's some information. There's probably less drying going on in Australia, 15 minutes for drying in the active mode per day.

(Laughter.)

MR. WESTPHALEN: It's one a dry day. They dry their clothes on one.

Zero time for delay start and active standby, and there again looking at the average age of these dryers, one might surmise that they have mechanical controls and don't have these modes. And then the remaining

hours were split five percent per cycle finished or what was called in Australia end of program, and then 90 percent for off mode.

So as mentioned, due to the suspicion that the average age of the dryers in the study is such that they probably didn't have, you know, all of these modes, you know, we're not going to draw conclusions about the zero hours spent in those modes.

A different study that we found upon clothes washers in Australia and New Zealand, and this was on products that were actually monitored, and they did have more sophisticated controls and they could be monitored, showed that the average amount of time spent in delay start mode per wash cycle was approximately five minutes.

And we feel that in the absence of additional good or better data, that you know, the results for clothes washers could be applied to dryers.

MR. BROOKMAN: Gary.

MR. FERNSTROM: A comment on that. If you were to average the time associated with delayed start, you'd be averaging a few uses of the delayed start feature with many non-uses. So you probably would get a very low average.

However, for those people using the delayed start, the delay might be significantly longer than five minutes, right?

MR. WESTPHALEN: Correct. The attempt is to come up with a time that if averaged out over, you know, a representative population of users, you know, this is time per cycle or time per year.

MR. FERNSTROM: Okay. Thank you.

MR. WESTPHALEN: And obviously, if you use it differently, you'd have different results.

So based on these two information sources, you know, a typical modern clothes dryer might spend a small amount of time in delay start. Here we're using the five-minute

per cycle suggestion. The 416 cycles per year, which is specified in the DOE test procedure, giving 34 hours per year for delay start limit.

And then the time not associated with active mode or delay start mode we're proposing to be split as suggested by the dryer study, five percent to cycle finished and 95 percent to off or inactive mode. I'll talk more about the off and inactive and how that splits.

But for a representative dryer, I believe this is energy factor 3.01. You know, this is how the energy use might stack up according to these estimates of hours, and here we have a representative of typical wattages. The wattage for the active mode is simply dividing the annual energy use by the hours that are specified in the test procedure.

Delay start, 34 hours, as mentioned previously, the suggestion that maybe there

will be three watts. I mean, there are ranges. It's in the ball park. It might be a little bit high for a modern product. You know, you get annual energy use of .1 and, you know, likewise for the other modes, and so this gives some indication of how much energy is used for these standby and off modes.

And so depending on which of these modes are present in a particular product, you have a matrix of hours that would be associated with, and this can be described through logical statements as it is in the test procedure draft.

MR. BROOKMAN: Gary.

Yes, I presume that as we're going through these charts that people are going to comment if they don't agree with these assumptions or these derivations.

Gary.

MR. FERNSTROM: Could we go back to the last chart, please? Clearly, the annual energy use associated with delayed start and

finish cycle is pretty insignificant. Are we capturing in these measurements the energy use associated with the display that the appliance might have?

MR. WESTPHALEN: Well, when the measurement is made, that would measure the wattage consumed by the display and anything else that might be active -- sorry -- that might be energized -- don't want to use the term "active" in the wrong sense -- and that might, you know, add up to the three watts roughly that we're talkinga bout.

MR. FERNSTROM: So the display energy use would be captured in the mode off or inactive; is that correct?

MR. WESTPHALEN: Well, yes. If there's a display when the unit is in off or inactive mode, it would be captured in the off or inactive measurement. There might be a display in some of these other modes as well that would be captured in the measurement for those modes.

Does that answer the question?

MR. FERNSTROM: I believe it does. So an annual energy use in the range of four to 24 kilowatt hours is pretty low, and that would indicate that for the 8760 hours a year minus the number of hours the appliance's inactive delayed start and cycle finish mode, which would be a larger number of annual operating hours, the power demand presented by the display would have to be very, very low.

MR. WESTPHALEN: Well, yeah. I mean, manufacturers can comment if the half to three is representative of products, but --

MR. FERNSTROM: So let me ask the manufacturers. Do current dryers in production have very, very lower power demand displays?

MR. BROOKMAN: I see a few manufacturers nodding their head. Brice, you'll speak on the record?

MR. BOWLEY: This is Brice Bowley, G.E.

I can't answer specifically for dryers, but as far as displays, the half to three watts is typical of displays on other appliances. So I expect that would be typical of dryers as well.

MR. BROOKMAN: Oh, go ahead. Debra.

MS. BRUNK: This is Debra Brunk from AHAM.

All I would want to say is, yes, we believe these are typical. I think one thing to be careful of here though is we're kind of in the chicken and the egg scenario here. We were just kind of finishing up, I would say, at least from the U.S. perspective defining some of these definite defining standby mode and off mode and all of that kind of thing.

