

DOCKETED

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BEFORE THE CALIFORNIA ENERGY COMMISSION

In the Matter of:)
)
Promotion of Regulatory Compliance)
In the Installation of Central Air)
Conditioning and Heat Pumps) Docket No. 17-EBP-01
_____)

COMMISSIONER WORKSHOP

NOTICE OF LEAD COMMISSIONER WORKSHOP
ON THE PROMOTION OF REGULATORY COMPLIANCE IN THE
INSTALLATION OF CENTRAL AIR CONDITIONING

SOUTHERN CALIFORNIA EDISON ENERGY EDUCATION CENTER

6090 N. IRWINDALE AVENUE

IRWINDALE, CALIFORNIA

FRIDAY, AUGUST 3, 2018

9:00 A.M.

Reported by: Martha Nelson

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ADVISORS

Lea Haro, Standards Compliance Office Supervisor

Juventino Mendoza

Judy Roberson, Project Manager

Martha Brook, Advisor to Commissioner McAllister

RAISING AWARENESS AND CREATING VALUE PROPOSITIONS - PANELISTS

Pierre DelForge, Natural Resources Defense Council

Kristin Heinemeier, Realized Energy Solutions

Robert Wiseman, Institute of Heating and Air Conditioning Industries

Don Langston, Aire Rite Air Conditioning

Randy Young, Sheet Metal Workers' Local Union No. 104, District 2

MECHANISMS TO VERIFY AND INCREASE COMPLIANCE - PANELISTS

Cynthia Moore, Contractors State License Board

Greg Mahoney, City of Davis

Daniel Blustein, Los Angeles Department of Water and Power

Roy Eads (HERS Rater - Representing himself)

Charlie McCrudden, AHRI, Air Conditioning, Heating and

Refrigeration Institute /Daikin US Corporation

Alex Ayers, HARDI, Heating, Air-Conditioning & Refrigeration

Distributors, International

Paul Thomas, San Diego Gas and Electric

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Bruce Severance, Mitsubishi Electric

Barbara Hernesman, Western HVAC Performance Alliance

George Nesbitt - HERS Rater, Via WebEx

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Eric Taylor, California Energy Alliance

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P R O C E E D I N G S

1

2 AUGUST 3, 2018

9:15 a.m.

3 MS. HARO: I think we are just about ready
4 to start. So, just a couple housekeeping things for
5 the people in the room. Safety exits are to the left
6 and the front door. Restrooms are to the right and
7 straight ahead.

8 During the breaks, we've been asked to keep
9 it quiet because there are other events taking place
10 in the building.

11 All right. So, I would like to thank
12 everyone for making the journey to the facility here
13 in Irwindale, and to everyone who is on WebEx.

14 As many of you are aware, the Commission has
15 been mandated to create a plan to increase compliance
16 with central air conditioning and heat pumps.

17 So, our agenda for today is, I'll give a
18 brief overview of the mandate. We'll have opening
19 remarks. Judy will go over the workshop scope. We'll
20 have a morning panel on Raising Awareness and
21 Creating Value Propositions. We'll break for lunch.
22 Lunch is on your own, and there will be an afternoon
23 panel, the Mechanisms to Verify and Increase

1 Compliance.

2 So, after each presentation, you'll have the
3 opportunity to ask questions and we'll open it up for
4 discussion. So, we ask that you hold your questions
5 until all the presentations have been completed.

6 So, SB-1414 mandates the Commission to
7 approve a plan promoting compliance with central air
8 conditioning and heat pumps. We are meant to do this
9 in consultation with the CSLB, local building
10 officials, and consider the impacts on property
11 owners, local governments, HVAC contractors,
12 distributors and manufacturers.

13 We need to ensure that the data -- that any
14 recommendations, data collection efforts and their
15 use are feasible and cost-effective, and give the
16 public an opportunity to comment on the proposed
17 plan. The mandate also gives the Commission
18 authority to adopt regulations that are consistent
19 with the plan.

20 So, we have had two half-day workshops in
21 Sacramento on June 29th and July 20th. The docket is
22 -- the transcripts are available on the docket, as
23 well as the recordings and the comments.

24 And as many of you are aware, the issue of
25 compliance is greater than -- it covers both

1 residential and non-residential buildings, however,
2 for this effort, we are limiting the scope to
3 residential and small commercial, although we are
4 aware that there are issues within the residential
5 sector. But for this current effort, it's -- we're
6 limiting it.

7 So, I would like to take this moment to
8 introduce Commissioner McAllister, who will provide
9 us with our opening remarks.

10 (Applause)

11 COMMISSIONER MCALLISTER: Well, thank you
12 very much, Lea. I am super happy to be here, and I
13 know that I'm not the main event. The main event is
14 the actual substance of what you're going to talk
15 about.

16 And I really want to thank everybody for
17 coming, and certainly SCE for providing the facility.
18 And it's incredible. We've got just a little bee
19 hive of activity with all sorts of cool stuff going
20 on in this center, and that's the way it ought to be.
21 So, you know, I really give kudos for Edison for
22 managing a lot of good training and outreach.

23 So, I'm going to provide a little bit of a
24 high-level context about where this fits in to
25 overall California policy. You know, this is one

1 piece of a whole suite of policies that we have in
2 California. And, you know, increasingly, we're
3 getting calls from all of the world, you know, as
4 sort of California appears in high relief in terms of
5 what's happening in the United States, right. We're
6 sort of, we're the biggest state and we're doing the
7 most really, I would say. I mean, there are lots of
8 other states that are doing really interesting
9 things, but people look for us -- to us for
10 leadership.

11 And so, our challenge is to put in place
12 policies that actually work with the marketplace. I
13 mean, I think this is, this is really a key kind
14 of -- in a way it's a cultural point for just the
15 agencies.

16 The agencies, including the Energy
17 Commission, we really need to be better every day at,
18 you know, not just sort of making regulations and
19 tying them up in a bow and throwing them over the
20 firewall into the world and kind of hoping that they
21 get complied with, right. We need to actually --
22 like we know what happens if we don't listen, and we
23 don't sort of build regulations that are responding
24 to stakeholder needs to the marketplace needs.

25 And that is nowhere more true I think than

1 HVAC. Because, you know, it's a hard business out
2 there, and you've got to -- contractors have to go
3 out there, they have to sell something that customers
4 want. They have to be responsive. They've got to
5 really, you know, do it quickly and offer the right
6 options and, you know, sort of get in, and we want
7 them to do it right.

