

UNITED STATES DEPARTMENT OF ENERGY  
ENERGY EFFICIENCY & RENEWABLE ENERGY

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TEST PROCEDURE NOPR FOR  
DIRECT HEATING EQUIPMENT AND POOL HEATERS

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PUBLIC MEETING

+ + + + +

WEDNESDAY

DECEMBER 4, 2013

+ + + + +

The Public Meeting convened in  
Room 8E-089, Forrestal Building, 1000  
Independence Avenue, S.W., Washington, D.C.,  
at 9:00 a.m., Doug Brookman, Facilitator,  
presiding.

PRESENT:

DOUG BROOKMAN, Facilitator

KEN BELDING, Empire Comfort Systems

RYAN CARROLL, Hearth, Patio & Barbecue  
Association

ROSALYN COCHRANE, Natural Resources Canada

RUTH ANN DAVIS, Williams Furnace Company

VICTOR FRANCO, Lawrence Berkeley National  
Laboratory

BYRON HORAK, Intertek

ALEX LEKOV, Lawrence Berkeley National  
Laboratory

JOHN O'HARE, Hayward Industries

FRANK STANONIK, Air Conditioning, Heating and  
Refrigeration Institute

DYLAN SULLIVAN, Natural Resources Defense  
Council

JOHN MICHAEL TALBOTT, P.E.

VANCE WILLIS, Hayward Industries

ALSO PRESENT:

ARI ALTMAN, Office of General Counsel, DOE

ASHLEY ARMSTRONG, DOE

ADAM DARLINGTON, Navigant Consulting

JUSTIN ELSZASZ, Navigant Consulting

WILLIAM HEALY, National Institute of  
Standards and Technology

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

(9:03 a.m.)

MR. BROOKMAN: Good morning, everyone. Welcome. This is the test procedure and NOPR for direct heating equipment and pool heaters. Today is December 4, 2013 here in the Forrestal Building. My name is Doug Brookman from Public Solutions. Glad to see you all here this morning.

We are going to start with welcoming remarks from Ashley Armstrong.

MS. ARMSTRONG: Hi, everyone. My name is Ashley Armstrong at DOE. I oversee the test procedures here coming out of the Department.

I want to just welcome everyone. Thanks for coming. As you can see, we have a pretty short presentation, just to give you an overview of the proposed rule for test procedures. The important part of this is that we welcome your feedback and any

1        questions you have. So, we encourage you to  
2        participate as much as possible.

3                    And other than that, I will turn  
4        it over to Doug.

5                    MR. BROOKMAN: Thank you. We  
6        start with introductions, typically. You can  
7        get used to turning these microphones both on  
8        and off. If you are not using them, please  
9        turn them off. And I will start here to my  
10       immediate left. Your name and organizational  
11       affiliation.