So I think once we feel now we have a fairly good route is now we can go back and actually measure these and have some better idea of whether all of our products fall into these rounds. I think before this

we've had difficulty doing that because of the vagueness of some of these test procedures.

So, again, I would mention that our senses, yes, I think these numbers are good and based on the small amount of data available not only on use and standby modes and those kinds of things, we think this is probably fairly representative.

I think once we have a more finalized test procedure for measuring standby mode and off mode, we would certainly have a better idea of if these numbers are realistic and can comment more effectively on that.

MR. BROOKMAN: Paige.

MS. DETRICK: Yes, Paige Detrick, ESH.

Yeah, I can't comment on exactly numbers for the reasons cited by Debra and others. However, they are typically very, very low because these displays are simple, small count LED type displays pretty much exclusively I'd say.

However, these very, very small amounts of energy go back to some of the other comments that have been made about the difficulty in measuring that kind of tiny amount of energy with great accuracy, and multiplying it out you get more error from this than perhaps it's worth, and this goes back to the suggestion that a factor, a correction factor be placed in and included in active mode rather than some of these things being split out into little, tiny minuscule pieces and trying to sum them back up.

MR. BROOKMAN: Thank you.

MR. WESTPHALEN: Is there a suggestion there that the test equipment required, for instance, by IEC 62301 really doesn't provide enough accuracy?

MS. BRUNK: This is Debra Brunk from AHAM.

I don't think there are issues with the test equipment per se. I think it comes down to if you are measuring a very low

wattage, and I think they're going to take it down to, say, half a watt. I think there's some degree of accuracy there or precision, which. I always get confused which is which, but as soon as you start multiplying by a lot of these assumptions, it just becomes somewhat -- you're taking a very, very small number and then multiplying it, you know.

MR. BROOKMAN: Ron Lewis.

MR. LEWIS: I just want to. Earlier today somebody had reminded us at a very appropriate time that the issue today was to look at standby mode and active mode, standby and off mode, that the statute that we're responding to here, that we're doing this amendment to an existing test procedure was specifically referencing the IEC existing standard, and it specifically commanded us, directed us to go and look at these provisions, the standby and the off mode.

So we're executing what we're directed to do. So the logic in trying to

discriminate between what is standby and what is off, we're trying to be as precise as we can be and be in concert with the IEC definition as much as possible and try to do all of the things we're directed to do.

As far as the logic and the difficulties with precision, being able to measure something where we want to be sensitive to that, it's only within the degree of, you know, what we're commanded to do. If we're commanded to define and there's a definition for standby, then the consequence of that definition is you need to measure it. So, you know, in looking at how we go about that, then how that goes into a standard, you know, that this test procedure is only to show that you're in compliance with the standard, that's another question for the future on the tolerances.

But I think there are many things in play, and we need to once in a while go back and recheck what is the actual mission

here, and the mission is we were directed by Congress to look at standby and off mode. What is connected to that, the definitions, the IEC relationship.

So this was not a free form DOE go do what you want to do with it. So the discussion is always helpful to understand the complexities, but it doesn't necessarily mean that we have the flexibility to make a lot of changes.

MR. BROOKMAN: Gary.

MR. FERNSTROM: Okay. So, Doug, I'd like to make an observation about the off and inactive energy use, and four to 24 kilowatt hours a year might not seem like much, particularly relative to the 967 estimated in active mode. However, when you've got a gazillion appliances around the house, your dryer, your washer, your dishwasher, your refrigerator, your microwave, your oven, all of these things, having this standby energy use, it adds up, and we would

very much like to see the annual use be down in the range of four to eight kilowatt hours rather than up toward the 24 kilowatt hour end of the range because there are many appliances that add up in the home using this energy.

MR. BROOKMAN: Thank you.

Additional comments on this chart and these figures and imbedded assumptions?

(No response.)

MR. WESTPHALEN: I think we talked about the matrix of hours.

Then the next topic here is splitting the off and inactive modes. We have a number of hours here in off and inactive mode depending on what modes are possible for the product, and then how do you split those between off and inactive?

So DOE proposes that if both modes are available or possible for the product, that you split them half and half in the absence of any good, solid information as to what would be more reasonable. If only

inactive mode is possible for the product, then obviously that would be the mode that would have those hours, and if only off mode is available, then obviously that mode would be associated with those hours.

And this slide just basically says what I said earlier, that energy use is for each mode the wattage time the hours, and then you sum up the results, make some conversions so that we're talkinga bout kilowatt hours, and then for the per cycle energy, divide by the 416 cycles per year for a dryer.

Now, we have also presented an alternative approach to what I've just discussed and basically observing that in this table here that the amount of energy associated with the delay start and cycle finish is actually pretty low, and so another possibility is that we only specify hours for off and inactive modes and basically take all of the 8,620 hours which are not associated with active mode and allocate them to inactive

and off. So that's an alternative proposal that could be considered.

And at this point I guess we request comment on all of the foregoing, on establishing the energy use and standby of the dryers.