8 You know, we have, you know, millions of
9 existing buildings that are going to be, they're
10 going to receive retrofits. And we have goals to
11 double energy efficiency. We have, you know, carbon
12 goals, you know, along with RPS and all these other
13 suites of policies, front and center is our existing
14 buildings, you know.

15 I think we're doing relatively well on the
16 new construction. We have good compliance there for
17 the most part. Really, the existing buildings is
18 where we need to do better. And it's harder, and
19 every building's different. Every building has got
20 its history. Every homeowner, every business owner
21 is different.

22 And so, who makes all that happen out there
23 in the world? Well, you know, all of you do. The
24 Commission is not out there with the white trucks,
25 you know, installing stuff, thank God. But we want

1 to get out of your way, if we're in your way, and we
2 want to help you cultivate that marketplace for
3 responsible retrofits.

4 So that's what this bill is all about. I
5 mean, you know, we all sort of for the last, you
6 know, 10-15 years, we've been talking about it, only
7 five-percent of residential HVACs get permit. And
8 so, you know, we've got to figure out a way to
9 increase the value proposition of getting that permit
10 and closing it out properly, so that we get quality
11 installations.

12 And the savings potential is huge. The
13 wasted energy is massive. And it just, you know, we
14 know what we need to do. We need figure out a way to
15 get it done. So, that's going to take resources, but
16 it's also just going to take understanding the
17 problem, so we can be judicious about how we
18 intervene.

19 And so, you know, we all need to have our
20 thinking caps on, and come up with -- you know, I
21 think -- there are a lot of possibilities that we
22 already know about that have floated around for
23 years. Well, how we do make those reality? How do
24 we really craft them so that they're useful to the
25 people out there doing the work and selling jobs?

1 So, that's, I think, the challenge, and I
2 think, you know, part of the reason that the bill was
3 necessary and that the urgency is going up is that
4 this is a tough problem. It is hard to solve. But,
5 you know, with all -- the only way we're going to
6 solve it is if we all kind of put our cards on the
7 table, bring our knowledge, bring our expertise and
8 our creativity to figure out what the path forward
9 is.

10 And the Energy Commission, we absolutely
11 want to do what is necessary, and we'll -- and, you
12 know, if that's regulations to sort of force the
13 issue, so be it. But, you know, we're carrots. You
14 know, what's going to really motivate that
15 marketplace? That's really, I think, you know, a
16 really key part of this is, how can we highlight the
17 benefits? You know, not just sort of use the hammer
18 but use the carrot more than that. So, that's my
19 desire (for) what comes out of this.

20 And I also will just say that we really
21 wanted to get down in this part of the State to have
22 this discussion. I think, you know, everybody
23 benefits if the Commission and other agencies are out
24 here on your turf, roughly, you know, more or less,
25 and really understanding from different perspectives

1 from across the State. You know, Sacramento isn't
2 the be all, end all.

3 So, you know, the biggest market for HVAC
4 change outs is down here. So, this is intentional
5 that we're, you know, down here, and I hope that we
6 can get your insights, you know, out here, down here,
7 where you guys live and work.

8 So, with that, I just, again, want to thank
9 everybody for coming. And I'll be around all day.
10 I'm happy to talk with anybody.

11 My advisor, Martha Brook, is down here as
12 well, as well as all the staff that's involved who I
13 want to thank, Lea and Judy, and everyone else who
14 has been organizing this, because it's a big lift to
15 organize something outside of Sacramento and outside
16 of the Commission building. And so, you know, that
17 extra lift is really appreciated.

18 So, with that, I'll pass it back to Lea --
19 or is Judy next? Lea's going to -- okay. Great.
20 So, Lea's going to keep the proceedings rolling
21 along.

22 So, thank you all very, very much for
23 coming. I appreciate it.

24 (Applause)

25 MS. HARO: So, our next speaker is Pierre

1 DelForge with the NRDC. So, I know some of you are
2 hearing some background noise. Our IT is working on
3 it. So, please mute yourselves when you come onto
4 the WebEx. It's likely that we're going to have to,
5 you know, live with hearing "hay" if -- but it's not
6 the worst that can happen. We are live and everyone
7 is in the room, and we're going to have a great
8 discussion.

9 So, I'd like to introduce Pierre DelForge,
10 who joined the NRDC in 2010 after 20 years, a 20-year
11 career in the high-tech industry. He works on
12 policies to accelerate the clean energy transition in
13 buildings, with a focus on energy efficiency in plug-
14 in equipment and on the decarbonization of fossil
15 fuels and end uses, such as space and water heating.

16 MR. MENDOZA: Hello, Pierre. I've unmuted
17 you if you can hear us?

18 MR. DELFORGE: I can hear you. Can you hear
19 me?

20 MR. MENDOZA: Yes.

21 MR. DELFORGE: Great.

22 Well, good morning, Commissioner, Commission
23 staff and everyone in the room and on the phone. I'm
24 sorry I was not able to join you in person today, but
25 thank you for allowing me to present NRDC's

1 perspective remotely.

2 NRDC's mission is to combat climate change
3 and air pollution, and to do so in a manner that
4 ensures equitable access to clean and affordable
5 energy.

6 An issue of compliance for installation
7 quality requirements for central air conditioners and
8 heat pumps that we are talking about today, or maybe
9 I should say the lack of compliance, hits on all
10 these points.

11 It appears evident from comments at previous
12 workshops for these proceeding and on the docket that
13 California's facing a major issue regarding
14 permitting of central air conditioner replacements
15 with numbers like 95-percent of installations done
16 without a permit, upward of 85-percent of
17 installations failing quality requirements, and
18 around 30-percent average duct leakage according to
19 various studies like by Lawrence Berkeley Labs and
20 others.

21 Most of the installation issues found with
22 air conditioning and heat pumps also apply to central
23 gas furnaces for space heating, like leaky and
24 undersized ducts that result in blowing precious
25 energy literally out of the house, and that can fail

1 to maintain a safe temperature in the home in extreme
2 weather conditions, like heat waves or in the dead of
3 winter.

4 And this direct energy loss is only half of
5 the story. Blowing air through duct leaks also
6 depressurizes the building, pulling in unconditioned
7 and potentially unhealthy makeup air from musty crawl
8 spaces and attics and garages, causing additional
9 heat losses and health issues like allergies to
10 occupants.

