STATE OF CALIFORNIA – THE RESOURCES AGENCY
BEFORE THE
CALIFORNIA ENERGY COMMISSION (CEC)

In the matter of,	)	
	)	Docket No. 12-AAER-2
	)	
2012-13 Rulemaking on	)	
Appliance Efficiency	)	
Regulations	)	

Staff Workshop on
Responses to Invitation to Participate
in the 2012-2013 Appliance Efficiency Rulemaking

California Energy Commission
Hearing Room B
1516 9th Street
Sacramento, California

Tuesday, May 28, 2013

1:02 P.M.

Reported by:
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CONSULTANTS

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Also Present (* Via WebEx)

IOUs

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Public Comment

Gary Fernstrom, PG&E
Chad Worth, Energy Solutions
Kevin Messner, AHAM
Luke Harms, Whirlpool
*Michael, SDG&E
Jeff Steuben, Energy Solutions
Scott Durfee, Nidec Motor Corp.

INDEX

P R O C E E D I N G S

MAY 28, 2013 1:02 P.M.

MR. NUFFER: My name is John Nuffer. I'm the Project Manager for the 2013 rulemaking. Thank you all very much for coming. I appreciate you being here and your participating.

A few housekeeping items, if you're not familiar with the building, the rest rooms are out the door and to the right, by the glass exit doors.

There's a snack bar up the stairs and across the lobby.

In case of an emergency -- can you hear me?

Just in case of an emergency just follow us out the nearest exit and we'll meet over at Roosevelt Park.

And as you can see, the workshop is being recorded and there will be a transcript.

Let me give you a little background on this rulemaking. Back in August of 2011 the Commission held a scoping workshop to try to figure out which appliances to include in this rulemaking.

In March of 2012 the Commission ordered the rulemaking to begin. And then March of this year is when we released the invitation to participate in the rulemaking.

And at this point we're gathering information.

It's part of the pre-rulemaking. It's not the formal rulemaking.

Today is the first in a series of four workshops. Tomorrow will be consumer electronics, Thursday lighting, and then Friday water appliances.

The next step, after we gather information from all of these workshops, is to go out with a request for proposals for efficiency measures for these appliances.

We want to try to get that out June 10th and give you 45 days to put together proposals.

After that we've received those proposals we want to hold another workshop or workshops to discuss those proposals.

After we've done that then staff will sit down and develop their own recommendations in what we call the staff report.

And once those staff reports are complete we'll hold workshops, again, to vet those staff reports and staff's recommendation.

And finally, the formal rulemaking probably, we expect may begin the latter part of this year or beginning of 2014.

When you want to speak, please raise your hand and Harinder or I will bring around a wireless mic. Before you speak, please state your name and your

organization.

We are doing a WebEx, so we'll take comments first, and questions and comments from those in the room, and then we'll go to those on the phone and the WebEx.

Today's workshop is going to be conducted by Tuan Ngo and Josh Butzbaugh. Josh is the Senior Fellow with the Energy Foundation, on loan to the Energy Commission.

And Tuan is a PE with chemical and mechanical engineering degrees.

So, Tuan, I'll turn it over to you.

MR. NGO: Good afternoon, my name is Tuan Ngo. Thank you.

I have my glasses on and I can't see it. Are we ready? Okay.

Again, good afternoon everybody, my name is Tuan Ngo. I'm with the office -- Appliance Office and I might be the person responsible today for pool pump motors.

Before I go into the presentation, I'd like to tell you a little bit about what I'm going to cover today. First of all, what we're going to have to discuss is what we've done so far, have a little, brief discussion of the data and information that we receive

when we issue the information -- I'm sorry, invitation for participation.

And then after that I have a little comment, open forum from the people or organizations that submit the comment to us.

And then, finally, we have a little bit of discussion about the process, what the next steps.

And then the last thing I want to ask everybody is because of timing constraints, so we'd like to ask everybody to hold the questions until the end of the presentation.

With that, I'd like to go ahead and begin. The next slide, please.

First of all, what we've done so far, the Commission held a public workshop on August 31st of 2011 to seek comments about the proposed scope of potential new appliance efficiency standards.

Interested party gave technical presentation, provide comments, and submit proposal for various appliances.

On March 14, 2012 the Commission issue an order instituting rulemaking, what we call the OIR, to formally begin the process of considering standards, then procedure, labor and requirement, and other efficiency measure for the appliance.

Throughout the course of the proceeding our material, including all the slides for presentation, will be available on our website.

I encourage you all to go to our website and join the list server for this proceeding.

The next slide, please. So far in the invitation for participation, let me tell you ITT person work, have a lot of work.

Anyway, what we requested is product definition and scope. What we want to do is we want to find out what products will be covered and how much, or how far do we want to go.

Existing test procedure, we want to know the test procedure right now and to see how good are these product and whether we can make an improvement on future procedure.

Source of test data, existing standard, and standard development to make sure that we not interfere, go into something conflict with other standard that are in development.

And then we want to also know about the product lifetime and duty cycle, product development training, energy saving technology and features, and the cost.

Why we want all this? What I see here is that cost-effective can be a different meaning for different

peoples. But what I'm interested here is from the start so that the interested parties can understand why we are asking some of the questions we ask and why we're requiring some of the input we are.

That staff do require that the standard adopted or revised shall not result in any added cost to the consumer over the entire design life of appliances.

When determined the cost effectiveness, we will consider the value of the water or energy savings, the impact of the product, the efficacy of the product, the acceptance of the consumer, and lifecycle cost to the consumer for complying with the standard.

The Commission also consider all the relevant factors, including, but not limited to, the impact on housing costs, the total statewide cost, and benefit of the standard over its lifetime, the economic impact on Cali businesses, and alternative approaches, and the associated cost.

The next slide, please. So far, when we have received response from many interested party, the first one -- all these are in alphabetically ordered, so it doesn't mean that anybody more important than anybody else.

Anyway, the first one received it from the American Council for Energy Efficient Economy, short

name call it ACEEE.

Appliance Standard Awareness Project, short name call it the ASAP.

California Investor-Owned Utility, short name IOU.

Hayward Industry, Incorporated, HII.

Natural Resource Defense Council, NRDC.

National Grid.

And Northeast Energy Efficiency Partnership, which is NEEP.

And then all these comment and data submitted we already have it in our website and you can find it right there.

The next slide, please. So, let’s talk a little bit about the response we received.

On the product definition and scope, what we see here is that information or comment we received that we should consider all pump motor that are less than 5 horsepower.

And then the existing procedure here, well, the first, the one IEEE 114 and the HI 1.6, that one we received from somebody, but I have problem finding that test procedure anyway. So, I need to put a question mark on those two.

And we also have existing Title 20 Section

1604(g)(3) on the existing test procedure for pump motors.

The source of test data, we have the one from existing, our existing database from the Energy Star, the APSP databases.

Standard -- developing standard new and existing. We have updated test methods. Actually, we were recommended to update test method in Title 20, in IEEE 114 2010 and HI 2011, and APSP.

Product lifetime and duty cycle, now, this one's the one that I have all over the map. And some people say the lifetime only five year, but we have data that the pump motor's like over 25 years old.

So, like I say, this one here we still have a question mark because the data was so scattered.

Product development training -- oh, the reason I mentioned that because what happen is if we have this product lifecycle not -- all over the map like this, it will make our job a lot harder to determine what the cost effectiveness will be because we need to assume some number to calculate, again, that cost effectiveness. But it's just something I look forward to.

Product development trends and the -- what we see is variable speeds with variable hydraulic

performance. And we didn't see anything on existing pumps that are single speed. There were no trends on anybody want to do anything with that.

But I know that a lot of people have pumps right now, accordingly have one single-speed pump. So, if we really want to do something, maybe we should look into maybe we need to something, we need to investigate a little bit more into the single-speed pump and what could we do about it.

But, again, it's just my idea. We'll know for sure by the time we receive the proposal and then we have time to analyze it, and have further workshop and we'll talk about it a lot more.

The energy-saving technology and feature, variable speed with better hydraulic performance and -- next slide please.

Oh, thank you. And then on the cost we have -- we see -- we have response of costs that these pump run from $200 to $1,400 depending on their size.