MR. BROOKMAN: Debra.

MS. BRUNK: Debra Brunk.

I think we've covered a little bit around the accuracy on these tests. Again, I think, you know, in general AHAM supports the estimates that DOE has come up for these values, but I think ultimately the alternative approach -- we've spent a lot of time talking about this -- the alternative approach we believe makes the most sense where you're talking -- let me make sure I get the right wording here -- you're often in the active o defining those together and looking at those wholly, and your delay start and cycle finish, because they are low energy use, are not really taken into account, so to speak, and I

think that also goes with our earlier proposal, is that those would just get rolled up int active mode, and I think the only thing we might request is that there just be some specification at some point where those actually do fall into.

But I think just from the energy that we're talking about and the simplicity and actually carrying out the test, coming the off and the inactive both could be measured separately but then combining them and calculating hours for those would make the most sense.

MR. WESTPHALEN: Can I just get some clarification? Are you taking the step or suggesting that some of the hours that we suggested might be associated with off cycle or delay start, would then be -- I'm mixing products here, cycle finish -- would then be allocated as active mode hours so that we're essentially reducing the 8620 a little bit?

MS. BRUNK: Debra Brunk.

I think that would be correct and would be consistent with our proposal earlier in terms of privatization with IEC, just to keep things clear.

MR. WESTPHALEN: Okay. Thank you.

MR. BROOKMAN: Additional comments? Yes, Brice.

MR. BOWLEY: Brice at G.E.

The only concern I would have about allocating the cycle finish and delay into the active, to adding those hours there is basically if you're adding those additional hours without the actual heat, I mean, it seems like you need the test revised before you start adding those hours to the active model and multiply it to get your energy usage because those, again, are low energy use functions, and if you add those hours to the active model, it's going to inaccurately inflate the actual energy usage.

MR. WESTPHALEN: Okay. I don't think that's -- I mean, I even thought through

exactly what Debra's suggestion would lead to, but I don't think that would necessarily mean that, I mean, unless you're separately measuring those modes and then somehow adding them in.

MR. BOWLEY: Well, what I'm saying is right now we have active at 140 and all other modes at 8620, right?

MR. WESTPHALEN: I guess my point is just that the 140 hours doesn't factor into the annual energy use calculation at all for active mode.

MR. BOWLEY: Okay.

MR. WESTPHALEN: So I don't think it would.

MR. BOWLEY: Okay.

MR. WESTPHALEN: By following her suggestion, it would only reduce the 8620 and reduce the amount of energy associated with that inactive and off.

Okay. So we'll move on to calculating energy use for standby and off

modes for room air conditioners. And, again, it's the same situation. The energy use is the wattage times the hours per year, and then summing up the energy use for the different modes.

And the key challenge is to determine and agree on what are the appropriate number of hours. And so one of the first observations made is that, well, not all room air conditioners are plugged in throughout the year, and DOE made an estimate of how much unplugged time there is on average spread out over all air conditioners by assuming that half of the units are unplugged for half the year.

And you know, if there is better data than that assumption out there, we welcome that. But basically that adds up to 2,190 average annual unplugged hours. So the plugged in hours add up to 6,570 essentially subtracting the two numbers.

Now, the cooling season, this gets

a little bit more complicated for room AC than for dryers, and we'll step through it step by step here. It's assumed that the prime cooling season lasts 90 days a year, which is 2,160 hours, essentially three months, and that during this time, the room air conditioners spend 750 in active cooling mode.

Now, that's the number of hours associated with active cooling mode in the current test procedure.

Looking at delay start, it is assumed that ten percent of room air conditioners that have a delay start mode function will using the function for ten hours a day during the cooling season, and again, you know, if there are good estimates of what would be more accurate estimate of typical usage patterns, we welcome that.

Ninety days times ten hours a day for ten percent of the units, that's average 90 hours annually in delay start mode.

So then of the 2160 cooling season

hours, we subtract the 750 active cooling mode hours and the 90 annual averaged out delay start mode hours, and we get 1,320 remaining cooling season hours, and then we make sort of an arbitrary assumption here that we think it's reasonable that these hours might be split equally into the three of these modes listed below that are applicable for that particular product.

Fan only mode, this is the mode in which, for instance, for a mechanical control unit in which the compressor shuts down and the unit is in constant fan mode when the compressor is cycled off. Some units also have the option for the user to set the ventilation mode.

Then off cycle mode for some of those hours, and then inactive mode.

So the inactive and/or off mode hours, we have some of those as discussed in the previous slide from the cooling system, and then for the rest of the year it's assumed

that all of those remaining hours are off and inactive. So that would add up to 4,410, which are then added to the cooling season off, inactive hours.

So for an example, where three of those possible modes are applicable for the product, we have 440 additional hours that would add to the 4410 to get for this product 4850 annual inactive and off mode hours.