11 And, finally, oversized air conditioners and
12 furnaces are less efficient and exacerbate leakage
13 when ducts are not sized to match. According to
14 various stakeholders, the potential energy savings
15 from fixing or avoiding all of these issues could be
16 30-percent or higher.

17 To put this in perspective, the Commission
18 and stakeholders have invested a lot of time and
19 effort and dollars into developing world leading
20 building energy codes for new buildings, like the
21 recently adopted 2019 update, but new construction
22 represents less than one-percent of the building
23 stock annually. So, even the 50-percent energy
24 savings by this code update in new single-family
25 homes are dwarfed by the energy losses from poorly

1 installed heating and cooling equipment in the other
2 99-percent of the building stock.

3 Heating and cooling energy waste also
4 impacts disadvantaged communities' pocketbooks the
5 hardest because low-income families tend to live in
6 homes with less insulation and leaky ducts, and
7 energy bills represent a disproportionate share of
8 their disposable income. And this also causes a huge
9 amount of carbon pollution contributing to climate
10 change.

11 Central heating and cooling are the number
12 one and number three energy users, respectively, in
13 California homes, and the energy consumption impacts
14 the climate more than other equipment for two
15 reasons. First, because air conditioners work the
16 hardest on hot summer afternoons and evenings at
17 times of peak electricity demand, when grid operators
18 need to fire up the dirtiest power plants to keep our
19 lights on and our buildings from overheating.

20 And second, central gas furnaces suffer from
21 the same installation quality and low-performance
22 issues as central air conditioners. But while
23 California's electricity is becoming more renewable,
24 natural gas is not, and burning gas in furnaces
25 remains a significant contributor to the State's

1 carbon emissions.

2 In addition, there is new evidence that
3 leaks of methane from natural gas production and
4 distribution are higher than previously thought, and
5 significantly increase the climate impacts of the use
6 of natural gas.

7 The compliance plan required by SB-1414 for
8 central air conditioning and heat pumps can be
9 leveraged to save energy with gas furnaces, too,
10 saving twice as much energy and pollution for the
11 same investment in Commission staff and budget.

12 And a 30-percent reduction in heating and
13 cooling energy use would reduce California's carbon
14 emissions by 5,000,0000 tons annually. This is
15 equivalent of taking 1.2 million gasoline cars off
16 the road, nearly as much the State's goal to put 1.5
17 million cars, electric cars on the road by 2025, and
18 three times the number of electric cars currently on
19 California's roads.

20 So, we can't afford such high levels of
21 energy waste, crippling utility bills in summer and
22 winter, and unnecessary carbon pollution from poor
23 installation practices to continue unfettered, not
24 when we have a housing affordability crisis in the
25 State, and when we are experiencing firsthand wild

1 fires, heat waves, droughts, floods and other
2 climate-related impacts in California.

3 Climate impacts will hit particularly hard
4 in Southern California. Models project a 64 increase
5 -- 64-percent, sorry, increase in areas burned by
6 Santa Ana wildfires, and a four-degree-Fahrenheit
7 increase in average temperatures in the San Fernando
8 and San Gabriel valleys by 2050, and more serious
9 floods and mudslides, like those in Montecito earlier
10 this year.

11 The time to solve this issue has come. SB-
12 1414 provides state agencies with the necessary
13 authority, and we appreciate CEC's open process and
14 extensive stakeholder engagement through this
15 proceeding, as well as the CPUC's work in the
16 business plan proceeding, to identify the right
17 solutions to this problem.

18 No one strategy will solve this problem.
19 Instead, a comprehensive approach is needed,
20 including many options proposed by stakeholders, such
21 as on-line permitting, workforce training and
22 certification, quality installation standards,
23 stronger enforcement, ongoing data collection, and
24 leveraging innovative technologies, like continuous
25 commissioning and metadata analysis.

1 So, we look forward to working with the
2 Commission and stakeholders to resolve this issue,
3 and help Californians live in healthier homes and in
4 a cleaner and safer environment.

5 Thank you.

6 (Applause)

7 MS. HARO: Thank you, Pierre.

8 Yeah, it is you.

9 So, I'd like to introduce Judy Roberson. She
10 is the Project Lead for this compliance plan.

11 MS. ROBERSON: Thank you, Lea. Welcome
12 everybody. It's really good to get your input on
13 this.

14 My name is Judy Roberson, no "t." I'm a
15 building scientist at the California Energy
16 Commission, and I'm going to be drafting this
17 compliance plan. So, I want to hear from all of you.
18 This is a really important part of the process.

19 Logistically speaking, I want to just point
20 out that if you haven't signed in yet, there's a
21 sign-in sheet on a clipboard at the back. Please do
22 that at some point before you leave today.

23 If we have any kind of a physical emergency,
24 earthquake, for example, the safety exit is out this
25 way. You can also exit the same way you came in,

1 which is pretty close, out those doors, and that's
2 also the way to the restrooms.

3 We don't have a break scheduled in the
4 morning and the afternoon. We have -- we're going to
5 try to allow at least an hour, maybe an hour and a
6 half for lunch, because you have to go out and get
7 your own lunch, forage for yourself and come back,
8 but that timing is a bit flexible. We'll see how the
9 day goes.

10 Everyone, before you speak, before you start
11 talking, please identify yourself into a microphone
12 that is on. We have a court recorder in the back
13 who's recording everything that's being said. We're
14 going to have a WebEx recording, an audio recording
15 of this, so it's really important that you identify
16 yourself and your affiliation before you make your
17 comments.

18 You can comment after the panel discussion.
19 After the panelists present, we're going to open it
20 up for open discussion. And at that point, we're
21 asking that people, before you -- in order to get in
22 line to speak, so to speak, fill out a blue card.

23 There's a pile of these blue cards at the
24 back of the room. Fill it out at least with your
25 name and affiliation, and then give it to Tino up

1 here at the WebEx desk, and Tino is going to be
2 keeping track of the commenters in the room and the
3 commenters on-line at WebEx, and he's going to call
4 your name. And at that point someone will come and
5 hand you a microphone, and then you'll be able to
6 speak. And you can speak -- you can comment as often
7 as you like, but we are going to try to enforce a
8 three-minute comment timeline, and there will be a
9 timer on the screen to help you keep track. I think
10 I covered that.