12                   MR. WILLIS: Vance Willis,  
13        Hayward Industries.

14                   MR. BELDING: Is this on?

15                   MR. BROOKMAN: Now it is, yes.

16                   MR. BELDING: Ken Belding, Empire  
17        Comfort Systems.

18                   MR. CARROLL: Ryan Carroll with  
19        the Hearth, Patio and Barbeque Association.

20                   MR. SULLIVAN: Dylan Sullivan  
21        with the Natural Resources Defense Council.

22                   MS. COCHRANE: Rosalyn Cochrane,

1 Natural Resources Canada.

2 MR. HORAK: Byron Horak from  
3 Intertek.

4 MR. ALTMAN: Ari Altman with  
5 DOE's Office of the General Counsel.

6 MS. ARMSTRONG: Ashley Armstrong,  
7 DOE.

8 MR. BROOKMAN: Please stand.  
9 Yes, you. Just say it.

10 MR. ELSZASZ: Justin Elszasz,  
11 Navigant Consulting.

12 MR. DARLINGTON: Adam Darlington,  
13 Navigant Consulting.

14 MR. LEKOV: Alex Lekov, Lawrence  
15 Berkeley National Laboratory.

16 MR. HEALY: Bill Healy, National  
17 Institutes of Standards and Technology.

18 MR. BROOKMAN: You are just in  
19 time, Frank. Introduce yourself.

20 MR. STANONIK: Frank Stanonik,  
21 AHRI.

22 MR. FRANCO: Victor Franco,

1           Lawrence Berkeley National Lab.

2                   MR. TALBOTT:     John Talbott,  
3           consultant.

4                   MR. O'HARE:   John O'Hare with  
5           Hayward Industries.

6                   MR. BROOKMAN:  Thanks to all of  
7           you for being here.  As Ashley said, it is a  
8           rather short presentation content packet this  
9           morning.  We are just going to go through the  
10          packet page by page.  And you will note in the  
11          packet there are these comment boxes that  
12          specifically call out the Department's  
13          request that you speak to the issue in that  
14          box.

15                   I     would     ask     for     your  
16           consideration.  If you would, please speak  
17           one at a time.  Please say your name for the  
18           record each time you speak.  There will be a  
19           complete transcript of this meeting available  
20           to you on the website.  Please keep the focus  
21           here.  Turn your cell phones on silent mode.  
22           Limit the sidebar conversations.  You have

1       already gotten used to turning these  
2       microphones on and off. That's good. If you  
3       could be concise, share the air time. I will  
4       be queuing individuals by name as best I can.  
5       I wish to encourage follow-on comment  
6       frequently. It is useful for the Department  
7       as they are considering the detailed comment  
8       that comes in this conversation, the back and  
9       forth between individuals sometimes is very  
10      helpful.

11                   So, I think that that is about all  
12      I need to say. Do we have individuals joining  
13      us via the web, Jack? Ten individuals joining  
14      us via the web.

15                   Welcome to all those joining via  
16      the web. The Department of Energy is trying  
17      very hard to make these meetings accessible.  
18      And if you would please keep your telephone on  
19      mute. And if you raise your hand and the  
20      software is working, which sometimes it does,  
21      typically it does, then we ought to be able to  
22      hear your comment and your question here in the



1 room, if you raise your hand and our webmaster  
2 over there can insert you in the conversation.

3 So, let's proceed. Ashley  
4 Armstrong.

5 MS. ARMSTRONG: So, just to start  
6 off, as Doug mentioned, we have highlighted  
7 throughout the presentation a couple specific  
8 requests for comment that we are seeking your  
9 opinions on. Obviously, we welcome comment  
10 throughout. So, feel free to chime in, if you  
11 would like to speak to something different.

12 The only other thing I want to  
13 highlight on this slide is that the deadline  
14 for submitting written comments is January  
15 7th, just after the holidays.

16 So, I am going to do a couple brief  
17 -- a very brief overview of the history. So,  
18 as you know, this meeting is in regards to  
19 direct heating equipment and pool heaters.  
20 And this just talks about EPCA a little bit of  
21 our legal authority, which EPCA established  
22 the consumer product provisions and directs

1 DOE to revise the test procedures. The Energy  
2 Independence and Security Act of 2007 requires  
3 us to review them and incorporate the standby  
4 and off mode provisions. We have dealt with  
5 the standby and off mode provisions already,  
6 the existing test procedures are found in  
7 Appendix O for DHE and Appendix P for Pool  
8 Heaters. And today, we are doing a revision  
9 to the active mode for those procedures.

10 This is just the steps in the  
11 rulemaking process. What happens is we have  
12 issued a Notice of Proposed Rulemaking. It  
13 goes out for a 75-day comment period. As I  
14 noted, that ends in early January. The next  
15 step would be DOE would take all the comments  
16 we receive, including those made today, into  
17 consideration and that will inform our  
18 decisions for the final rule, which we expect  
19 to issue sometime early in 2014.

20 And I am going to pass it to Bill  
21 to give some descriptions of our exact  
22 proposals in the NOPR.

1 MR. HEALY: Thank you, Ashley.

2 We are going to split this up. We are going  
3 to first deal with direct heating equipment.  
4 So we will go through all the proposed updates  
5 for direct heating equipment and then we will  
6 follow along with pool heaters.