And so for a typical product and 8,000 BTU per hour room air conditioner with a 9 EER rating, if all the modes are possible, we get the following breakdown of the hours, and I've also indicated typical wattages, again, and some of these numbers are a little bit different than what we've seen on the dryer chart, but they're essentially the same order of magnitude.

And then we get the annual energy use calculation for these different modes, pretty much the same as I showed on dryers.

And, again, you know, we have the

matrix of hours that would be established for each product depending on which of the modes are applicable for it.

Again, splitting the off and inactive modes into which ones are appropriate depends on the product. If the product is capable of having both of these modes, then the proposal is to split those hours equally.

And again, the calculation is for each mode wattage times the hours for the year gives the energy, and then divide by 1,000 to convert to kilowatt hours.

Again, we have put forth this alternative approach, recognizing that the delay start and off cycle modes represent a small number of hours leading to a small amount of energy use, and that an alternative proposal might be that we associate all of the non-active hours, which totals 5,115, allocate those to inactive and off modes.

So we seek comment on all of that, establishment of the hours for the different

modes.

MR. BROOKMAN: Yes, Debra.

MS. BRUNK: Debra Brunk from AHAM.

I think similar to what we mentioned with the clothes dryers, we would support DOE's alternative proposal, again, just for simplicity.

MR. BROOKMAN: Brice.

MR. BOWLEY: Yeah, again, G.E. would support the alternate proposal of measuring just active and the off and inactive, again, since delay start and off cycle represent a very low energy usage.

Another comment on this is that the delay start and off cycle, really the hours again there come off of the active mode. I mean, you're not -- the off cycle would not -- whether a product has off cycle or not, would not affect the amount of standby time because it's going to affect the amount of actual active run time.

MR. WESTPHALEN: You're saying the

off cycle --

MR. BOWLEY: Well, an off cycle does not reduce the amount of standby time. It reduces the amount of active run time.

MR. WESTPHALEN: Well, I guess according to the way -- I mean, we're talking about 750 hours active.

MR. BOWLEY: I understand.

MR. WESTPHALEN: And I understand that for a given situation -- I think your comment applies perhaps more to the delay start than the off cycle.

MR. BOWLEY: I think it applies to both really, and you're not reducing the compressor run time. You're reducing the fan run time.

Well, I'm sorry. Delay start reduces both, compressor and fan.

MR. WESTPHALEN: Right.

MR. BOWLEY: Off cycle reduces fan run time.

MR. WESTPHALEN: Right, but nobody

is measuring fan only.

MR. BOWLEY: I understand, but I mean, the point is the way it's written now and the way the hours are allocated is why a mechanical unit without delay start and off cycle, the mechanical unit without those functions seems to perform better than a unit with those functions because they're all allocated to a standard.

MR. WESTPHALEN: Yeah, I understand.

MR. BOWLEY: Okay.

MR. BROOKMAN: Other comments on this series of slides?

MR. SACHS: I would just say that we would share that concern of features that really tend to discourage the advanced technologies.

MR. BROOKMAN: Thank you, Harvey.

Okay. Judith, are you up net or are you continuing?

MR. WESTPHALEN: I think Judy was

going to be presenting the measures of energy.

MR. BROOKMAN: Yes.

MS. REICH: All right. The next topic is fairly straight forward. It's what are the proposed measures for energy consumption that incorporate these standby and off mode energy consumption.

We first note that the existing test procedures provide several energy consumption metrics. For clothes dryers these are defined on a per cycle basis and very straightforward for electric dryers. It's simply the total per cycle consumption of electricity.

For gas dryers different measurements are made for the electrical energy consumption, for the controls and the motor, and the gas consumption for both the drying function and for any standing pilot.

And then these are all rolled together into a total energy consumption for gas dryers that is expressed both in BTUs and

kilowatt hours.

Regardless of whether it's a gas or electric dryer, that's converted to an energy factor parameter which is, again on a per cycle basis. It's the weight of the test cloth load divided by the total energy consumption expressed in actually I believe that's watt-hours, kilowatt hours -- I'm sorry -- per cycle.

For room air conditioners, the metrics are defined conversely on an annual basis. So there are two of them in annual energy consumption in kilowatt hours and in EER. EER I'll talk about in a moment. It's basically the cooling capacity times the number of hours. It's in cooling mode divided by the energy consumption.

EISA 2007 is very specific on how we are supposed to handle integrating standby and off mode measurements, and it basically says that DOE shall roll together the energy consumption, standby and off mode, into the

existing energy metrics unless either the test procedure already fully accounts for these standby and off modes or it's technically infeasible to put them together.

And then further, if it is technically infeasible to roll them together, that DOE is required to prescribe a separate prescriptive standby and off mode limit unless that, too, is technically infeasible.