11 Great. Our morning panel, I'm not going to
12 say much about it, except that it addresses sort of
13 the hearts and minds' aspect of this market
14 transformation. It's about how do we change people's
15 understanding and awareness and attitudes about the
16 importance of pulling permits and getting field
17 verification of these complex systems.

18 People tend to think that the efficiency,
19 the rated efficiency that's on the equipment is what
20 they're going to get. They don't want to pay for a
21 permit. You all know this story. We know that's not
22 true.

23 So, it's not just about training the
24 contractors or fixing the permitting system, it's
25 about changing people's minds and attitudes, and

1 giving everybody -- creating value propositions for
2 everybody that's involved, including contractors and
3 homeowners and HERS raters, and, of course, the HVAC
4 industry.

5 I need to state that, in advance, that the
6 comments, or whatever the presenters have to say, is
7 not necessarily shared by the Energy Commission.
8 They're speaking for themselves, and I'm going to
9 introduce them.

10 First of all, Kristin Heinemeier is a
11 Licensed Mechanical Engineer with a Ph.D. in building
12 science from UC Berkeley. For over 30 years she has
13 advocated technologies, programs, codes and
14 standards, and industry best practices to improve
15 HVAC performance, focusing on the role of contractors
16 and technicians.

17 She has worked for UC Davis Western Cooling
18 and Efficiency Center, Lawrence Berkeley National
19 Lab, Honeywell, Texas A&M, and PECI. And she is now
20 a principal at the consulting firm of Realized Energy
21 Solutions in Davis, California.

22 (Applause)

23 MS. ROBERSON: And I need to pull up her
24 presentation.

25 So, I just got a question asking, will the

1 PowerPoints be available after the presentation.
2 Yes. After today, as soon as they're available, the
3 PowerPoints will be uploaded to the docket. That
4 includes the presenters, the panelists'
5 presentations, and also the WebEx recording and the
6 written transcript. It may take a couple of weeks,
7 but all this will be available, so you don't have to
8 take notes.

9 MS. HEINEMEIER: Okay. Thank you. Can you
10 hear me?

11 So, I have I think about 15 slides in five
12 minutes, I think. So, it's a good thing they're
13 going to be posted because I may not hit on
14 absolutely everything.

15 So, I was previously the chair of the WHPA's
16 committee on compliance improvement. So, as such,
17 I've been working on compliance for quite a while.
18 And I kind of stepped away from it for a little
19 while, recently come back to it and see that not a
20 whole lot has changed.

21 So, I'm very excited to see the new emphasis
22 on compliance. Because, as the Commissioner said,
23 it's a very important problem, and something that I
24 think is not rocket science to fix. It's a very
25 large and complex system, so we need to understand

1 that system, but I think we can make a lot of
2 improvements.

3 So, I have a number of very specific
4 recommendations on the slides, and I probably will
5 not get to all of those, but I will try to focus on
6 some of the research that I've done that kind of
7 bears on this question.

8 And, as you heard, I have a Ph.D., and you
9 may know we're contractually required to have an
10 indecipherable equation on one of our first three
11 slides, so this is it.

12 Again, this is not rocket science. A
13 contractor is weighing the costs of what to do in a
14 particular situation, and is going to do whatever is
15 the most, you know, the lowest cost. They compare
16 the cost of non-compliance with the cost of
17 compliance. It's very simple in a way.

18 The cost of non-compliance depends on the
19 penalty of getting caught, the perceived penalty of
20 getting caught and the perceived probability of
21 getting caught, both of those, and which are
22 practically zero right now.

23 The cost of compliance on the other hand is
24 huge. The incremental compliance expenses,
25 additional time, materials and so forth, is large.

1 That's pretty much passed on to the customer. So,
2 you know, as far as the contractor is concerned,
3 that's, you know, that's not really a cost they're
4 paying, but they will lose the bid to someone who is
5 not bearing those costs. So, that's a huge issue to
6 the contractor.

7 So, the main reason for showing this is,
8 there's a number of different levers that can be, you
9 know, played with, and it's important to play with
10 all of those. There's no one silver bullet, if only
11 we had serial number tracking that would solve all of
12 these problems. I would say, no. There's a number
13 of different things that we need to make progress on.

14 The first one has to do with the probability
15 of getting caught. I did some -- a survey quite a
16 while ago of 268 contractors and asked, would your
17 competitor get caught if they didn't take out a
18 permit? Not you, of course, you never do that, but
19 if your competitor didn't take out a permit would
20 they get caught? No. That pretty much -- probably
21 not, no. You know, almost all the answers. A very
22 small percentage said, yes, or probably yes. So,
23 you're not going to get caught. Don't worry about
24 that.

25 On the other hand, what are the consequences

1 if you get caught? What would happen to him -- I
2 said "him," but hopefully that's changing. What
3 would happen to him if he got caught? And very, very
4 light, you know, I'll have to go and get a permit was
5 the largest answer. That's not exactly a, you know,
6 a sharp stick in the eye.

7 All the answers, almost all the answers were
8 very, very moderate. You know, going out of
9 business, going to jail, losing your license, a
10 lawsuit. A tiny, tiny percentage thought any of that
11 stuff was possible. For the most part, very low.

12 So, let us review. You're not going to get
13 caught, and there's not going to be anything bad that
14 happens to you if you do, so.

15 All right. Let's look on the other side of
16 the scale. I'm going to skip this one. The cost of
17 compliance. I don't know if you can read -- I think
18 maybe you can read that. But the committee,
19 Compliance Improvement Advisory Group, which was put
20 together by the California Utilities, spawned a white
21 paper.

22 And I was involved in it, Bob Wiseman who
23 was involved in it, and we kind of did a back-of-the-
24 envelope calculation on what it would cost to do a
25 simple first changeout, with and without compliance,

1 and we had several different scenarios. But the
2 first one is no permit, no enforcement, no
3 compliance.

4 The one on the bottom is, I take out a
5 permit, I do everything, all of the enforcement
6 stuff, and I actually do all the things that are
7 required to do. And the bottom line is, what should
8 be a \$2,400 job turned out to be a \$4,100 job, a 73-
9 percent increase.

10 So, I want you to imagine the contractor
11 sitting down at the kitchen table, giving the bid to
12 that client. And can you imagine? Can you just like
13 imagine what that would be like?