And I look into this cost and, yeah, it look right. But I haven't seen anything -- a pump that are less to $200. I was thinking about changing my pool pump.

Incremental cost, no response. And I can understand about incremental cost, that we receive no

response right now because, really, we didn't have any proposal.

Once we know what we propose or what we want to do then maybe the cost of the incremental cost will become clearer.

Market characteristic, we don't have any response on that. And then whether we have -- whatever we do we, we're affecting any small businesses, still, we don't have any response on those.

So, we're still looking for if anybody have data or comment on those things, please submit it.

What we really want to do is we really want to be able to develop standards that are workable, and it being for benefit of the consumer, so we need those data to be able to do so.

And again, I provide the link -- I provide just a little bit of the link on the slide just in case you can look at all the data from our website.

The next slide, please. And so what's next? Following the ITP workshop, the staff will request proposals from you on updated efficiency standard and measure.

And then what we are doing after we finish the workshop today is we're going to -- we will put out a notice for requesting proposal. And I will expecting

roughly sometime in June 10 is when we're going to issue the request for proposal. That is -- that's the time where agency or interested party can send in proposal to say, okay, what equipment or how far do we want to control, to develop standards for.

And then staff is working on the proposal template and guidance to send out together with the request for proposal. That way, when we receive the proposal if we have a -- I mean, if we have the template already it will make our job a little easier to review it.

Proposal should be based on the information received through the ITP. Again, this one really put the -- a very important mark on the comment and data that we should receive.

And then Commission staff will be available to discuss question and concern any time during the proceeding.

The next slide, please. So, what's next? What we see here is that green arrow, that's where we are. And then by June 10, what we see there is request proposal from stakeholder. That will be the next step.

And then after that we will have to analyze the proposal and then we go into the formal rulemaking procedure.

With that, I'm -- again, my name here is on the slides, and my number, my telephone number and my e-mail, so if anybody want to contact me for whatever reason, please do so.

With that, I'd like to end my presentation right now. I want to ask any interested party, who want to come up here and make maybe comment on your submittal for a few minutes. Yeah, please.

MR. FERNSTROM: Hi, I'm Gary Fernstrom, representing PG&E. Would you like me to step up to the desk or is it okay just to --

MR. NGO: You can sit over there, too.

MR. FERNSTROM: I'd like to keep my comments brief and only with respect to the response that we provided to the invitation to participate.

But PG&E proposed the first pool pump standard to the California Energy Commission in 2006. It developed its voluntary efficiency rebate program for pool pumps and motors back in 2001.

We're advocating, again this time, for improvements. And I wanted to speak specifically to the scope.

So, the scope of improvements we'd like to see considered in this rulemaking would be one of looking at pool pumps, the testing, listing and reporting

associated with them.

And by the way, I should mention that PG&E has been working with the Association of Pool and Spa Professionals for three years in preparation for being on the same page with respect to this rulemaking.

So, one of the goals is to bring the California more into alignment with the APSP Efficiency Standard, APSP-15.

The second issue that we would hope would be considered would be the efficiency of pool pump motors and that would be moving from a prescriptive requirement that prohibits cap start induction run and split phase motors. And, conversely, through exception allows cap start can run, allows permanent split capacitor and other high-efficiency designs.

We'd like to move from that prescriptive regulation to a performance motor efficiency based regulation.

And I see a number of your questions are related to that particular issue.

In the interim, between when the first regulations were put into effect and now, variable speed pumps have become much more prevalent in the market. And we would like to see the language relating to pool pump controllers updated so that it's more compatible

with the type of control needed for variable speed motors.

There is considerable interest in light-emitting diode underwater lights, yet there's data on their performance lacking in the market.

So, from the stand point of understanding the performance of those products better, we would like to see a testing, a reporting and listing requirement associated with those so that users and utilities can understand the energy efficiency performance better.

And lastly, we've identified an opportunity with swimming pool heaters, not with respect to their thermal efficiency, these would be gas-fired residential heaters, but with respect to their hydraulic performance.

So, pools equipped with variable speed motors can reduce their speed, pressure, and power and energy requirements if the total dynamic head presented in the pool system is reduced.

And we believe there's an opportunity in reducing the head associated with these heaters and thereby saving electrical pumping energy.

About 60 percent of the pools in Northern California have gas-fired heaters associated with them that are plumbed into the pool system all the time. I

believe because of the high price of gas, these pool heaters are rarely used, so there's an opportunity moving forward to lower the resistance to the flow of water through those heaters, thereby saving electrical pumping energy.

And lastly, I'd like to introduce my co-worker on this topic, Chad Worth from Energy Solutions, and ask if he has anything he'd like to add.

MR. WORTH: Yeah, thanks Gary, that was a great --

THE REPORTER: Could you speak more directly into the mic, please?

MR. WORTH: Yes. Yeah, thank you. Again, my name's Chad Worth, with Energy Solutions, on behalf of the California IOUs.

I guess I'd just like to reiterate, maybe, a couple of points. That we, you know, think that there's an opportunity to improve motor efficiency for both single speed, dual speed, variable speed pool pump motors under five total horsepower, regardless of either OEM or replacement purposes, whether utilizing residential or commercial applications, or whether for filtration or other purposes, such as mountains and things like that.

And we think these kind of standards would be

cost effective. That's all I have.

MR. NGO: Thank you. Is there any other party that submit comment that want to comment on --

MR. FERNSTROM: One more comment. Is my microphone working? Okay, now my microphone is working.

This is Gary Fernstrom, again, representing PG&E. I'd just like to recognize the tremendous advances made within the pool industry in improving energy efficiency over the last decade.

Design practices have changed, significant new equipment has been introduced which allows energy efficiency. And I think the entire industry should be recognized for this tremendous effort in improvement.

MR. NGO: So, you will cover those in the proposal, I guess.

Okay, I have a little comment. I mean, I have a question for you. When you say pump motor, you know that we are preempted from the Fed; right?

MR. FERNSTROM: No, actually, we're not preempted by Federal regulation. There is a Federal regulation covering small motors, but it is limited to three-phase motors. And the type of motor we're talking about here are single-phase motors, under five horsepower, so they're not preempted by the Federal government. They're a dedicated purpose, single-phase, less than

five horsepower pool pump motors.

MR. NGO: Yeah, I guess we need to look into it more, later.

Anybody else in the room want to have any comment?

How about anybody in the Web?

MR. STRAIT: Hello? Just as an informational item, if you desire to make a comment or have a question during this proceeding, you can either send it to us through chat and when we're able to answer it, we'll read your question and provide an answer, or you can click the raised hand button in your WebEx controls and that will let us know to select you, unmute your line and give you a chance to speak.

If anyone listening in online has any comments, they can raise their hands now. Otherwise, we are going to move on.

MR. NGO: That was easy. So, that's it, that's it with the pool pump.

Again, I'm looking forward to receive -- I guess I'm looking forward to the next step that is to receive the proposal for standard consideration. And I hope by that time we'll be a little more lively than now. There's not a lot of people saying anything, yet.

So, should we go ahead and to the next one? Is

anybody -- well -- I am afraid that some people might show up late for the --

(Off-record conversations)

MR. NGO: Okay, with that I'd like to go over to the next item, which is Commercial Clothes Dryers.

I guess I don't have to reintroduce myself or go into some of the boring stuff, so I'm going to go right to the next slide, the next slide, the next, the next one.

I'd like to go right to the response. Everything I cover in the previous one and I don't see anybody new coming in from before, so I'd like to cover that from here on.

Again, we issue the IPT and we receive responses. Again, we receive response from the American Council for Energy Efficient Economy, ACEEE, Association of Harm Appliance Manufacture, AHAM, Appliance Standards Awareness Projects, ASAP, Alliance Laundry Systems, ALS, California Investor-Owned Utilities, IOU, Natural Resources Defense Council, NRDC, National Grid, Northeast Energy Efficient Partnerships, NEEP, and Whirlpool Corporation.

Again, all the documents, all the comment and data that we received we -- I provide a link over here so if you have any time, or you don't have anything

better to do, you can look at it.

The next slide, please. The response so far that we've received -- well, first of all, we'll cover the product definition and scope.

What we see here is that we see the trend for most residential dryers -- I'm sorry, the product definition and scope. We want the standard or the equipment that we are looking at will be similar to residential clothes dryers, but it's more rugged in design and it has larger chassis dryers.