The issue of this technical feasibility of incorporating active and standby mode energy use into the single metric was explored by DOE, and it was considered that there are test procedures that do incorporate a per cycle efficiency measurement with standby energy use where standby is measured over a long period of time, and it was determined that putting these two metrics that are defined on different bases does have meaning if the difference between the primary or active mode energy use is so large that putting in this small percentage of energy

that's measured over longer periods of time does not substantially impact that overall per cycle measurement as would be the case for clothes dryers.

And actually for room air conditioners you're comparing them on the same basis in terms of annual energy consumption for each mode. So that by definition would be a technically feasible action to perform.

So it was determine and DOE is proposing that for both products, standby and off mode energy consumption, be incorporated into the existing metrics for the energy conservation standards.

Therefore, DOE is proposing to add to the test procedure several integrated measures of standby and active mode energy consumption, and these would be in addition to the existing metrics that are already defined.

First, for clothes dryers, the proposed metric for total energy consumption per cycle would be this integrated per cycle

measurement. Again, for electric clothes dryers, it's very straightforward. It just adds in together the electricity that's used for the active mode per cycle with what's used in standby.

For gas dryers, the integrated metric rolls together the electricity consumption in standby and off modes with the equivalent total combined gas and electric energy consumption in active mode that's expressed in kilowatt hours.

This is then used to define an integrated energy factor, very similar to the original energy factor, which is the test load weight divided by this integrated energy consumption.

An analogous situation exists for the proposal for room air conditioners where ODE is adding, proposing to add in an integrated annual energy consumption metric, which is very straightforward, active plus standby, in defining an integrated EER with

the same definition of the cooling capacity in BTU per hour times the 750 assumed cooling mode hours divided by this integrated annual energy consumption expressed in watt hours.

At this point I would like to invite comment on these integrated metrics.

MR. BROOKMAN: Debra.

MS. BRUNK: Debra Brunk with AHAM.

AHAM would support DOE's proposal to combine these metrics and incorporate the standby and off mode energy into the overall energy use product. Looking at the proposals for the integrated energies or integrated factors, we tentatively support these. We need to look at them in a little bit more detail.

I do have one question though. Judy, you had mentioned that these are in addition to the existing metrics already defined. So is DOE proposing actually going forward with a per cycle total energy consumption and a per cycle integrated total

energy consumption for clothes dryers as well as an EF and integrated EF?

MS. REICH: Well, I think it is important to realize this is just for the test procedure as opposed to for the standards and the intent is that when the test procedure becomes effective in the standards, there will be or it will not be required to be used to measure the integrated metrics until the new standard comes into place, and at that point there will be the clarifying language that says it, that you don't need to measure those integrated parameters. That clarification would be removed so that the standard then would be based on the integrated measurements.

But the intent was to leave the existing metrics in place and available for use up until the time that the new standard becomes effective.

MR. BROOKMAN: Harvey.

MR. SACHS: Harvey Sachs.

Please let these comments be taken

as a placeholder, but I guess I'm very concerned that the public policy objective in EISA as I have followed it and understood it was to encourage limitations of the amount of energy wasted when the machine is not doing its job, whatever class of machine that is.

And from that perspective, recognizing that we have several different categories of not doing the job, the difference between at lease and parade rest, if you want to use a military analogy, it would seem to me that it would be far more straightforward given that we have to measure these things anyhow to simply have a limitation on the wattage at each of these non-operating cycle conditions, and this would offer the direct encouragement to the manufacturers to incorporate things like the good power supplies that lead us to less wasted energy when the machine is not doing its job.

And thus, I would -- again not

offering this as an official position now, I'm not sure why we're doing all of this running around the room and mixing in source use of gas with site use of electricity and all of this other stuff to present these integrated measures that don't help us get to minimization of the relatively small contribution of the non-duty cycle energy use.

MS. REICH: Right. I don't disagree with perhaps the intent or outcome, but there is a statutory requirement in EISA that says if it is technically feasible to integrate it, DOE shall do that, and the determination hinges on whether that determination can be made of technical feasibility.

And in this case we believe that technically it is feasible. So you know, EISA is very clear in what we have to do.

MR. SACHS: Then I would make the argument -- this is Harvey again -- that it is not technically feasible unless you express

all of this stuff in source energy because we have so many disagreements about the appropriate conversions of source to site and because it varies so much among regions and at different times of day.

So I would make the argument that if that's the case that it may not be technically feasible to do what you're claiming to have done.

MR. BROOKMAN: Gary.

MR. FERNSTROM: Well, I'd just like to make the observation, understanding the legal requirements and limitations, that I don't think this is taking us where we would reasonably like to go. Many of these appliances have a large amount of use associated with their active mode and a small amount of energy use with their standby mode.

Yes, those measurements can be combined, and it sounds like we're obliged to think about it that way. However, the cost of reducing the standby mode energy use, which is

small but could be made very inexpensively smaller, is low. So you know, that's the simple outcome PG&E would like to see.

And you know, that would come from some prescriptive limitation on standby energy use or some voluntary agreement, you know, to subscribe to a limitation on standby energy use.