14 So, what is a customer going to say? You
15 know, the last guy bid me \$2,400. You're bidding me
16 \$4,100. What's the deal? Why should I go with
17 yours? You know, if they're nice they're going to
18 ask you, well, explain that. And I don't think, most
19 contractors don't have the answer to that. I'm not
20 sure I have the answer to that. I'm not sure anyone
21 here has the answer for that, but the Commission
22 better.

23 I think this is the number one problem, when
24 the customer says, do I have to do this? Yes. Why
25 should I do it? We need to have an answer for those

1 contractors. We need to help them with the data,
2 with the analysis tools, with the arguments, and with
3 sales training. You know, here's how you explain
4 this to a customer. This is not going to sell
5 itself, I can guarantee you that.

6 The next few slides have to do with
7 basically the question of, we need to get to a point
8 where the contractor can say, look, just trust me.
9 You need to do this. You really do need to do this.
10 And the consumer will say, okay, yeah. Well, I will
11 do that. So, what we need then is, the customer
12 needs to trust the contractor, and the contractor
13 needs to be worthy of that trust.

14 So, I had some things here. We did some
15 surveys with -- or interviews with contractors, and
16 the trust of the client was the number one thing that
17 was important to them. If they want to get that
18 person coming back, the client needs to trust them.
19 And we need to do -- the Commission, we, the
20 Commission needs to do whatever it can to help foster
21 that trust, that the clients can have in their
22 contractors.

23 This -- we did another survey for Edison.
24 We called, we surveyed the -- I don't remember the
25 number, but residential customers of Southern

1 California Edison, we asked them, tell me how you
2 feel about your toaster? Tell me how you feel about
3 your lawnmower, your car, your refrigerator, your air
4 conditioner. We got about half-way through the
5 survey before they knew it had anything to do with
6 air conditioners. That was the focus.

7 But we had, you know, different words that
8 were used to describe, and it turned out that the --
9 we thought it might match with cars. You know,
10 people say, well, we maintain our cars. It's kind of
11 like that with air conditioners. No, it's like a
12 refrigerator.

13 People think of their air conditioner a lot
14 like their refrigerator. It's simple -- let's look
15 at this. It's simple, it's boring, it's low-
16 maintenance, it's low-tech. And it's not any of
17 those. Thank you. But that's the way it's
18 perceived.

19 And if you go to someone who thinks, this is
20 a little refrigerator. You plug it in, it goes, but
21 you need to spend an extra 73-percent for me to
22 install it correctly and to do these tune-ups and to,
23 you know, to fine tune it and -- no. I mean, it's a
24 cognitive dissonance.

25 You know, until the technology and the

1 people delivering that technology are perceived as
2 having some value, and as being a complex thing
3 that's worthy of paying attention to, and that
4 quality really is important, you're never going to be
5 able to make that sale.

6 So, anything the Commission does to kind of
7 help bolster the professionalism of the profession of
8 the technicians will help contractors.

9 And then the final one here is, how can a
10 customer determine, you know, this is a good
11 contractor, this is not a good contractor? Right
12 now, you know, they get three bids. They either go
13 with the middle bid or -- you know, there's really --
14 it's very difficult to determine. And what do people
15 do? They go to Angie's List and Yelp.

16 Can we provide some assistance to like, what
17 are the questions you should be asking? You should
18 ask if they have a license. You should ask if
19 they're capable of doing these services. You should
20 ask, how many times have they done this before in my
21 neighborhood. There's a number of questions.

22 The community organization I work with in
23 Davis has, is doing a e-check program, and we're
24 asking the contractors that participate in the
25 program to fill out a little questionnaire, and we're

1 going to just provide those answers. We're not
2 saying this is a good one, this is a bad one, but
3 just here's the questions we had and here's the
4 answers.

5 The Commission could do something very
6 similar to that, to help clients to say, you know,
7 this sounds like a really good contractor and someone
8 that I might trust. And when he comes, he or she
9 comes and says, yes, you need to take out a permit,
10 they will have some trust in that.

11 So, you can see that these are all very
12 squishy things, and you might think the Commission's
13 role is not to help contractors market their
14 services, but it should be. There is -- as the
15 Commissioner said, they are the tip of the spear.
16 He's not out there installing air conditioners. I'm
17 not out there installing air conditioners. You guys
18 are. And we need you to do that. It's very
19 important that you do that. The State needs you to
20 do that.

21 Well, so anything that we can do to help you
22 get to the position where you're doing that is very
23 much in the domain of the Commission to do in my
24 opinion. So, that's two sides.

25 I think it's important that we have a 360-

1 degree culture of compliance, the way I tried to
2 describe it. It's been said, if we have a serial
3 number tracking that really puts the burden on the
4 distributors or, you know, on the contractors,
5 they're the bad guys. They don't want to be the bad
6 guys. Well, nobody wants to be the bad guys. But I
7 think if everybody is the bad guy, then there is no
8 bad guy.

9 We're all -- it's from every direction you
10 look, there's a culture of compliance. When you get
11 a warranty, when you get insurance, when you purchase
12 your system, when you sell your house, everywhere you
13 look it is an expectation.

14 And if we do that, then even though it is a
15 burden on any one of those entities, I will agree
16 with that, but it's not an undue burden, it's a level
17 playing field. We all are creating that culture of
18 compliance.

19 And, finally, I believe we need a reset. We
20 need to regain trust. The contractors don't trust
21 the State. I've heard a leader of an international
22 association say that California is a joke. We've got
23 this fancy-dancy standard and nobody's complying with
24 it, and yet they're making it stronger and stronger,
25 and they're complaining that people aren't complying,

1 but they're not doing anything.

2 So, there's a lot of mistrust of the State.
3 But the State also mistrusts contractors. What we
4 need to do is we need to tighten the screws on those
5 contractors. We need to verify them. We need to do
6 more and more to make sure that they're actually
7 complying.

8 I think we need to get -- and then the
9 customer doesn't trust anybody. So, we need to
10 really work on building that trust. A hard reset on
11 this whole system, because I think it's terribly
12 broken. If only five-percent are complying, it's
13 broken.

14 We need to have a roundtable that all the
15 right people are sitting at. They're all integrally
16 involved in defining the solutions. Everyone is
17 encouraged to come to the table ready to compromise.
18 You know, if you really don't want serial number
19 tracking, you may have to compromise on that.