So, we do see that the product scope, existing test procedure, right now we don't have any test procedure for commercial dryers, but we do have the test procedure for residential, right.

So, because of that we don't have any source of test data. But one may have some -- I guess we may have some data from IOU. Again, they're going to cover this a little bit later.

And then the produce lifetime, and duty cycle, and we are talking about 10 to 15 years, which still -- you know, I go to my son's apartment in the school, and I see -- I look, kind of curious to see what the dryer look like and they are pretty old, some of them, like 30 years old.

So, because of that, I mean in my mind I just

say maybe look into a little bit more carefully. That's the reason why I put the question mark over in that item.

Product development trend, nothing, no clear trend. So, we're not going to worry about that.

The next slide, please. Energy feature, energy saving feature, what we see people talk about so far, based on the response that we receive is that the automatic termination control, or ATC, and maybe perhaps these are chained to the equipment.

Again, I put the question mark there because I think we need to look more into this one just to make sure what we're talking about.

And then the costs, again, this is a big one, $500 to $4,000, depending on the size. So, we're okay with the cost.

Incremental costs, what we see is that no difference between the -- maybe the proposal and the existing dryer. So, I put it a yes, but it's no differences, so it's a good.

Market characteristic not clear.

Small business affected, not clear either. I would assume that some of the individual apartments that have the Laundromat -- actually, I assume not to use the word Laundromat, it's like a corporation, really. They

have, you know, the coin-op. Those are maybe the businesses that are affected, small business that are affected. But, again, we need to look into it a little bit more.

Again, the link to the document is provided here in this slide.

What next is we will -- the next slide, please? Well, next, we will follow on the workshop. We will issue the request for proposal. Again, the date is June 10. And we are working on the template and guidance for the proposal, and we will provide it at the time we publish our request for proposal.

And we are ready -- I mean we are here, so in case you have any questions or you want to talk with us, that's fine.

My name and my telephone number will be on the first and the last slide.

The next slide, please? I guess we already cover this, so I don't need to cover it anymore.

I'd like to ask Yanda, from IOU, to -- he put in some comment on the commercial clothes dryer. And then I'm not sure, you want to provide any comment?

MR. ZHANG: Sure. My name's Yanda Zhang with TRC and I'm on behalf of use of this specific topic.

And we start to conduct a case study on

commercial clothes dryers as early as in 2007. And we, shortly after that, started to talk to manufacturers, including AHAM and also laundry, clothes laundry association, basically the users, the end-users of commercial dryers to talk about this effort.

And so, the basic technical background is that, as Tuan already say, we actually don't have any Federal or California energy efficiency standards for this appliance.

What we do have is for residential dryers, gas and electric.

And so the first effort we worked with manufacturers and AHAM is trying to test this standard. What we believe is that this is going to be very useful for everyone. One is especially for the users to know what are the performance of those machines and utilities could know the efficient models they can, for example, establish programs to help promote efficient models.

And commercial dryers and residential dryers, they're very, very similar in terms of designs and controls in the cycle process. So, it's very natural and I guess it's to -- for us to consider, take the existing Federal test procedures and kind of adapt it, and modify it and for commercial dryers.

And the only -- the difference we see between

the residential dryers and commercial dryers are size, so the issue is basically how do we decide load size for different commercial dryers. And that's what we're seeing is probably the issue we can discover later more down the road.

For supporting that, IOUs also supported lab tests and for trying those test procedures for commercial dryers.

We worked with manufacturers and some of them generously donated machines to us, we actually used some in the, you know, test study.

So, we will release those test results and along with the proposal.

So, I guess, I mean at this stage we're not proposing the detail measure -- we're not talking about a detailed proposal, but I do like to maybe address, Tuan, some of the questions you had here.

For example, the first one I remember is the product live, useful live. You were seeing some that goes 30 years.

One thing, we also noticed that even the machine, itself, the natural life might be 10 to 15 years, but people tend to fix it, you know, once they have problems. So, you could have machines they keep for many, many years, that also kind of shows that to

get an efficient model to begin with is very important for long-term energy savings.

In terms of for small business impact, we also see is that if we can induce -- improved efficiencies impact, I will say, is for small business especially those -- lots of people are running the coin-operated Laundromats, they definitely belong to small business.

Better efficiency reduce their electricity or gas bills, that definitely, you know, affect their bottom lines. I think that's definitely the thing for small business.

In term of cost, we don't see price difference between different models, efficient or less efficient. And so having a standard promoting efficiency, it's not going to have, really have, you know, a cost issue to those businesses.

So, I think that's my summary and I'm open for any other questions.

MR. NGO: Thank you, Yanda.

Is there anybody else who wants to make comment? Please.

MR. MESSNER: Okay, thanks. This is Kevin Messner, I'm with AHAM. I've got a couple of questions.

So, you didn't see a cost differential between energy efficiency levels, just curious how you made that

determination? You went out and got a bunch of commercial clothes dryers, tested them and saw efficiency level A and B, and they cost the same?

MR. ZHANG: Not the same, we don't see any --

THE REPORTER: Can you use the microphones when you talk.

MR. ZHANG: Yanda with TRC, again. So, already mentioned, we did conduct a lab test study. What we tested is a range of dryers for multi-family use and also a range of what probably you call 30-pound machines, one of the most popular machines out there. And we'll not able to test all other product category because of product resources.

So, we do have performance result and we also collect cost data. And what we find is there's no correlation between efficiency versus cost. It doesn't mean -- basically, it means the more efficient models does not cost more.

And since its other product features they take in --

MR. MESSNER: Yeah, so how many residential style dryers were a part of this test?

MR. ZHANG: We didn't test residential, we only tested -- oh, so multi-family models you're talking about, maybe --

MR. MESSNER: Yeah, the coin-operated, residential style.

MR. ZHANG: Oh, residential style, okay.

MR. MESSNER: The coin-operated.

MR. ZHANG: Yes, probably multi-family, yes, models.

MR. MESSNER: Yeah, the multi-family Laundromats.

MR. ZHANG: I have to always come back after -- I could be wrong, either four, or five, or six.

MR. MESSNER: Right, okay.

MR. ZHANG: So, that number I can't --

MR. MESSNER: No, no, I understand. I'm just trying to get a sense so --

MR. ZHANG: And the same number of 30-pound dryers.

MR. MESSNER: Oh, four to six 30 --

MR. ZHANG: Gas dryers, yes.

MR. MESSNER: I got you, okay. So, when you looked at the dryers you were looking at the -- were you looking at taking it apart and finding -- how did you get the cost? Did you talk to -- did you see them on the internet or --

MR. ZHANG: You know, we kind of surveyed distributors.

MR. MESSNER: Okay.

MS. ZHANG: That would be the kind of direct user cost instead of -- it's different from the DUE's kind of breaking down cost, we didn't use that approach.

MR. MESSNER: Okay, so then the efficiency differences, what did you find the efficiency differences were attributable to? Were there -- you said the costs were more related to features so when you saw an energy efficiency difference what did dryer A have that dryer B didn't have?

MS. ZHANG: Yeah, one thing, what we think on the technical side is, for example, for residential side people talk about with automatic termination control and without.

And commercial side one feedback we got is, especially for coin-operated Laundromats that you couldn't not use ATC, automatic termination control.

So, that's not a feature we actually looked because even same machine could be used on premise Laundromats but, you know, you couldn't universally apply to all the models. So, that's not included consideration, that's one thing.

So, I think most of the performance difference will be contributed to the design of the machines especially, for example -- and this is more from the

technical engineering analysis side, you know, more than the detailed breaking analysis.

So, what we think is most of the difference is caused by, for example, your design of your air flows, your automization of drum rotations B versus the air flow versus, for example, your heat input findings. And, you know, this is basically automization and basically your control sequence.

And when going to specifically narrow down what's the, you know, improve what? Always it's a combination. And what we kind of conclude is the overall automization design effect.

MR. MESSNER: Right, okay, that's helpful, that makes sense. Okay, so I mean it's good to hear that you may have some perspective on auto termination. We saw a lot on auto termination, it doesn't -- you can't apply auto termination to commercial dryers, it's a time, you're paying for time purchase and it just didn't work.