7 So, the first topic that we are  
8 going to discuss is direct heating equipment.  
9 There is four key things that we want to  
10 discuss that DOE is proposing to update in the  
11 direct heating equipment test procedure. We  
12 will discuss each one of these in a little bit  
13 more detail.

14 First of all, we are going to add  
15 provisions for testing vented home heating  
16 equipment using condensing technologies.  
17 There are a number of references that were  
18 found that appeared to be outdated. So DOE is  
19 proposing to update all of those industry  
20 standards to more recent ones.

21 There is a proposed change for  
22 floor furnaces to reduce the test burden by

1       allowing a default value for jacket loss in  
2       lieu of testing. And then finally, there are  
3       some clarifications and corrections that are  
4       proposed that appeared to be in existence in  
5       the current test procedure that DOE is  
6       proposing to clarify.

7               So the first thing I wanted to  
8       discuss are the provisions for condensing  
9       technologies. DOE received quite a few  
10      comments to the RFI that a method was going to  
11      be needed that deals with DHE that utilizes  
12      condensing technologies because right now it  
13      is not present in the test procedure.

14             So, what DOE is proposing to do is  
15      to use provisions similar to those that are  
16      used in their furnace and boiler test  
17      procedure. It would incorporate the method  
18      basically that is in ASHRAE 103-2007, which is  
19      the method of test for furnaces and boilers.  
20      And these would be stand-alone amendments in  
21      the DHE test procedure.

22             So, to summarize this, a separate

1 test would be conducted for those units that  
2 utilize condensing technology. The  
3 condensate would be collected and measured.

4 For those units that may not be  
5 designed to collect it, the condensate, DOE  
6 would require that those units be designed to  
7 actually have some way to collect it for the  
8 test method.

9 Using that condensate, the latent  
10 heat loss term that is used in calculating the  
11 AFUE would be modified to incorporate the fact  
12 that there is condensate. So the latent heat  
13 term in the equation for AFUE or the efficiency  
14 would be modified to give some efficiency  
15 increase because of the use of condensate  
16 technology. And these provisions would apply  
17 to all types of DHE.

18 Question?

19 MR. BROOKMAN: Please say your  
20 name.

21 MR. HORAK: Byron Horak from  
22 Intertek.

1                   We are questioning the need that  
2                   spells out a separate test for the collection  
3                   of condensate.

4                   MR. BROOKMAN: Is your microphone  
5                   on, Byron?

6                   MR. HORAK: Excuse me?

7                   MR. BROOKMAN: Is your microphone  
8                   on?

9                   MR. HORAK: Yes, the green light  
10                  is on.

11                  MR. BROOKMAN: Thank you. Sorry.  
12                  Go ahead.

13                  MR. HORAK: On the cooling side of  
14                  the business, condensate is collected all the  
15                  time and it is collected during the efficiency  
16                  test, the performance test. And the guys back  
17                  in the lab said there is absolutely no reason  
18                  why condensate on these products couldn't be  
19                  collected at the exact same time that the  
20                  efficiency test is being run, rather than  
21                  having a separate test which extends testing  
22                  time for everyone.

1 MR. HEALY: I'm not --

2 MS. ARMSTRONG: I am not  
3 following either.

4 MR. HEALY: Yes.

5 MR. BROOKMAN: Go ahead, Frank.

6 MR. STANONIK: Frank Stanonik  
7 with AHRI.

8 I guess I have got a similar  
9 question. The 3.8.1 specifically says begin  
10 a steady state condensate collection  
11 immediately after the steady state testing.  
12 But during the steady state testing, aren't  
13 you developing some condensate that should be  
14 collected?

15 MS. ARMSTRONG: So your, I guess,  
16 suggestion is that we collect the condensate  
17 during the steady state AFUE test, rather than  
18 separately.

19 MR. HORAK: Absolutely.

20 MS. ARMSTRONG: Okay.

21 MR. BROOKMAN: Concurrently, as  
22 it were. Okay.

1                   MR. HORAK:     Concurrent, yes.  
2           That's all.

3                   MR. BROOKMAN:   Okay, excellent.  
4           Frank Stanonik.

5                   MR. STANONIK:   Frank Stanonik,  
6           AHRI. Just a follow-up question. Since the  
7           initial proposal is this way, are you  
8           perceiving there is some difference there?