20 On the other hand, the people that are
21 pushing serial number tracking are going to do
22 something to help you. Let's broker a deal where
23 everyone gets something, and we end up with the
24 situation that I think we all agree is where we want
25 to be.

1 So, those are my -- not the opinions of the
2 Energy Commission. So, thank you very much.

3 (Applause)

4 MS. ROBERSON: Thank you, Kristin.

5 I told everybody to keep their presentations
6 to five minutes. I knew it wasn't going to happen,
7 but we tried.

8 Our next panelist -- thank you, Tino -- is
9 Bob Wiseman -- am I saying that right?

10 MR. WISEMAN: You are.

11 MS. ROBERSON: Bob is Chairman of the Board
12 of the Institute of Heating and Air Conditioning
13 Industries, IHACI. He's a board member of the
14 Western HVAC Performance Alliance, WHPA, and owner of
15 Canoga Park Heating and Air Conditioning.

16 And if you have some more that you want to
17 add to that, please do.

18 Bob Wiseman.

19 (Applause)

20 MR. WISEMAN: Thank you. Can everybody hear
21 me?

22 UNIDENTIFIED SPEAKER: No.

23 MR. WISEMAN: Can you hear me?

24 UNIDENTIFIED SPEAKER: Try to stand up.

25 MR. WISEMAN: Okay. Well, we're going to

1 stand then. Fair enough. Fair enough. Well --

2 MR. LANGSTON: Come out of your shell.

3 MR. WISEMAN: The good news is -- can you
4 hear me now?

5 UNIDENTIFIED SPEAKER: Yes.

6 MR. WISEMAN: Okay. The good news is, I
7 only have 35 slides to do in five minutes. So, you
8 know, there's plenty of time to talk, so.

9 Do you have a -- I do -- that was a joke. I
10 do have one slide actually. So, do we have that we
11 can bring up?

12 MR. MENDOZA: It wasn't ready. Let me get
13 that up for you.

14 MR. WISEMAN: There it is.

15 MR. MENDOZA: Perfect. Thank you.

16 MR. WISEMAN: Perfect.

17 UNIDENTIFIED SPEAKER: Do you want the light
18 on?

19 MR. WISEMAN: I know. Thank you very much.
20 Okay. Very good.

21 Yes. Thank you very much, Judy, for the
22 introduction. I am a C-20 contractor in the State of
23 California, and I've been doing this for a very long
24 time, and watching this process change for, you know,
25 for a very long time -- or, actually, I should say,

1 wanting to watch this process change. It hasn't.
2 You know, in many, many, many ways we're doing the
3 exact same things we were doing 25 years ago.

4 You know, I want to start with -- and
5 Kristin did a great job, but I'm just going to drive
6 it home one more time. You know, when a contractor
7 walks into a home and sits down with somebody, and
8 it's \$1,600 higher for a furnace changeout that used
9 to be, you know, \$2,400, that's very difficult. And
10 I don't care how good of a salesman you are, it
11 doesn't matter.

12 You know, for a homeowner when you are
13 looking at that type of a price difference from a
14 licensed -- from two licensed contractors, and you're
15 comparing the price with two licensed contractors,
16 that's 73-percent price difference is very difficult
17 to justify, very difficult, you know. And we do, to
18 a certain extent, you know, but it's a very small
19 percentage, you know.

20 And I have to say, you know, it's wrong on
21 so many levels, you know, to have this done. You
22 know, so, you know, the question becomes, how much
23 work should a legitimate contractor lose? You know,
24 am I going to lose five-percent, am I going to lose
25 10-percent, am I going to lose 30-percent?

1 You know, that's not the question we should
2 be asking. You know, that's not the question we
3 should be asking. We should be talking about the
4 foundation. We should be talking about the level
5 playing field. You know, having a market that works
6 for contractors, for homeowners, for distributors,
7 for everybody, for the entire market, you know, and
8 then allow contractors to compete on that basis.

9 I want to make a quick, you know, analogy
10 with fines. One of the things that we talk about --
11 and I'm all in favor of fines. I think fining a
12 contractor for not doing, you know, in not pulling a
13 permit I think makes a lot of sense. I think there's
14 a value to it. But, you know, it's not something
15 that we can end it.

16 You know, it's, you know, the State simply
17 doesn't have enough people to be out there, you know,
18 running around fining people. It's not happening.

19 You know, the CSLB has done an amazing job,
20 and they've done -- you know, they've come a long
21 way, you know, over the last 10 years, but still it's
22 nowhere remotely close to what they need to be able
23 to do to really reach this industry.

24 It's difficult, it's hard, and, you know, if
25 it -- the people who wind getting fined most of the

1 time are large contractors. Why? Why is it the
2 large contractors? Because they're easy to find.
3 You know, there's not that many people out there, you
4 know, pulling permits.

5 So, you know, if you've got a contractor
6 who's buying all this equipment, it's easier to find
7 them, it really is. Is that fair? You know, I mean,
8 that's a value judgment. But the system is broken,
9 and the fix is elusive.

10 I just want to take a moment to make sure we
11 understand why the system is broken. I think, you
12 know, a free market, you know, really, you know, goes
13 a long way to correct a lot of problems. But when we
14 have a energy code like we do, which is very
15 specific, designed to help the State meet its goals
16 and so forth, it's -- you know, when you artificially
17 introduce that into a market, as we did, as the
18 Energy Commission did, it creates an imbalance, okay,
19 and we've been living with that imbalance for the
20 last 25 years in terms of compliance.

21 You know, that 1,600, that 73-percent
22 increase in cost is too much. You, IHACI members,
23 you know, want a level playing field. We have to
24 find a way to fix that foundation so that there is a
25 level playing field.

1 I think Kristin gave a lot of great ideas.
2 You know, I think that's part of the process, there's
3 no doubt about it. You know, one of the ironies that
4 we're dealing with since we broke the, since we broke
5 the market, you know, the HERS raters now are dealing
6 with this same dysfunctional market. You know,
7 there's all -- you know, when you -- you know, the
8 system has been broken, and HERS raters are trying to
9 work in a broken market themselves, and it's just not
10 working. It's just not working. We need to fix the
11 foundation, okay.