And this whole process just by virtue of the way it's dictated and laid out doesn't seem to get us to that possible outcome.

MR. BROOKMAN: Ron Lewis.

MR. LEWIS: Again, returning to the foundational premise of why we're here together today, it's not on the standard. It's on the test procedure. We can't set a limit that's a standard limit on a test procedure. So the issue here, we're following the directive within the statute of what we need to do in the time prescribed, that we have to have everything, all appliances we

have to evaluate and be ready for anything that comes out in June 2010, is it, that has to include the off mode and the standby mode?

And I think Harvey's characterization is correct of what the intent probably was, although I'm not speaking on behalf of General Counsel.

MR. BROOKMAN: Thanks for that clarification.

MR. LEWIS: The issue here though is --

MR. SACHS: General Counsel has shown not to speak for themselves.

MR. LEWIS: No, they are doing good work right now, and I am very supportive of what they're doing right now.

What I just want to remind us of is we have a requirement. We're trying to do it in a fashion that is fulfilling that requirement, but we're having this discussion to try to maintain some sanity and do it in the most effective way that we can do it and

considering all the facts.

So your input is great. I mean, there are a lot of issues that I haven't thought of that you're raising today, and this is really wonderful, except, you know, our limitations and what we can do. We can't say standard within the test procedure. We have to have this done by a certain time.

There are all kinds of issues that are kind of handcuffing us on what our flexibilities are, but this input is wonderful for us to consider and play those flexibilities to the maximum to have a good outcome.

MR. BROOKMAN: Harvey.

MR. SACHS: Thank you, Ron. I very much appreciate that. This is again Harvey.

But the corollary or inverse of what you've just said would seem to be that we can't set a standard if the test procedure does not leave us the right set of metrics to set a standard on. And in that context, if

the goal of the EISA -- and I would remind us all unnecessarily, I hope, that the goal of the efficiency standards is to save energy -- then if we do not set a test procedure that allows us to set a standard on the things that matter, we have not done our job. We have done something which is perhaps technically feasible, although I'd challenge that, and largely irrelevant.

MR. BROOKMAN: Gary.

MR. FERNSTROM: So thanks for the reminder, Ron, keeping us on track here, but I agree with Harvey. You know, we need the test procedure to support the ultimate standard.

MR. BROOKMAN: Yes, Ron.

MR. LEWIS: Doing an amendment to only meet our requirement on this is very awkward when it's separate from the standard, and most of the time we're doing a test procedure concurrently or in combination with a new standard. So the metrics are correlated and trying to make it so you can prove

compliance with a new standard.

And all of these suggestions and recommendations and concerns are all going to help us tremendously as we do both in the future. It's a matter of what can we do right now to comply with our requirement without great harm in the meantime when we're trying to meet our obligation here.

MR. SACHS: I'm sorry.

MR. BROOKMAN: Harvey.

MR. SACHS: I want to bring us down to some semblance of what the world is about right now. I'm sitting here with another gas appliance that has a standby that approaches ten watts, which means it's on the order of 100 kilowatt hours per year to do nothing. It is using a substantial fraction of the electrical energy to do nothing -- I'm sorry. To keep the battery charged on the transformer or the thermostat -- it's using a substantial fraction of the entire electrical energy for the fan plus that, just to keep the

thermostat alive and the control board awake.

This is nuts, and if we can't have our standards addressing this kind of energy waste that amounts to power plant outputs per year when summed over the nation, then we as a group are not doing anything.

That's where the opportunity is, and I believe it's the obligation of DOE as the standards maker to first pay attention to the obligation that begins the act, which is that these standards are about saving energy. And I'm challenging you to help us find the route that enables us to do it instead of thinking continuously about the literal language which always has exceptions as otherwise determined or as other factors are considered by the Secretary to be important.

So if I'm impatient, I'm sorry. The job now is to save energy, and to do that in ways which minimize the testing burden. Give us understandable metrics. All of these things are important, and it sure is a whole

lot easier to put a watt hour meter across a dryer while it's asleep than it is to do all of this pseudo annual cycle stuff that we're proposing to do.

I will take my heart off my sleeve and put it back in its place.

(Laughter.)

MR. BROOKMAN: Thank you.

Yes, please.

MS. REICH: I'd like to comment.

MR. BROOKMAN: Judith, yes.

MS. REICH: This is Judith Reich.

You know, certainly recognizing the full extent of this discussion, I can perhaps allay the specific concerns with this test procedure in which, although we are proposing these new integrated metrics, over the course of the test methodology to come up with those metrics, we are also measuring exactly what it is that I think you're discussing, which is the specific watts that are associated with each standby mode.

So in this particular case, the test procedure as it is proposed could anticipate either possibility in the standards rulemaking.

MR. SACHS: Thank you very much, Judith.