9                   MR. HEALY:   We are trying to be  
10          very consistent with the furnace and boilers  
11          approach. So, that was really one of the  
12          approaches that we ended up taking, just to be  
13          very consistent with what is currently done on  
14          furnaces and boilers.

15                   MR. STANONIK:   Oh, okay. Well  
16          furnace and boiler test procedure is changing,  
17          too. Right? Okay.

18                   MR. BROOKMAN:     Additional  
19          questions here? Ken.

20                   MR. BELDING:   Ken Belding of  
21          Empire Comfort Systems.

22                   MR. BROOKMAN:   Microphone.



1                   MR. BELDING: Ken Belding with  
2                   Empire Comfort Systems.

3                   We have, for your consideration,  
4                   some possible corrections on the equation for  
5                   MS off in 4.3.3. We feel that it is possibly  
6                   incorrect and that the 100 there should be a  
7                   CT\*. Also in MF off, same Section, 4.3.3, we  
8                   feel that the 100 there should also be a CT\*.

9                   The next item is: DS is undefined  
10                  for systems 9 through 12 but is included in the  
11                  AFUE calculation in section 4.1.17. And this  
12                  was a source of difference between the Empire  
13                  and Intertek results in the past.

14                  We now assume that DS is zero.  
15                  And this is found in AFUE calculation for  
16                  vented home heating equipment without stack  
17                  dampers and optional method 3.3. And we feel  
18                  that Table 1 system number 10 DS should be  
19                  zero.

20                  Next item is for a power burner  
21                  direct vent condensing heater. A DF, as in  
22                  Frank, value is used unless the optional

1       tracer gas test is conducted. Like some gas  
2       furnaces and boilers, Empire's new condensing  
3       zone heater has no measurable off-cycle flow.  
4       This made conducting a tracer gas test  
5       difficult. So, the direct vent heaters  
6       should have the same option as described in  
7       ASHRAE 103 Section 9.10 for condensing  
8       furnaces and boilers. For units with no  
9       off-period flue losses, a DF value of 0.05 can  
10      be used, rather than running the tracer gas  
11      test.

12                   The language from ASHRAE 103  
13      Section 9.10 needs to be included in the  
14      revised Appendix O.

15                   Then lastly on condensing is we  
16      have a question on multiple control options  
17      ship from the manufacturer, specifically on  
18      condensing units, and should the efficiency be  
19      tested in which mode is the question.

20                   Again, specifically for a unit  
21      that has a manual mode and a thermostat step  
22      modulating mode ship from the manufacturer on

1       the same unit. We have a unit we are shipping  
2       that has both modes and we need clarification  
3       on what to test.

4                   MS. ARMSTRONG: Okay.

5                   MR. BELDING: Thank you.

6                   MR. BROOKMAN: Okay, thank you  
7       for those specific comments. Since you have  
8       got them all written out there, if you could  
9       just type them up and send them in.

10                  MR. BELDING: Yes, we will do  
11       that.

12                  MR. BROOKMAN: Okay. To the  
13       Department, that would be helpful.

14                  Can you answer his question now or  
15       did you need to think about it for a while?

16                  MR. HEALY: No.

17                  MS. ARMSTRONG: I don't think we  
18       are going to answer it now.

19                  MR. BROOKMAN: Okay, thanks for  
20       that. I am going to return to Bill.

21                  MR. HEALY: The next topic we want  
22       to discuss and there will be more time for

1       question on DHE after a couple of slides here,  
2       DOE is proposing to update the referenced  
3       industry test standards. There are a number  
4       of industry standards that are referenced that  
5       are no longer current. So, DOE is proposing  
6       to adopt six current industry standards to in  
7       some cases they are going to update the exact  
8       same standard with a more recent version. In  
9       one case there were separate references that  
10      have been brought together under a single  
11      umbrella. And it covers those other three  
12      standards.

13               And then the incorporation of  
14      Standard 103 is proposed in lieu of three older  
15      standards.

16               DOE did check these and believes  
17      that this is -- you know there is no  
18      inconsistencies and no changes in doing so.