12 And what I'm going to suggest is something
13 that's a little bit different than what many people,
14 you know, think about when they think about
15 compliance. But the reality is, is that if you put
16 the contractor at the center of this process, okay,
17 these are the people, the tip of the spear, you know,
18 these are the people who are talking to homeowners,
19 who are actually in the room with homeowners and so
20 forth.

21 If we build compliance processes around the
22 contractor's business model, rather than third
23 parties coming in and changing and evaluating, you
24 know, supposed experts who are, you know, evaluating,
25 you know, the equipment, you know, that 25-year

1 contractors have been installing, it doesn't set well
2 with the industry of that.

3 You know, if we have, you know, if we have a
4 process that puts contractors at the center, you
5 know, it's something that's going to be adopted much
6 quicker. And I think that process looks something
7 like verifiable self-certification, okay.

8 It's a, you know, a way for contractors to
9 be able to self-certify a system, and -- but it has
10 to be verifiable, okay. It must be. It absolutely
11 must be. You know, I don't want to begin to pretend
12 that, you know, in our industry that all contractors
13 are ready to do this today, because they're not,
14 okay.

15 But, you know, the way we look at it, we
16 have, you know, we have 80-percent of our industry,
17 you know, which is -- would like to do the right
18 thing, but they can't, you know. And, you know,
19 because if they want to feed their family and they
20 want to sell a job, they have to be there. They have
21 to not pull a permit. And that's wrong, it's morally
22 wrong to put contractors I that position, that, you
23 know, that they have to do that. It's just wrong.

24 I only have about 30 slides left, so I'll
25 move quick. You know, progressive education and

1 training. You know, when we poll IHACI contractors,
2 there are two things that they are constantly in need
3 of. You know, the level playing field and education
4 and training, but -- and they -- you can't have one
5 without the other. You have to have both.

6 However, progressive education and training
7 without that foundation is not going to fix this
8 problem. You have to be able to find the people who
9 are not complying. If you don't have a method to
10 find them, an easy method of find them, there will be
11 no compliance.

12 Every -- all of the education in the world
13 to teach a contractor how to pull a permit is not
14 going to help, because they already know they're
15 supposed to pull a permit.

16 The question is, you know, can we make it
17 simple enough through on-line permitting, through
18 other means that we reduce those barriers? But even
19 all of those things, that's not going to fix the
20 problem. Because if you can't find the people in the
21 white trucks doing the jobs on the weekends under the
22 radar, you are not going to fix this problem, okay.

23 So, you know, as far as education and
24 training, we need to utilize technology for
25 individuals and group mentoring of entry-level

1 technicians. So much of what we do today, you know,
2 has been done the same way for 25 years. Actually,
3 I'll take that back. In training, I'd say it's 60
4 years it has not changed significantly, okay, and it
5 should, okay.

6 We need to allow for inclusive methods of
7 workforce education and training. We need to avoid
8 simple, myopic visions of training. We need to step
9 out and truly expand our vision of training and
10 certifications in order to address this new world.
11 We have a world of technology today that's completely
12 different than we had just five years ago, and it's
13 time that we really step up and utilize that.

14 And I also want to, you know, point out, you
15 know, within our industry, you know, the NATE
16 certifications that are out there have come a long
17 way to identify who can install a system correctly
18 and who can't, okay. Now the market may or may not
19 let them do it the way they would like, but that
20 certification at least means that they know how to do
21 it right.

22 So, with that, I'll say enough. Thank you.

23 (Applause)

24 MS. ROBERSON: Thank you, Bob.

25 Our next panelist does have slides. Don

1 Langston is President and CEO of Aire Rite Air
2 Conditioning in Huntington Beach, California, and he
3 is here representing the Air Conditioning Contractors
4 of America, ACCA, where he was recently chairman. He
5 served as an HVAC advisor to the California Public
6 Utilities Commission, and has been vice chair of the
7 Executive Committee of the Western HVAC Performance
8 Alliance, WHPA.

9 Don is passionate about workforce
10 development and is actively working with high schools
11 and community colleges to recruit the next generation
12 of skilled technicians.

13 And you can advance your own slides.

14 MR. LANGSTON: All right. Right there? All
15 right. Thank you, Judy.

16 Good morning, everyone, or good afternoon,
17 depending on where you're at in the country. I think
18 we all know what the problems are. And that's, you
19 know, one of the challenges is that how do we get
20 from, you know, where we're at right now with a lot
21 of problems being identified, to asking the right
22 questions so we can move forward to some solutions?

23 So, let's see if I'm doing this right.

24 Okay. Great.

25 So, you know, what I'm going to do here in

1 my -- well, neither one of them were five minutes, so
2 I probably won't be five minutes either. But I want
3 to do this as quickly as I can, because I know
4 there's going to be a, have an open mike Q&A session
5 later, and so I look forward to the conversation.

6 And part of the reason I'm here, I can blame
7 part of that actually on Bob, because Bob and I were
8 at an ACCA conference in Las Vegas many, many years
9 ago, and over an adult beverage we were talking about
10 the state of our industry and the contractors.

11 And Bob had said, Don, you know what, we
12 can't get through to the State, we can't get through
13 the regulators because they don't trust us. We don't
14 do a good enough job representing ourselves, and, you
15 know, we just don't have the credibility. And that
16 honestly ticked me off. So, thanks, Bob.

17 I should have just, like in The Matrix, had
18 the blue pill, where I could have just stayed a
19 contractor. It would have been much simpler for me,
20 and probably much more profitable.

21 So, what I'm going to do is actually give
22 you some empirical data based on a study that ACCA
23 did several years ago. It was part of a NIST program
24 that was done in Oakridge, and I think Pierre
25 actually alluded to part of this in his presentation.

1 But real quick. So, who is ACCA? We're the
2 Air Conditioning Contractors of America. We are the
3 largest association representing residential and
4 commercial contractors in the United States. We have
5 members that are also involved with training and
6 other aspects. So -- but we are the largest voice
7 for contractors in general, representing both
8 residential and commercial.

9 So, I'm a commercial contractor. In the
10 summertime I get a lot of friends that will say, hey,
11 Don, can you tell me about my house? And I'm saying,
12 no, I can't, other than it's screwed up. Because
13 most houses in California were put together with
14 really poor-quality workmanship, as are most
15 commercial buildings. That's the sad fact. So, I
16 want to get through these.