MS. ZHANG: Well, yes, but we did, we actually did. I mean back in 2008 we did mention to manufacturers that you know what it's not a bad idea. I know it's not a common practice, but it's not a bad idea. Even for coin-operated Laundromat you still include, for example, automatic termination to use.

It's a concept -- for example, what people

paying is the service, right, so --

MR. MESSNER: Well, they're paying for time, actually.

MS. ZHANG: Well, yes. They're paying, for example 40 minutes drying time.

MR. MESSNER: Right.

MS. ZHANG: Because they think their load of clothes will need drying 40 minutes, right.

MR. MESSNER: Right.

MS. ZHANG: Okay, so that's not was proposed, but I'm just going to discuss with you, but what we did propose to manufacturers is what you could do is still implement automatic termination control and users, if they pay 40 minutes, if their clothes is dry at 45, theoretically you could stop the machine. Users would be happy because you get the clothes faster, you don't have to wait for five minutes. It does not cost you actually more. And the operator's happy because save gas. So, it's a win/win strategy for everyone.

What we're saying is that it's something you could do and --

MR. MESSNER: Well, it doesn't cost -- let me just push back a little bit on that. So, if they auto-termination for commercial, so if you go -- in California's own weights and measures, we have in our

comments, it talks about an example, and other states have laws where they have dryers as you're paying for time. So, if you put in -- put aside the laws and the regulations of California's own example that this is a time service, if somebody goes into a Laundromat and you're paying for a certain amount of time --

MS. ZHANG: Yeah.

MR. MESSNER: --- then generally the mindset is that people don't really want to hang out in the Laundromat very long. So, when clothes are dry, they're checking, and they're unloading, and they're getting them out there.

MS. ZHANG: Yeah, yeah, yeah.

MR. MESSNER: So, there's not this concern that there was -- when we went through this for the residential clothes dryers, which we were okay with the auto-termination on clothes dryers, so there's not any opposition to the concept of auto-termination on the residential side, and there's test procedure issues on that side, and I'll get to that a little bit later.

But for the commercial side it's a completely different issue where it's a time. And if you did an auto-termination someone could then, oh, this is -- this is guaranteeing me a service, this is guaranteeing me that my clothes will be dry at the end of this. So, now

I'm going to take two loads of clothes washers, cram them into one dryer, pick the auto-termination because I know I'm guaranteed that this dryer's going to dry whatever it's in because I've got auto-termination, so I'm going to cram a bunch of things in. It reduces the air flow and circulation.

MS. ZHANG: I'm not so sure of that.

MR. MESSNER: Well, if you went to a clothes dryer and you saw two -- this is you, personally.

MS. ZHANG: Right, yeah.

MR. MESSNER: You see, okay, this one I put a dollar in and I got 40 minutes. This one I put a dollar in and I'm guaranteed that everything's going to be dry when I'm done. Are you going to take two -- and you want to save money.

MS. ZHANG: I think with people it's a learning process. As we do today, you know, you go there it's a 40 -- do I put five coins in or ten coins and really judge my load, right. I think people are not that silly to say, oh, this is automatic termination control, I put five coins in, whatever, it should be dry. I will --

MR. MESSNER: Well, you might want to check your research when you do that because you can go to Laundromats and people on clothes washers put as much as they can possibly fit in the capacity of that, and turn

then on and say, good, I'm going to get them washed.

So, that's one -- that's a problem just with consumer satisfaction and then you just have a perverse incentive to have something on the dryer. So, with the test procedure, they severely penalize time drying for the DOE test procedure, so that's why you don't see many time dryers, only, in the residential area because it's a very big penalty on that DOE test procedure. You get penalized for doing a time dry only feature.

So, the way the test procedure's developed, so that's why generally you don't see any of those out there.

Now, if you applied that same test procedure to the commercial dryer, it would penalize the -- so it does -- and I heard you said modify it so --

MS. ZHANG: Well, I think it's --

MR. NGO: Okay, Yanda, okay. I think all of these things is we will have to save it for the time, until the later time when we are talking about standards.

We can sit here and we can talk about all of these things without any proposal or any tests, we wouldn't -- nobody going to win.

MR. MESSNER: Well, I thought -- no, wait, I thought this was the purpose of this scoping is to see,

and our position is these should not be part of the scoping.

And so your questions are, are there test procedures?

MR. NGO: Uh-huh.

MR. MESSNER: Are there reasons to do this? And so, all of these questions are --

MR. NGO: Oh, no, I understand. I understand. That's why what we're doing -- what we're doing is when we have -- when we have the request for proposal and the proposal coming in, then we have to look at everything.

Right now I'm just talking about the data and what the data say. And even the data say today it's very incomplete, it's not much.

MR. MESSNER: Well, which part of the data -- well, for our position, our view is that there is no test procedure. We've provided data on how many shipments, there are a very low number of shipments in this area.

There's the auto-termination doesn't make sense for this product.

So, I guess my original, the first question would be what does CEC see as potential benefits for even looking at this product as a standard, and what are the energy savings that could be attributable to this

given the numbers that -- unless CEC may not agree with the numbers we've provided -- but just trying to get an understanding of what CEC's focused on.

MR. NGO: We don't, we haven't having any focus on anything.

Right now what we have is the data and then we will have to focus -- that's a little time.

MR. MESSNER: Right.

MR. NGO: Because like I say, it just make it so hard to talk about all these things when we don't know what the target going to be.

MR. MESSNER: Right, that's why we're trying to talk through it now --

MR. NGO: Right, right.

MR. MESSNER: -- so we don't -- then later in the process we say, oh, well, we didn't know that.

MR. NGO: By the time we get to those, then we will have a clearer picture, then we'll be able to argue a little bit more.

MR. MESSNER: I'm trying to give you a clearer picture now so then ---

MR. NGO: Yeah. Thank you, I appreciate that.

MR. MESSNER: -- we don't have to argue about it later.

MR. NGO: Yeah, right, right.

MR. SINGH: Kevin, this is Harinder Singh. You know, you mentioned about the other State laws related to the coin-operated laundry. We'd like to get -- you know, please submit the information to go in our record so that we can, when we are evaluating the proposals, and the data, and the information so we have all the information that is necessary for us to do the evaluations.

So, please submit whatever information you can so that --

MR. MESSNER: Yeah, they're in our comment.

MR. SINGH: Yeah, in the comments and so we --

MR. MESSNER: Yeah.

MR. SINGH: -- we will consider all of that information in the comments when we are looking into the issue.

So, today the purpose of the workshop and also the purpose of the ITP is to receive information and to get the data via whatever, or all the information. But since we didn't receive much information on this topic, besides the IOU submitted some information.

So, we would like to get as much information as possible so that either during the proposal or after the proposal we have enough information to evaluate the issue. So, thank you very much.

MR. MESSNER: No, that makes sense. And in the comments I put this -- we cited the statutes of some State laws we found. There's probably others out there. We cited the California Weights and Measurement website for the State that's about the time of use, and everything. So, that's one of the reasons we're here. Maybe we misunderstood the purpose to just what other, you know, information. We answered as many questions as we could that were out there and are just trying to understand -- I mean it's good to understand what the proposal is and other things, but having -- still kind of struggling on what the value would be, or what other areas you're looking at.

I mean we don't want to come back for the next round of this and then have, oh, auto-termination we're using, we did a test procedure. We're trying to provide input now that that wouldn't be the correct avenue to go, we don't think it is.

And if you guys think it does make sense, it would be good to know why and we can go back and provide some other information, and so we're just hoping to have a dialogue

I'm just coming up with the ideas on where we are and maybe you guys have a different thinking that we haven't thought of, and we could certainly then go back

and provide additional information for you.

MR. STRAIT: Sure. And likewise, we appreciate having the discussion and the information that you give to us. For example, with this particular topic, we could envision something where maybe the auto-termination simple makes a little indicator like letting the person using the machine know that their load could be taken out right now, or they could leave it in.

We're not suggesting that the auto-termination control necessarily override, you know, the time that belonged to the coins.

That still -- all of that is a discussion we're going to have once we're going to reach the point of proposing possibly regulations.

At the scoping meeting what we're looking for is should these be considered? Can you give us some data that shows where there might be opportunities for these to be considered and that's all we're at right now, and that's why we don't have a position on any particular feature or any particular requirement we may move to.