19               Finally, the last two --

20               MR. BROOKMAN: Frank Stanonik.

21               MR. STANONIK: Frank Stanonik,

22      AHRI.

1                   I think in a number of cases we  
2                   would prefer that you, for gas-fired equipment  
3                   use, still reference gas-fired safety  
4                   standards. And I think it may be just a  
5                   question of looking at different sections of  
6                   those standards as opposed to where -- I would  
7                   say one might normally find how to set up the  
8                   unit for tests in the case of floor furnaces  
9                   and room heaters. It may be at different  
10                  sections such as the wall, floor, and in the  
11                  case of room heaters, ceiling temperature test  
12                  or something.

13                  But we will submit some comments  
14                  to either indicate where you could reference  
15                  the current standard to specify a setup as  
16                  necessary for room heaters and floor furnaces  
17                  or perhaps just add the text. It just seems  
18                  a little -- and I realize it is there already  
19                  but it just seems odd to reference a oil-fired  
20                  standard for how to set up a gas-fired unit for  
21                  test.

22                  MR. BROOKMAN: Got you. Ken?

1                   MR. BELDING: Ken Belding. To  
2                   just piggyback Frank a little bit here, one of  
3                   our comments was that specifically on room  
4                   heaters, floor furnaces, there is really no  
5                   information in the Z2186 2008 Standard about  
6                   specifically where to take that exhaust --  
7                   flue exhaust temperature. It talks about  
8                   where to place thermocouples on that to  
9                   physically take the temperature but not how  
10                  far away from the exit. I suppose you might  
11                  know that we use the minimum wall thickness as  
12                  defined, which is about five inches, round  
13                  numbers. But obviously, the farther you get  
14                  away from that exit, the greater the  
15                  efficiency will be represented. So, there is  
16                  no real clarification for that. That is kind  
17                  of what we were looking for on that test.

18                 MR. BROOKMAN: Okay, thank you.

19                 MR. BELDING: Thank you.

20                 MR. BROOKMAN: Other comments  
21                 here? Byron.

22                 MR. HORAK: Byron from Intertek.

1                   Referencing the safety standards  
2           for the installation of these products adds an  
3           extra burden which is unnecessary for  
4           performance testing. The safety standards  
5           require you to set up various walls and floors  
6           and paint it all flat black and mount these  
7           products in these walls and floors. And that  
8           is very much needed for safety testing but for  
9           performance testing, it has absolutely no  
10          effect and is just an added extra burden to  
11          anyone testing these products and really isn't  
12          required for performance testing.

13                   MS. ARMSTRONG: Well, I am going  
14          to turn that around to the manufacturers to see  
15          what they think about removing or the option  
16          of removing the false floors and the walls.  
17          I mean that is how they are installed.

18                   So, are you onboard with -- for  
19          performance testing, would your suggestion be  
20          to remove all that as a requirement for their  
21          as-tested setup?

22                   MR. BROOKMAN: Frank.

1 MR. STANONIK: Frank Stanonik  
2 with AHRI.

3 I think, Ashley, that is why I said  
4 one of our options, and we need to discuss it,  
5 obviously, internally more but we also are  
6 considering just actually recommending some  
7 actual text to address, as I say, the setup as  
8 needed. As Byron was saying, the full  
9 structure for a wall, floor, and ceiling test  
10 really isn't needed for an efficiency test  
11 procedure. But again, flipping it around,  
12 you take a floor furnace, the five we test,  
13 whatever, but you take it out of the box, you  
14 have got to set it up somehow and we agree.  
15 And so I think what we are planning to look at  
16 is okay, what is in those standards today and  
17 again, if needed, we will just give you some  
18 text to say --

19 MS. ARMSTRONG: Right. And what  
20 is in the standards today is to build the false  
21 walls, floors, et cetera, et cetera.

22 MR. STANONIK: Right.



1 MS. ARMSTRONG: So, that is what  
2 should be done now. That is not to say that  
3 should be propagated if everyone feels that it  
4 doesn't impact the measures of efficiency and  
5 it can be changed or there is a better way to  
6 do it to reduce burden but that is what is there  
7 now.