Now, again, this is Harvey. We're each the creatures of our own experience, but we went through a situation with central air conditioners in which the old ARI was able to argue that although it had to calculate the energy use and the capacity at 95 degrees Fahrenheit, it did not literally have to compute the EER at 95, and so my question to you is once we have this procedure in place, which I admit I have not read, will the department require the reporting of these energy consumption metrics in the non-active cycle?

MS. REICH: Well, again, that's an issue that will be determined in the standards rulemaking, not in the test procedure

rulemaking. This is simply to set down the methodology that will be used.

MR. SACHS: I understand that, but I am again concerned that it can be set up in a way that includes the objective or facilitates the objective, and perhaps this question is better addressed to Ron than to you, but I'm increasingly concerned that at the end of this standards process, I'm going to have something awake that is not encouraging the industry to do what is cost effective to reduce the annual energy use of these products.

MR. BROOKMAN: Other comments before we move on?

MR. SACHS: I was hoping to hear a response from Ron on that. Maybe I wasn't hoping to.

MR. LEWIS: I heard a speech. I didn't hear a question, and I didn't mean that in a -- I really didn't hear a question.

MR. SACHS: The question was

whether this rulemaking on the test procedure is going to leave us in position where you anticipate that we will require disclosure of these non-active use energy consumption metrics.

MR. LEWIS: This is Ron.

MR. BROOKMAN: Ron Lewis.

MR. LEWIS: Our requirement right now to now consider, which we have done in the past, the standby and off modes in the test procedure, and this is an amendment to the existing test procedure, trying to give us the capability when we set the new standards to be able to support that standard and have that option open. I think that the answer that you just heard a minute ago was we would have that option.

I can't prejudge. That is completely inappropriate and not even legal to prejudge what we're going to do in a future standard before we've even started that standard, but I think that the optimism there

is trying to make sure we've got the capability to support it, exactly as I think you just asked, to have that capability to support that, and that should be our mission trying to save energy.

So I think we're going in the right direction. I don't think we're in disagreement here. It's just a matter of the timing where this is an amendment to a test procedure to comply with a statutory requirement versus the standard which is yet to come that this would be supporting to show compliance.

So I think there's a time synchronization issue here, but I think that the actual substance of the issue, I don't think we're in any disagreement. It's a matter of where it fits in .

MR. BROOKMAN: Gary.

MR. FERNSTROM: That's great.

(Laughter.)

MR. BROOKMAN: Is that for the

record? Yes, okay.

MR. SACHS: Gary expressed it better than I could.

MR. FERNSTROM: Thank you.

MS. REICH: All right. Well, I think the next two topics will be much more straightforward. Both of these are corrections to existing test procedures for issues that were identified in the course of reviewing each one of them.

For the clothes dryer DOE test procedure there's a reference made in the section in which the energy factor is calculated, and it points improperly to instructions that define the perimeters for the test cloth instead of as it should be pointing to the sections that instruct the manufacturer on the appropriate selection of test loads.

So DOE is proposing to correct those section numbers to point to the right place.

The second correction that is proposed to be incorporated is the reference to the external standard, the ASHRAE standard, method of testing for rating room air conditioner, and in the test procedure currently as it stands, I'm sure not intentionally, but rather amusingly, it's called the American Society of Heating, Refrigerating and Air Conditioning in Engineers.

(Laughter.)

MS. REICH: The correction is to properly identify ASHRAE as the American Society of Heating, Refrigeration and Air Conditioning Engineers.

PARTICIPANT: Objection.

(Laughter.)

MR. BROOKMAN: We need to have that capability in our engineers.

MS. REICH: All right. The final topic that I'm going to cover is to discuss the various EPCA requirements that DOE

reviewed in specifying these proposed amendments. The first is to consider the test burden on the manufacturer, and specifically the relevant sections of EPCA state that the test procedures prescribed or amended have to measure efficiency or energy use or estimated annual operating cost during a representative average use cycle or period of use, and shall not be unduly burdensome.

So you know, there are two different requirements. There is the methodology representative, and what is the associated test burden.

Because DOE is proposing to incorporate clauses from a widely accepted international standard, the IEC 62301, it is felt that because of the wide understanding, recognition, use of that standard that incorporating sections from that would be appropriate.

In addition, DOE performed some tests and analysis to determine that the

specific clauses and specificity that was added to those clauses would produce representative measurements, namely, the situation where you have either a stable or unstable condition or the fact that you're trying to calculate over an average use cycle.

Because the test methods and equipment aren't substantially different from what's already in the DOE test procedure, and this I think we're really referring to the ambient room conditions, that they are similar to if not already in the existing temperature requirements that are required for the efficiency testing; that that would not pose an undue burden, for example, by requiring significant investments in facility or equipment.

So that was the first EPCA requirement. The second one, which we've already discussed briefly, was that DOE has to consider in addition to IEC 62301 this alternative or second standard, 62087, for

audio and video equipment, and you know, quite apparently clothes dryers and room air conditioners don't fall under that purview.