We're going to look at everything we get now and then see if we can develop something out of it.

MR. MESSNER: All right. Okay, that's helpful. So, then, all right, so we'll keep looking at it and try to find out, I guess, the next step.

And I guess one last question is there are -- I can't remember now, on the law, but are there minimum thresholds of energy savings requirements or that CEC has to achieve a certain energy savings to regulate or not? Like the DOE has that minimum kilowatt hour threshold that maybe CEC doesn't.

MR. NGO: We don't.

MR. MESSNER: So, you could -- is there any --

MR. NGO: We are looking at dollar per kilowatt savings.

MR. MESSNER: Dollar per kilowatt savings, okay.

MR. NGO: Yeah, pretty much that.

MR. MESSNER: Yeah.

MR. NGO: But we do not have any certain standard or certain savings number that we --

MR. MESSNER: Right.

MR. NGO: -- say there's a go or there's no go.

MR. MESSNER: Okay.

MR. NGO: So, bottom line is dollar per kilowatt, or dollar per watt, or cent per watt, whatever it is.

MR. MESSNER: And it's gas -- or I heard gas or electric, both you're looking at?

MR. NGO: Pretty much, yes.

MR. MESSNER: Okay.

MR. NGO: But what we have so far, we don't see any electric dryer in the commercial dryer.

MR. MESSNER: Yeah, well, in our comments there were -- we provided shipment data for electric and gas commercial dryers.

MR. NGO: Yeah.

MR. MESSNER: Yeah, there's certainly a lot more gas.

And AHAM represents the residential style, not the larger commercial style.

MR. NGO: Oh, okay.

MR. MESSNER: But those, I think, probably are --

MR. NGO: I have a curious question for you. Is a super-spinning washer will help?

MR. MESSNER: So, on the --

MR. NGO: Super speed I'm talking about.

MR. MESSNER: Right. Well, so I'll try to answer this fairly quickly. But we dealt with this for the residential style clothes washer/dryers, so for Department of Energy. So, on the Federal standards the clothes washer has three components with the energy factor.

One is the "drying" portion. And that drying portion is basically the RMC, the remaining moisture

content at the end of the washer cycle and that remaining moisture content has changed and over each test procedure.

And so, the remaining moisture content from the clothes dryer then feeds into the test procedure for the dryer.

Now, there is -- you can't just keep increasing the speed of a clothes washer to infinity because what happens is the clothes actually -- the spinning gets so fast that they actually start blocking the holes and you can't -- there's a diminishing return for the water extraction.

MR. NGO: Oh, okay.

MR. MESSNER: So, we've pretty much hit that on the clothes washer so you can't really go much further on that.

But yes, to your question, yes, it does have an impact and we've tried to find that sweet spot where it is with the residential side that then feeds in to the starting RMC for the dryer side, and then it goes to the final RMC for the dryer portion, as well.

MR. NGO: Thank you.

MR. MESSNER: But there is diminishing returns, kind of counter intuitive, but it does. And if you get the holes too big then the clothes get sucked through.

If you get them too small there's amount of water, so there's a lot of things that go into that.

MR. HARMS: Yeah, I'll just make a couple of additions. I'm Luke Harms with Whirlpool Corporation.

Before I make any comments, I just had a question because I think, Tuan, where you were describing the scope you mentioned that it was focused exclusively on residential style models, but then we had some discussion about larger, 30-pound machines as well. Can you clarify that?

MR. NGO: Oh, yeah, sorry. I should be clear about that one. I'm kind of fumbling on that presentation.

What I tried to say was the product definition, the description of the product that we're talking about, it just says something like commercial dryer is a residential dryer but it more -- it have more rugged design so to be able to last. So, that's all that's the meaning it is. I didn't mean to say it will have anything to do with -- I mean the standard will have anything to do with residential program.

MR. HARMS: So, you're focused on the soft-mount residential size machines just --

MR. NGO: Coin-Op.

MR. HARMS: Right.

MR. NGO: Right.

MR. HARMS: Okay.

MR. NGO: No, no, the largest size we are looking at, we are looking at commercial dryers, including the on-facility -- what was the term? I'm getting old.

Anyway, there was a coin-op and a Laundromat, and then there's the one like they use over at the prison, or in the hospital, stuff like that, and hotels, stuff like that. So, those are the three we are looking at.

MR. HARMS: Okay, thank you.

MR. NGO: So, those are the scope that I will --

MR. HARMS: And also to add a few points about efficiency, obviously, we are washing two to four times more loads per day in commercial versus residential and there's a much stronger business case for high-efficiency machines in terms of energy and water savings.

So, what you will see in the commercial market is a higher market share of high-efficiency washers, higher extraction speeds.

And you will also see some route operators in the business that have 100 percent front-load washers that they're placing in the market.

So, you will see a great deal of efficiency in drying from faster extraction speeds in washers. And just to put some numbers to it, the G-force of our washer extraction today is in the range of 300 versus the historical number of 90 to 100.

MR. NGO: You're talking about the speed rate?

MR. HARMS: Yeah, we use G-force in commercial because the drum sizes vary so much. But generally, they're much faster than they used to be.

MR. NGO: I'd like to have some more information about that, I want to read more about that one. Could you give me some information later?

MR. HARMS: Yeah, certainly.

MR. NGO: Yeah, just send to the docket and we'll look into it. Because like I said, you know, we didn't have much on this item.

MR. HARMS: Okay.

MR. NGO: And I really -- again, what we're looking for is something where we can -- you know, where we can develop some standard that will benefit the customer, and that's all we would care about.

MR. HARMS: Yeah, and Kevin touched on many of the other points I wanted to make, but just really quickly time is critical in commercial, both in businesses that are using commercial washers, hospitals,

hotels, et cetera, but also Laundromats. I mean, if you're taking time out of your day to go to a Laundromat you can't go on with your daily life activities. So, anything that would significantly extend the drying cycle would be rejected by our customers.

MR. NGO: Anything else?

MR. MESSNER: Yeah, just on the one -- one last thing I forgot to point out, on the commercial dryers, as you probably stated it, a little more rugged is the right technical term, but rugged, durable, that they're that way -- I'm trying to say this the right way.

I guess I don't think of it as necessarily extending the life in the sense that if you think of we normally do 15, 10 to 15 year life for residential versus the commercial, the residential style commercial, but you're getting more cycles.

So, with the commercial style -- with the residential -- with the commercial clothes dryers they're being used much more frequently during that year. So, in a 10- to 15-year time period the commercial dryer is being used much more frequently than the residential clothes dryer.

So, the reason -- that's one of the reasons why they're more -- they're built differently --

MR. NGO: Built to last.

MR. MESSNER: -- is because they need to withstand that. Yeah, it's built to last, but it's built to last the same 10 to 15 years as you would see in a clothes washer, but based on its usage. It's a much different usage. People are packing in as much as they can fit in there to get their money's worth. And they're going in and they're just being used again and again.

Where you're in your home you maybe use your dryer four times a day, most people are -- the general usage cycle for a residential style is much less. So, that's one of the reasons they are built differently and they need to be built differently for -- you know, so I just wanted to point that out, if that --

MR. NGO: Thank you. Yeah, I probably need your help later in terms of when we start going through the proposal and we write a report, and stuff like that. I will call you and bother you all the time to make sure I get all the information that I need.

MR. MESSNER: Please do. No, I wish you would, especially before the proposal comes out if you have questions, please let us know.

MR. NGO: Yeah.

MR. MESSNER: We would like to just start from the same set of facts and then it's easier to then just

go forward from there.

Because if we don't understand or are on different pages on the facts, it just gets frustrating for everyone and we want to start out early -- hopefully, I mean we're not -- we're having trouble seeing the energy savings for this particular product, and then the dollar savings, and everything. But it's good to see how you guys frame that out with the time you go forward.

MR. NGO: Okay, thank you.

MS. ZHANG: Yeah, Yanda with TRC, I'd like to make some last clarification. And I -- through the discussion I think I understand, again, is that your focus seems just on what you call residential style commercial dryers.

MR. NGO: Uh-hum.