8 MR. STANONIK: Right.

9 MR. BROOKMAN: Ken, do you have a  
10 comment on this?

11 MR. BELDING: Ken Belding.

12 I think that I will wait with  
13 Frank. I mean I think we know it is not a big  
14 controversial topic. We have to set up the  
15 walls anyway to do the safety testing,  
16 efficiency testing. We do it at basically the  
17 same time.

18 But I probably need to consult  
19 with Frank about what the industry probably  
20 wants to do as a whole.

21 MR. BROOKMAN: Okay, good. Thank  
22 you. Okay.

1                   MR. HEALY: So the next topic is  
2                   related to jacket loss. For the furnaces and  
3                   boilers test procedure there is an option to,  
4                   instead of doing a jacket loss test procedure  
5                   to assign a default value of one percent. DOE  
6                   is proposing in this NOPR to leave that as an  
7                   option for direct heating for floor furnaces.  
8                   So, instead of doing the testing for jacket  
9                   loss, it can be assigned a value of one  
10                  percent.

11                 And finally, clarifications and  
12                 corrections. There were a number of places  
13                 that were identified in the existing test  
14                 procedure that were, for example, missing  
15                 equations. So the first bullet point there,  
16                 the Section 4.2.4, there was a missing  
17                 equation. So, DOE is proposing to include an  
18                 equation there for that.

19                 The tracer gas procedures in  
20                 Section 3.3 are modified to clarify how it is  
21                 supposed to be employed for units with thermal  
22                 stack damper.

1                   And there were some typographical  
2 errors that were identified in Section 4.3.6  
3 that are proposed to be corrected as well.

4                   MR. BROOKMAN: Frank Stanonik.

5                   MR. STANONIK: Frank Stanonik,  
6 AHRI.

7                   Speaking of typographical errors,  
8 and maybe it has already -- I am sure it has  
9 been identified. But in the Federal Register  
10 notice, that point 3 is floating out there on  
11 those equations for L .

C,SS

12                  MR. HEALY: It should be in the  
13 denominator.

14                  MR. STANONIK: Yes.

15                  MR. HEALY: Okay.

16                  MR. STANONIK: Well, no. It is  
17 1053.3 but the point three isn't up like at the  
18 end of the calculation.

19                  MR. HEALY: Okay.

20                  MS. ARMSTRONG: I have it.

21                  MR. BROOKMAN: Okay. Additional  
22 comments here?

1                   Here you see four issue boxes and  
2                   some of which --

3                   MS. ARMSTRONG: We have gone  
4                   through most of them.

5                   MR. BOOKMAN: -- may have been  
6                   addressed. Maybe just take a peek there.  
7                   Look at them and see if there is any -- if they  
8                   cause you to want to make any additional  
9                   comments at this time.

10                  MR. STANONIK: Frank Stanonik,  
11                  AHRI.

12                  One of the -- just maybe a  
13                  confirmation, so the proposed testing for  
14                  condensing vented heater, that test is just  
15                  running full fire?

16                  MR. HEALY: No. It is in some of  
17                  the detail. So, can John speak to that one?

18                  MR. TALBOTT: John Talbott.

19                  MR. BROOKMAN: John, use the  
20                  microphone, please.

21                  MR. TALBOTT: Okay. When it gets  
22                  to high fire and low fire and modulating

1 control, you have to do the condensate  
2 collection at both rates, just like it is in  
3 103.

4 MR. STANONIK: Okay. All right.  
5 So, if that is the case, if you look at the  
6 equation under 4.1.6.2 for it looks like L  
C,SS

7 (L sub css), the very last term in the  
8 numerator is T minus 45, where 45, I believe  
F,SS

9 is the design temperature, outdoor  
10 temperature.

11 MR. TALBOTT: Design temperature,  
12 that is correct.

13 MR. STANONIK: Yes, 45 is the  
14 average outdoor temperature.

15 MR. TALBOTT: Yes.

16 MR. STANONIK: But in the case if  
17 this was a furnace boiler test procedure and  
18 you had a modulating equipment, doesn't that  
19 number reflect that your outdoor temperature  
20 at full fire might be different than your  
21 outdoor temperature at a lower firing rate?