So DOE determined that this did not need to be considered for amending the test procedures.

And here's where we got into the discussion of the requirement to integrate standby and off mode energy consumption. Again, you know, it's the EISA requirement that it must be done unless it's technically infeasible, and so DOE is proposing these additional methods for clothes dryers and room air conditioners that are integrated metrics, while not affecting the existing metrics that are already defined.

I guess the only point maybe to emphasize on this slide is the last bullet point where because the existing metrics are left in place, that the test procedure could continue to be used in its existing form for those metrics for determining compliance with

the standards that are currently in place and until the effective date of any new or amended standards for clothes dryers and room air conditioners, at which point DOE would provide for the amendments of integrated measures to become effective.

That brings us back to Steve unless there are additional comments on that.

MS. DETRICK: Paige Detrick, DSH.

Just kind of a nitty little thing on the tables versus the calculation of the energy efficiency. We spent a lot of time at the tables talking about the operating hours per year, and then we come back to a metric that goes to operating hours or standby hours per cycle. I'd like before we would finalize those methods that we make sure we kind of agree to how that all calculates out.

It should be straightforward arithmetic, but I'd like to see how that all calculates out and make sure that we have something that makes some sense from that

rather than a table and an assumption that we go back to ours and we all do the mathematics differently and we come up with something that doesn't match.

MR. BROOKMAN: Do you think it hasn't been explained fully int his document, in these slides?

MS. DETRICK: I can imagine and do the arithmetic and I come up with a certain number of standby and off cycle hours per operating cycle based on all of the tables that talk about hours, but there is no calculation of that.

MR. BROOKMAN: There's no explicit A times B times C.

MS. DETRICK: Right. I have to go to per year and then go to what I know, this other standard that talks about cycles per year and do some arithmetic back and forth to get to standby hours per cycle. It would be, I think, clearer if we just set it that we expect X number of standby hours per cycle or

we expect X amount of power per whatever.

MR. BROOKMAN: To be explicit that way, yes.

Ron Lewis.

MR. LEWIS: Is that in the document at all, the Federal Register notice? Is there anything that's there other than presentation?

MS. REICH: Well, I believe that it's my understanding that those calculations are actually performed in a different section of 10 CFR 430, that those are performed as part of the standards rather than in the test procedure itself.

MR. WESTPHALEN: This is Detlef.

MR. BROOKMAN: Detlef, can you get to the microphone, please?

MR. WESTPHALEN: Sure. Detlef Westphalen.

Just in clarification, I think you're correct that nowhere in the document are the numbers specifically spelled out in hours per cycle. They're presented in hours

per year and calculated in hours per year, and then, you know, the energy is then divided by the number of cycles per year in order to get energy per cycle, just to clarify.

MR. BROOKMAN: Thank you. Thank you.

MR. LEWIS: So does that answer your need or do you think there's something that we need to supplement for clarity?

MS. DETRICK: Paige Detrick again.

I think it can work either way. I'd like clarity so that there's no disagreement on the calculations, but it should be straightforward math so that it can work either way.

MR. LEWIS: But perhaps we can have a one-page or something, just explanation out of augmentation to be put on our Website that shows that?

MR. WESTPHALEN: Yeah, this is Detlef again.

I would just add that we may have

to be careful about significant figures, and you know, this was something that was brought up at another meeting about metric versus English and so on. When we get into significant figures, then you know, how many do we show? And if we don't show enough, then you might get a different number.

MR. BROOKMAN: Okay. Yes, Brice.

MR. BOWLEY: Talking about calculations as well, one calculation that seemed to be left out from the new standard was the new annual operating cost where that's multiplied by the total kilowatt hours times the energy use.

MS. REICH: Right. Again, that's not part of the test procedure itself.

MR. BOWLEY: Well, the old annual operating hours is included in the test procedure.

MS. REICH: I believe that was in a different section of 10 CFR 430.

MS. BRUNK: This is Debra Brunk,

AHAM.

It's at the end of the Federal Register document on this NOPR. There's a 430.23 for room air conditioners, and that is the area that does not incorporate this estimated annual cost. We're using new calculations. They're for the olds, but it doesn't incorporated what would be there for the new. But that section is 430.23.

We will address that in our written comments in specific detail.

MR. LEWIS: Good catch. Thank you.

MR. BROOKMAN: Okay.

MR. WITKOWSKI: As far as how to submit comments, it's all laid out here both by E-mail and mail: by written comments, by courier. If you have any questions, feel free to either contact Brenda Edwards or contact me, and I'll be happy to help you if there's any issues on submission.

And that's it. On behalf of DOE, that's it. I want to thank you very much and

I wish you all a very happy and safe holidays.

MR. BROOKMAN: Thank you.

Safe travels to all of you. I'm going to hand out an evaluation form. Please take 30 seconds to fill it out. The department reads them carefully.

(Whereupon, at 12:26 p.m., the public meeting in the above-entitled matter was concluded.)

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