MS. ZHANG: And just to let you know what we provide to the Commission covers what we think is all commercial dryers, including residential style, and also the larger ones for coin-operated laundromats, and which seldom goes up to 400 pounds. Right, they're not the type of machine you are focusing on right now. That's one.

And two is that we -- you know, to me the line between, for example, the multi-family residential use

versus commercial use, the line is getting kind of vague. But I definitely remember when I was in, you know, university, their dryers is big ones. They're not residential style, right.

And also, we also we also see people making kind of like small-size commercial dryers, doesn't look like -- it's not like residential style. You know that, yeah.

They're targeting for small commercial uses. You know, for example you have a restaurant you want one, or small hotels you want one use blanket and sheets.

MR. NGO: Right.

MS. ZHANG: And they're not residential style. And what I don't know is how that piece of machine or models get penetrated into residential multi-family use because they're just a dryer, you know. You could see they begin to use by common users, you know.

So, it just seems to me that line is getting unclear. It is related. It is related in the sense is back down the road we can talk about the test procedures.

For example, just like DOE classify compact dryer, which is standard size, I don't know how the line is -- you know, for example, even standard size machines

you can see, you know, five to seven, something like the range of cubic -- you know, cubic feet range.

And I mean I think this issue probably we need to discuss altogether. This became to be more severe in a sense. You have residential style serving multi-families, but you can have also small commercial styles serving, potentially, the same people.

And when you have design and test procedures, you kind of have to consider them both. That's something to keep in mind.

MR. NGO: Yeah.

MR. MESSNER: Yeah, those are good points. So, just we're talking about dryers, but just clothes dryers we general have different product classes in Department of Energy, even refrigerators, compact, we're going to have about 41 product classes for refrigerators here in 2014, from compact to full size, to freezers.

So, clothes washers, compact, standard, gas. Dryers, vent-less, compact, standard, gas, electric, there's six I think. So, there are differences.

But in the residential area then the test procedure needs to deal with all those different classes if -- and maybe the test procedure doesn't need to -- I mean you have load tables. So, for clothes washers you talk about the capacity in cubic feet. Dryers, we're

generally talking about pounds, so there's different metrics on that.

So, if for dryers there's -- whatever that drawing line is or that distinction between residential style and non-residential style, the key part for us is there is a similar platform between the residential and the residential we're calling residential style.

When we get outside of that platform then you get into the non-residential style. So, that's the Department of Energy with commercial washers define that separation because they're only doing commercial, not for the residential stuff, it's a way in there.

So, there is a dividing line. What it is, the engineers who do that know it when they see it, but that's not good enough for -- you know, we would have to come up with something.

But there would be a dividing line. Now, whether it's certain poundage, up or below, and then the compacts fall into that or above, you know, we'd need to think through that to see what it is.

But I think for the residential style, at least for what we represent, there's not many that are out there in California.

For the commercial ones, I don't know if there's more or less than those. And as Luke says, maybe

they're already at the efficiencies because there's an incentive there because the purchaser is also paying the electric bill, and it's not the vending, so you don't have quite the same dynamic in the market place, maybe. I don't know.

But yeah there is -- but I think there could -- there is a divider. And I don't know if the compact would be a third component. It seems like there's just really two buckets. Maybe there is a third one, but I think there's two buckets.

And we can easily work through that, but it's a good point.

MR. HARMS: And just to clarify, we not only sell in the market via residential style units, we sell tumblers up to, I believe, 120 pounds.

And, you know, my comments applied to both. But certainly, we -- I wanted to make one other point, although I forget what it was. I'll probably weigh in.

MR. MESSNER: Okay. Well, I think that's all I have. Appreciate the time on this and maybe there's others, I don't know, who want to comment. I'd like to hear what others have to say on this, as well.

MR. NGO: Yeah, we'll speak with you and others by the time we go into the proposal.

Once we go into the proposal and we know what it

is, then we will consider everybody seriously. I mean, not that we don't consider everybody seriously now, but we'll have a -- that's not what I meant, misspoken.

I mean we will consider everybody's comment, you know, carefully and then, you know, from there then we can discuss and see some compromise or something we can do now, some things are not effective.

You know, we really -- like I said, we really want to develop standards that are workable for everybody.

MR. MESSNER: In the proposal stage, just my assumption is that you're looking for proposals of -- a proposal of establishing a standard for this product. Where AHAM's position is we don't think these are appropriate for a standard and that would --

MR. NGO: Then you say so.

MR. MESSNER: That would not be a proposal.

MR. NGO: Then you say so.

MR. MESSNER: That would be a proposal.

MR. NGO: Right, that will be a proposal.

MR. MESSNER: Okay.

MR. NGO: A proposal saying now.

MR. MESSNER: Okay. Yeah, I wasn't sure.

MR. NGO: Yeah.

MR. MESSNER: All right.

MR. HARMS: The one point I wanted to make is if you're looking at the non-residential style units, I think you're looking at annual shipments in the range of 1,500 or so, so it's very small.

MR. NGO: Oh, for residential commercial -- I mean residential dryer?

MR. HARMS: Large tumblers, yes.

MR. NGO: Oh, okay.

MS. ZHANG: Are you talking about just local or --

MR. MESSNER: In the industry.

MR. NGO: Okay, I know that we're ahead of time, but I just want to know if anybody participating online for our workshop? We are currently in the -- in the commercial dryer.

Did anybody else have any comment or anything that they want to say?

I'm not sure anybody is online, yeah.

MR. STRAIT: I don't see any raised hands.

MR. NGO: Okay.

MR. STRAIT: Just really briefly, just in case we're missing any one of those -- anything we want to hear, we're going -- if anyone has anything they'd like to say, just let us know in the chat box and we'll use that to queue up people that might have additional

comments that are phoned in.

Otherwise, we are going to move on. So, we'll give you -- do we want to just wait like two minutes?

MR. NGO: Two minutes.

MR. STRAIT: Yeah, we'll just take a quick break for a couple of minutes and anyone that would like to speak, once we get back, simply say so in the little chat box and we'll start queuing people up.

MICHAEL: Hello, can you hear me?

MR. STRAIT: Yes, we can. Who's this?

MICHAEL: Yes, this is Michael from SDG&E. This discussion on the commercial dryer, with the base is due to the coin-operated one. Just a comment, I think there's possibly an energy-saving opportunity with the auto shutdown. But if somehow we can clarify that for the customer pay for a fixed time or when the clothes is dry, and to highlight the fact that to shut down the dryer early helps to protect their laundry.

Because one of the things, sometimes, if the dryer continues to go on after the clothes has been dried, it might not be good for the laundry. So, this is a benefit for -- not an energy benefit to the customer, but in this case it could happen that it also save energy.

MR. MESSNER: So, sometimes -- Thank you, this

is Kevin with AHAM. Just sometimes people will put money into the dryer and then dry, and take out clothes that are dry and then put in and use the rest of the time for another batch of clothes, or something else. So, it's not like -- not like where somebody does it in the home, where it's done, it's done.

When you're in the Laundromat you may have another set of load, and you'll go in and add something in that's not dry from another load. So, it may not necessarily be an over-drying is what I'm saying, that they'll pull it out when it's dry or they'll put another batch in.

MICHAEL: Oh, okay. Okay, so if the machine allows the customers to continue to use that machine again, until the bought time is used up and then that might be even better. Because sometimes, before when in college, sometimes a sheet or a blanket, I have to put coin multiple times, and it would be ideal if at the time it would let me know so that I could put something in, and keep on running, or rather for waiting for me to just interrupting the machine of my opening the door and checking the laundry, myself.

MR. MESSNER: Exactly. And then if someone's a good neighbor and they're done with their time, and somebody else is next to you and needs the dryer time,

you say, hey, yeah, go ahead and use the rest of my time, and then you have to put less in.

MICHAEL: Sure.

MR. MESSNER: Generally, since people are buying this time to dry in whatever increments, 5, 10, 15 minutes, people are not throwing the quarters down a rat hole. They're paying just enough they need to dry their clothes or dry others.

MICHAEL: Yeah. So, if some kind of sensor to enable that, I think is still of value for the customer in the future.

MR. STRAIT: Thank you for your comment.

MICHAEL: Okay, a second one. I haven't heard a lot about this, but I do know on the residential side, the residential appliance we discuss quite a bit the connective functionality.