22 MR. TALBOTT: Right.

1                   MR. STANONIK:     So, it is a  
2     variable, right?

3                   MR. TALBOTT:   Right, but in the  
4     furnace test procedure in 103, it is  
5     separately, the modulating controls in there  
6     are separately conducted condensate  
7     collection procedures. And then in these  
8     procedures, they get weighted by the R factor  
9     of the percent of heating load that is  
10    addressed in the high mode and percent  
11    addressed in the low load. And you average  
12    them together and that will be your average  
13    condensate collection.

14                  So, I mean there is probably some  
15    small affect there that could be addressed but  
16    it wasn't addressed in 103 as an effect. But  
17    it is just following 103 as best it can, until  
18    there is some exception that needs to be made.

19                  MR. BROOKMAN:     Additional  
20    comments on items 1 through 4? And let me  
21    remind those of you on the web, if you wish to  
22    make comments, we have ought to be able to hear

1       you in the room.

2                   Okay.

3                   MR. HEALY: So, this concludes  
4       the discussion on direct heating equipment.

5                   Next, we will talk about the  
6       summary of proposed updates for pool heaters.  
7       There are two key ones. The first one is  
8       proposed expansion to cover electric pool  
9       heaters. Currently, they are not covered in  
10      the test procedure. And this would include  
11      both electric heat pump pool heaters and  
12      electric resistance heaters.

13                  And then we just were, DOE is  
14      proposing to clarify that the procedures are  
15      applicable to oil-fired pool heaters. There  
16      is no changes on that. But just to clarify  
17      that they are covered.

18                  So first of all with electric pool  
19      heaters, there is a proposal, as I mentioned,  
20      to expand that test procedure to cover these  
21      electric pool heaters. DOE is proposing to  
22      adopt amendments from ASHRAE Standard 1160,

1 "Performance Rating of Heat Pump Pool Heaters"  
2 as well as -- I'm sorry AHRI 1160, as well as  
3 ASHRAE Standard 146, "Method of Testing and  
4 Rating Pool Heaters."

5 The proposed amendments for  
6 electric resistance type of pool heaters would  
7 be specifically from ASHRAE Standard 146.  
8 There would be additional calculations for  
9 integrated thermal efficiency expressed in  
10 terms of percent for all pool heaters. And  
11 this is consistent with the current test  
12 procedure that includes standby power.

13 And then there is a method to  
14 determine the COP for heat pump pool heaters  
15 and then convert that to a thermal efficiency  
16 as well.

17 So, we would seek comment from you  
18 whether the proposal for these electric units  
19 is appropriate and sufficient. And then any  
20 impact on small businesses.

21 MR. BROOKMAN: Any comments here?  
22 No comments here. Okay.



1                   Let me say hello. You have just  
2                   made it into the room. We are going through  
3                   the content in this packet very rapidly here.  
4                   And I want to specifically invite you to ask  
5                   questions, make comments, get caught up in any  
6                   way that is going to make you comfortable,  
7                   since you are one of the manufacturers. So,  
8                   just weigh in however suits you best.

9                   Okay, we are moving on. We are  
10                  done, in fact.

11                 Frank Stanonik.

12                 MR. STANONIK: I notice that you  
13                 have a -- Frank Stanonik, AHRI -- I notice you  
14                 have a section reserved for hybrid pool  
15                 heaters. What are you envisioning as a hybrid  
16                 pool heater?

17                 MR. HEALY: We are not aware of  
18                 any on the market right now but something like  
19                 a heat pump pool heater with a gas burner.

20                 MR. STANONIK: Okay.

21                 MR. BROOKMAN: I want to -- go  
22                 ahead Frank.

1                   MR. STANONIK: Just in certain  
2                   other product classes, hybrid is being used to  
3                   describe a heat pump. Okay, maybe it needs a  
4                   different name.