Is it opportunity where we can provide input for the connective function even for commercial appliance, like dryer? This might help either the manufacturer, whoever services device, to monitor the operational status of that device that maybe can do -- can come by and do maintenance, rather than wait until the machine break down.

And we thought that the proper operation and maintenance also could help the machine to operate more

efficiently.

MR. NGO: Michael, please submit your comments and questions in writing to us because we are --

MICHAEL: Yeah, okay.

MR. NGO: -- just receiving comments and questions, and we are not, you know, going to answer any of that. We'll consider your suggestions, your comments when we look at the proposals, once they come into us for evaluation.

MICHAEL: I will do that.

MR. NGO: Yes.

MICHAEL: I will do that.

MR. NGO: Yes, please do that. Thank you very much.

Make sure that you have submit comments and put in the docket number in there, too.

MICHAEL: Yes.

MR. NGO: Thank you very much.

MICHAEL: Thank you.

MR. NGO: Anybody else from online want to comment?

MR. STRAIT: I don't think so.

Well, with that I'd like to call the end to this session.

MR. NUFFER: And I think we'll take a break

until 3:00 because that's when we promised we'd start the next workshop.

So, thank you very much.

(Off the record at 2:22 p.m.)

(Resume at 3:02 p.m.)

MR. BUTZBAUGH: It looks like everyone is in the room, from what I can tell.

My name is Josh Butzbaugh. I'm working with the California Energy Commission on the 2013 Appliance Efficiency Rulemaking.

And today I'm going to discuss the results of the invitation to participate for Portable electric Spa Labeling.

The next slide. So, I will give a little rundown on the purpose of the invitation to participate, discuss the information requested.

Then I'll go through the information we received from our responses and then discuss next steps to finish it off.

So, the next slide. So, the purpose of the invitation to participate, this is an opportunity for stakeholders to inform the Commission's policy direction and process and in this case, in regards to portable electric spas.

And we received some information on portable

electric spas and we'll be going through that today.

The next slide. So, as you can see, we requested a lot of information on portable electric spas. We got a good amount of information on return.

And I'm not going to hit on every single item on this list, I'm just going to address the critical pieces that we received during this process.

So, the next slide. So, we got a number of responses. In particular, the two responses that stood out addressing the information we requested came from the California Investor-Owned Utilities and the Natural Resources Defense Council. So, those two organizations will have their comments highlighted in this presentation.

So, existing labeling, portable electric spas are not labeled in a consistent way in the market right now.

From the information collected by the Commission -- excuse me, the information that's collected by the Energy Commission right now for portable electric spas includes manufacturer, brand, model, volume, capacity, voltage, and stand-by power.

So, this information is readily available at the Commission's fingertips to include a portable electric spa label.

We also received comments indicating that other information that would be valuable for a label would be annual energy use and annual operating cost.

If anyone -- I'm going to just kind of queue up some of these questions and some of these things that were brought up in the invitation to participate. If anyone has any thoughts on annual energy use or annual operating costs being included in the label, feel free to say something or raise your hand. Otherwise, I'll move on to the next slide in a minute.

And that includes the folks on the phone, if you want to put in a comment through the chat feature.

Peter, did anything come through? No.

MR. STRAIT: Not so far.

MR. BUTZBAUGH: Okay. So, I'll move on to the next slide. So, these are -- so just recapping, that's the information we're getting right now and some of the information organizations said would be useful for a label.

So, objectives of labeling, this was pretty consistent through all of our responses. Mainly, the main objective is consumer education, provide a way for consumers to account for energy costs in their purchase decisions, identify energy-efficient portable electric spas, level the playing field for comparing products,

and improving compliance.

If there's anything I missed, anyone on the phone or anyone here feel free to raise your hand. I'll give you a minute. But this is what we saw in our comments.

Okay. I will move on to the next slide. And by the way, folks, at the end of these slides we'll open up the mics and people can feel free to comment at the end, as well.

So, install based, we received some information from the RASS, the Residential Appliance Saturation Survey, and this information was framed in the following manner. We have 10 percent of California residences owning a spa or hot tub. And then of these 10 percent, 92 percent are in single-family homes.

And of the 92 percent, 45 percent are heated by electricity so that's what we're focusing on for portable electric spas.

And again, of that 92 percent that are in single-family homes, 46 percent are outdoor above-ground, and that's also addressing portable electric spas in this instance.

Does anyone have any thoughts or comments on these numbers, on the validity of these numbers? And that includes folks on the phone.

Okay, so that's the install based.

We'll move on to the next slide, market and install base. So, this comes from the Association of Pool and Spa professionals.

It indicates that there are about 7.4 million hot tubs in the United States, 173,000 hot tubs sold and installed in 2011, alone. So, that indicates roughly 2.4 percent growth annually.

And it also indicates that there are roughly about 1.5 million installed hot tubs, including commercial and in-ground in the State of California.

Any -- if there are no comments, I'll just move forward on the next one. I don't see anyone --

MR. STRAIT: Hi. If anyone has any comments, actually, on these slides or on the figures that we're presenting, you can go ahead and enter it by chat immediately, and we'll just take all comments about this material at the end of the presentation. That way we can just move through the presentation and we'll -- we can revisit the slides, if needed to, after the end.

MR. BUTZBAUGH: That sounds like a good plan, particularly for this presentation.

So, that was -- that's the majority -- that's everything that we really received on portable electric spas. As I said, we had two organizations submitting

the bulk of the information.

You know, and as our next steps we're accepting proposals from June 10th to July 25th, and we will have a template and guidance on how to submit proposals coming in the next week or two.

The next slide. This screen arrow indicates where we are in the process. These slides are available online. As you can see, we're moving from the invitation to participate stage to request for proposals before we get to staff analysis.

And then the next slide is my title slide -- or excuse me, my contact information slide, with my e-mail address, and phone number, and also the docket number for this docket, for this subject.

So, I'd like to open it up for anyone that has any questions about what's been presented or any of the information that's been submitted to the docket.

MR. WORTH: It's so fun to do this. Good afternoon, Chad Worth on behalf of the California IOUs. I just wanted to comment and echo support for labeling spas. As mentioned, we just want to reiterate we think that labeling spas will increase consumer education, improve decision making, and improve compliance with the existing Title 20 standards.

And because I believe there already are

standards, as we all know, for standby power consumption for electric spas.

And we believe while some manufacturers are already advertising their Title 20 compliance, consistent labeling across different manufacturers would be of value to consumers and lead to energy savings.

So, thank you.

MR. BUTZBAUGH: Thank you, Chad.

Anyone else in the room, Gary or Scott, do you have anything you want to add or -- no, okay.

MR. STRAIT: We do have a comment. Somebody asked what was most notable about the two submittals.

MR. BUTZBAUGH: So, someone asked what is notable about the two submittals? Mainly, the market information and the objectives of labeling, as I noted in my slides those would be the two main things that came across in the two comments. And they're available on the web for view.

MR. STRAIT: Better? Oh, there we go. One thing I can do for people that are listening in, and may not have access to a keyboard, they might just be listening by phone, I can unmute the lines and we can see if anyone has a comment.

But sometimes this can create a lot of noise. If there's too much noise, then I'll just go ahead and

mute everyone again. So, let's try this. Where is this.

MR. NGO: Testing, testing.

MR. STRAIT: All right, the lines should be open. If anyone has any comments, they can make them now.

All right, as I'm not hearing anyone that is making a comment, I'm going to go ahead and re-mute the lines so we can move on to the next presentation.

MR. BUTZBAUGH: So, we just want to give it maybe two minutes or three minutes?

MR. STRAIT: Oh, we have another question, actually, by chat. The question is, "Any interest in using the current labeling in APSP-14, energy efficiency of portable electric spas?"

MR. BUTZBAUGH: Can you -- is that on the mic?

MR. STRAIT: It's in the chat box we had the question, I'm reading verbatim.

MR. BUTZBAUGH: Sure.

MR. STRAIT: "Any interest in using the current labeling in APSP-14, energy efficiency of portable electric spas?"

I'm assuming that's the standard.

MR. BUTZBAUGH: Okay. And I would say yes for -- in regarding -- I mean there is -- we're open to

looking into APSP-14. I recommend that any stakeholders or interested parties that believe that's the right way to go that they submit a proposal or put information in the docket, so that way we can take a look at it and investigate APSP-14 a little further.

Go ahead, Gary.

MR. FERNSTROM: This is Gary Fernstrom representing PG&E. That sounds like a good idea. If there's already a voluntary label that is agreed upon by industry, it would be great if California could just adopt that. But it would have the effect of making a label where at least the information on it is mandatory so far as California is concerned.

So, the industry and the proposers should bear in mind the consequences of offering that up in order to meet a mandatory requirement in California.

MR. BUTZBAUGH: Thank you.

MR. STRAIT: I'm not receiving any additional questions or comments through chat.

MR. BUTZBAUGH: Okay. In that case, if there are no more questions, then we can move along.

So, the next topic to discuss is Air Filter Labeling.

I just went through these slides with the portable electric spa folks just a few minutes ago, so I

will move to the next slide.

Similar idea, we're going to go through the responses we received for air filter labeling and then discuss the next steps.

So, the next slide. Again, the purpose of the invitation to participate is to gather information to inform the California Energy Commission on the direction to go with these topics. And today we're going to discuss air filter labeling in this presentation.

The next slide. Again, we requested a bunch of information and we received different types. And I'm not going to go through every individual piece of information we received in the docket. I'm just going to highlight the ones that seemed to be the most important when going through the responses.

So, four organizations in particular put together some strong comments and strong responses, and those included the California Investor-Owned Utilities, the Natural Resources Defense Council, Proctor Engineering and 3M.

Again, with air filters the objective of labeling is consumer and contractor education. So, identifying the appropriate filter for HVAC equipment, balancing the filter air flow resistance with reduction in particulates, improving long-term health and energy

efficiency of HVAC equipment, facilitating compliance with Title 24, and level the playing field for comparing air filter products.

So, we received some comments on label location. Everyone agreed that label location should be consistent and easy to find. Some of the ideas were mixed, though. Some of the comments mentioned the label could be affixed to the air filter, itself. It should be persistent, for instance, it should last so that way the consumer can see it when they pull the filter out.

Other folks said the front or back of product packaging, or on the insert or the plastic bag. And we can discuss those at the end of the presentation.

So, the next slide. So, current labels, we have the minimum efficiency reporting value, the MERV rating. And this relates to particle efficiency, which is a filter’s ability to remove particles from the air.

However, this rating does not capture energy efficiency, which is addressed in the measurement of pressure drop or resistance.

There’s also the micro-particle performance rating, which is exclusive to 3M products.

And then the filter performance rating, or FPR, which is exclusive to air filters sold at the Home Depot.

And there's a 2012 survey conducted by the California IOUs and these are the results of the survey. I'm presenting these results just to give a picture of what the market looks like.

So, in some cases you have no label, then you have the MPR only, or the MERV only. And then in the case of Home Depot you have FPR and the MERV, or FPR and MPR, and then in some cases you have just the FPR. So, it's a real mixed bag right now for air filter labeling.

The next slide. This is the AHRI 680 standard rating. We received some responses that indicated this is a good starting point or a preferred starting point for air filter labeling.

This label has initial resistance across air flow rates. It has the final resistance. It has dust-holding capacity, and particle size efficiency across the different particle size types.

The next slide. Some of the comments we received indicated some questions about this label, such as are fine particulates adequately addressed? Are the particle size groupings relevant to consumers? Are these different air flow rates relevant to consumers?

And those are the kinds of questions I would like to hear your comments on at the end of the presentation.

So, labeling costs, we received some good information on labeling costs indicating the new label has an initial cost of $2 million. This includes the plates, the labels, the manufacturing processes, costs, graphics and artwork.

And associated with this comment was another comment indicating that altering an existing label has a cost of $500,000 annually.

If possible, I'd like to hear a little bit more about the annual cost, whether that's similar or not from the new, initial cost, and what would make the most sense in the case of air filter labeling.

The next slide is on market characteristics. This is from the Residential Appliance Saturation Survey, RASS.

It indicates that around 10 percent of households have no central AC, whereas 77.6 percent have one, and then 9 and a half have two central ACs.

So, I think the question is, is there an appropriate average about one central AC per household? Does that make sense to folks?

And then is it safe to assume that air filters are changed out twice per year?

I'd like to get some thoughts from the audience on those two questions.

So, next steps, the Commission is accepting proposals for efficiency measures from June 10th to July 25th. And our proposal template and guidance is coming in the next week or two.

If you have some thoughts on proposing standards, or any sort of efficiency measure, and that can include consumer education and whatnot, please put together a proposal and submit it to the docket.

Again, the public participation, this green arrow is where we are in the process.

And then, finally, my contact information on the last slide.

So, I'd like to open up the mics for folks to hit on some of the issues I brought up in the presentation.

MR. STRAIT: Actually, before we open up the live mics for those listening in remotely, we're going to take comments in the room.

MR. STEUBEN: All right, thank you. My name is Jeff Steuben and I'm with Energy Solutions, representing the California IOUs.

And I have really just two comments that I want to make about this process in general, that Josh touched on about the persistence issue.

So, when thinking about the labels on the

filter, we would like to encourage the application of that filter, the label to the filter, itself, in addition or instead of on the packaging.

Because as you know, when you install the air filter the homeowner discards the packaging, so that information is then lost. So, if the consumer wants to buy the same filter, again, they need that information on the filter, itself. Or if an inspector is looking at the air filter to make sure that it's compliant with Title 24 that information needs to be there, whereas the packing, itself, is going to be discarded.

And my second comment is really just sort of an overall comment about this process. We want to encourage the consistency of the label information. This is really sort of the main point, from our perspective, that we want to have an industry-wide standard label that all products will be -- have applied and that way consumers really have one label that they need to understand, and can look across all brands and all products to easily just compare those two.

Thank you.

MR. BUTZBAUGH: Thank you, Jeff.

MR. STRAIT: All right, I have not seen any comments or questions by chat. As I'm not seeing any other comments in the room -- pardon?

MR. DURFEE: This is Scott Durfee with the Nidec Motor Corporation.

A couple comments that I wanted to make on the labeling is taking into consideration the energy efficiency of the HVAC system, and the effects that it's going to have.

The furnace, obviously, there's three -- there's three different types of motors that are used most in furnaces. One is a PSC motor that when the filter gets clogged will not run any harder, but it makes the system run much longer.

Then you have motors that work in a torque mode that will overcome this to a certain point.

Then we have some motors out there that are controlled by CFM, or cubic feet per minute, so regardless of how clogged that filter gets it's still going to push the correct amount of air to get the correct efficiency over the A coil.

The issue or the problem is this increases the energy requirement to run the HVAC system. So, any considerations also need to take into the life of a filter, how long this filter is going to stay or create this kind of pressure drop and before it needs to be changed.

Because we're finding that being one of the

biggest causes of inefficient HVAC systems being clogged filters.

MR. BUTZBAUGH: Thank you, Scott.

MR. STRAIT: Are there any additional comments for the room?

MR. BUTZBAUGH: Since we got started a little early, we may want to --

MR. STRAIT: Oh, I wanted to open --

MR. BUTZBAUGH: Okay.

MR. STRAIT: -- up the online, unmute everybody.

MR. BUTZBAUGH: Sure.

MR. STRAIT: Just one moment here.

Hi, who is speaking?

All the phone lines are currently unmuted, so if anyone listening in remotely would like to speak, simply speak up.

All right, I'm going to re-mute the lines.

Anyone that has any additional comments please submit them through the chat box.

And as always, we will take any additional information in writing. You can submit them to the dockets listings, as posted on our website, or to the contact information we're displaying at the end of each presentation.

This same contact information is present in the

downloaded versions of these presentations, so we will accept these comments at any time in the next few weeks.

MR. BUTZBAUGH: Great, let's just give it maybe five minutes and then if no one has any more comments from the phone, then we'll just end it then, since we started early.

(Off the record)

Peter, unless we have any more comments from the chat then --

MR. STRAIT: I am not seeing anything in the chat box. No one has indicated they have any additional comments.

MR. BUTZBAUGH: Okay. Then in that case we'll excuse the workshop. Thank you everyone.

(Thereupon, the Workshop was adjourned at 3:31 p.m.)

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