5                   MR. HEALY: Okay.

6                   MS. ARMSTRONG: Feel free to  
7                   suggest one.

8                   MR. STANONIK: Okay.

9                   MR. BROOKMAN: So I think we are  
10                  now finished with the content.

11                  MS. ARMSTRONG: We are.

12                  MR. BROOKMAN: And I invite  
13                  anybody that wishes to make closing remarks.  
14                  Any additional issues that, in particular  
15                  since you joined us, if there is anything you  
16                  wish to say to add to the record at this point.  
17                  Additional issues that haven't been covered  
18                  sufficiently, closing remarks? Frank.

19                  MR. STANONIK: Frank Stanonik,  
20                  AHRI.

21                  Really more follow-on questions  
22                  and two separate ones. So, if the test

1 procedure is planned to be finalized in early  
2 2014, there is certainly a strong suggestion  
3 that as far as heat pump pool heaters then the  
4 next step would be establishment of efficiency  
5 requirements for heat pump pool heaters. So,  
6 the question is does DOE have a schedule -- a  
7 rulemaking on the schedule for that?

8 And then the second question,  
9 different subject, is it is also very clear in  
10 this NOPR that DOE is going to develop test  
11 procedures for vented, I will call them fire  
12 place heaters in a separate rulemaking. What  
13 is the schedule for that rulemaking?

14 MR. BROOKMAN: Ashley Armstrong.

15 MS. ARMSTRONG: Loaded questions,  
16 Frank, so early in the morning.

17 I will do the easier one first.  
18 Pool heaters. So, I think at this point DOE  
19 is required to review its standards rules  
20 every so many years. So that is six years.  
21 Correct? So, we finished the previous rule in  
22 2010. So, we would have to review it in that

1       time frame. At that time, during that review,  
2       we would investigate whether efficiency  
3       standards meet the criteria or we would make  
4       a decision at that point about whether we  
5       should do efficiency standards for heat pump  
6       pool heaters.

7               Just because there is a test  
8       procedure, doesn't mean we have to. So, that  
9       is the answer for that one.

10              I don't know the answer to the  
11       other one, as far as vented home heating  
12       equipment and the schedule for a separate  
13       rule. But I don't have a definitive time  
14       table for that one, other than it will be  
15       separate and there will be separate notices on  
16       that one, coming for it.

17              MR. STANONIK: Frank Stanonik,  
18       AHRI.

19              This is certainly, at the moment,  
20       a theoretical question. But if the comments  
21       to this NOPR did include some suggestions on  
22       how to test a fireplace heater, I am assuming

1           DOE would be receptive to that?

2                   MS. ARMSTRONG: Absolutely.

3                   MR. BROOKMAN: Byron.

4                   MR. HORAK: Byron Horak,  
5 Intertek.

6                   Were we going to discuss oil-fired  
7 pool heaters under this meeting or is that a  
8 separate topic?

9                   MS. ARMSTRONG: It is under this  
10 one. You know, preliminarily, we made a  
11 determination the existing test procedures  
12 for gas-fired is applicable to oil-fired as  
13 written and we just clarified that.

14                   To the extent that you have  
15 comments about that, we welcome them.

16                   MR. HORAK: Okay, good.

17                   MR. BROOKMAN: Additional  
18 comments, as we move towards closure here?

19                   Okay, well, I see nothing  
20 additional. I thank you all for coming this  
21 morning. Very productive. Very crisp  
22 little meeting. Back to Ashley for review of

1           the send-in materials.

2                       MS. ARMSTRONG:   So, I just want to  
3           thank everyone for coming. I know this was a  
4           short meeting. As you go through the proposed  
5           rule, if you have any more questions,  
6           obviously, we welcome your comments,  
7           clarifications, edits. You know, at any  
8           point in time, this is just a quick summary  
9           about how to submit comments and when the close  
10          of the comment period is, which is January 7th,  
11          just to remind you once again.

12                      And thank you for participating.

13                      MR. BROOKMAN:   Thank you. Safe  
14          travels.

15                      (Whereupon, at 9:36 a.m., the  
16          foregoing meeting was concluded.)

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In the matter of: Test Procedures for Direct  
Heating Equipment and Pool Heaters

Before: US DOE

Date: 12-04-13

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