17 All right. So, as I alluded to, this study
18 was done in 2014. ACCA ran this through a heat pump
19 where we ran a bunch of simulations. It really ties
20 into what this discussion is, and what this State
21 bill is trying to accomplish.

22 The bottom line is, as Pierre had alluded
23 to, and you hear this a lot, there's a 30-percent
24 drop, there's a 30-percent efficiency drop, you know,
25 in systems, and a lot of that is through the duct

1 work.

2 I know that those that are representing the
3 mini-split market will love to hear this, but that's
4 where a lot of the losses are. And if you can get
5 that refrigerant flow and the air handler is close to
6 the condition space, you're going to save a lot of
7 energy. You're going to be much more efficient.

8 But there can be a lot that can be done
9 fixing the duct work, and that is the biggest problem
10 is understanding how to install duct work properly.
11 And that cost though comes with -- you know, the
12 quality comes with the cost. And it's helping the
13 homeowners and business owners understand that cost
14 differential, and the value over the long term is
15 where we need help, besides pulling permits and
16 everything else.

17 So -- all right. So, these are some
18 examples. I'm just going to run these real quick. I
19 would have -- I can spend an hour on this, and I
20 have, but I'm just going to run through these.

21 So, as you can see here, we're dealing with
22 duct leakage, refrigerant charges, undersized
23 cooling, non-condensables, these are common faults we
24 see. The poorer the quality that the technician is
25 trained and/or that contractor, the worse these

1 situations are. Bob alluded to this earlier, about
2 guys that are running around on weekends.

3 Well, there's a -- most of the problems, I
4 hate to say it, are involved with people that may
5 have been a fairly decent technician, but then they
6 decided to go into business for themselves and they
7 don't know what they're doing.

8 They don't know how to -- they don't have
9 the financial literacy to be a businessman. They
10 don't know how to train their people, because they're
11 just scratching at the surface to make -- get by, and
12 that's the challenge. So, if you don't have a
13 trained workforce, what you're going to get is a
14 poor-quality product.

15 HVAC systems are the biggest power consumer
16 on the grid throughout, obviously, the summer months.
17 They're the biggest consumer in commercial buildings
18 where I work. My time is spent in restaurants,
19 convenience stores, office and retail. It's
20 typically 40- to 60-percent of the power load.

21 We make a massive difference when we can get
22 in and do good maintenance, install equipment
23 properly. It saves a lot of money. But that doesn't
24 get by those that have budgets, that want to, you
25 know, they've got a limited amount of time and space

1 to hear us. And that's a challenge, is that they
2 just don't know what they don't know yet.

3 So, in this study you can see, and once
4 again, these slides are up here. I'm not going to
5 spend a lot of time on them because you can read
6 them. I hate hearing PowerPoints, you know,
7 presentations and drawing it out on the slides. But
8 you can see the basic charts there, duct leakage is
9 the most influential. It's the, it is one of the
10 easiest things to fix.

11 We've done studies, you know, over 500
12 package units. And during that study we've done over
13 the last couple years, that was done for, in
14 conjunction with Southern California Edison and some
15 work with SDG&E territory, we found that by fixing
16 supply and return air duct, which most of it's
17 undersized, most of it was broken or just, it had
18 some kind of damage to it, was impacting the
19 delivered efficiency into the space to the point that
20 you're going getting about 58-percent. These studies
21 have been verified across the country, both in
22 residential and commercial. It's that bad.

23 So, you know, we're working typically with
24 10- to 15-ton package units. That's pretty common in
25 a retail or a restaurant environment. You know,

1 sometimes 20-ton package units, but the bulk of the
2 inventory out there is in that range.

3 So, if you think about one KW per ton as a
4 rule of thumb to work off of being consumed at that
5 disconnect switch at that unit, and you're getting
6 closer to under six tons of delivered, the business
7 owners or consumers are paying for that. That's
8 impacting our environment. It's impacting their
9 pocketbooks, it's impacting their bottom line. And a
10 lot of that has to do with duct work.

11 It's hidden in this ceiling. It's above
12 this t-bar that no one sees. And it's been hard to
13 quantify, but we can do that now. And so, there is
14 opportunities here to raise the awareness.

15 Where we need cooperation from the State is
16 literally in the bottom line, how do we get to those
17 key performance indicators? How do we provide the
18 right carrots, and not just the sticks, to move
19 public opinion, to move the decision makers in the
20 right process?

21 This one here is another example. The ones
22 we just talked about in my last slide where I just
23 showed were single faults. Unfortunately, most
24 systems have double or triple faults. That it's a
25 compounding issue. It's exponential in what happens.

1 So, if equipment's not being maintained, if it was
2 installed poorly, or even worse, what we see all the
3 time, are the retrofits of package units.

4 So, at one point in time they had a kitchen in a
5 restaurant and it was hot. Well, let's put a bigger
6 unit on there. That will solve it. But they don't
7 address the duct work. They don't address the air
8 distribution. So, all you've done is made the
9 problem worse, and we see it all the time. We have
10 to go back and fix these type of systems.

11 And Houston is listed on here as an example.
12 One of my customers is a Japanese type of a
13 restaurant. And they had a restaurant in Houston.
14 And their idea to solve the problem there was to take
15 out some equipment and go from 10-ton package units
16 to 20-ton package units. They didn't do a structural
17 calculation and the building collapsed.

18 I'm not going to speak about Texas. I've
19 got a lot of great contractor friends there, and I'm
20 not going to speak about Houston, you know,
21 specifically, but here's an example of someone who
22 had problems.

23 We were brought in as a consultant, and
24 guess where the problem was? The duct work. That's
25 what it was. So, you know, that's where so much of

1 this issue goes into. And it goes back to, if
2 they're not trained, they don't know. And that's
3 what we have, we have ignorance in our marketplace
4 that is widespread on so many levels.

5 And once again, it's just, it's what we call
6 the QI. So, for those who don't know QI, quality
7 installation. So, ACCA has standards and manuals
8 that go through training on how we do this. There's
9 other organizations, SMACNA, they've got great --
10 we've got a lot of great -- within our industry,
11 we've got a lot -- we have the resources. We know
12 what we need to do, but are -- I hate to use this
13 term, but we are intellectually constipated. We
14 can't this, all this information and all these
15 studies out, and actually do something with it, and
16 we have the ability.

17 There's enough good contractors out there,
18 if they can work in partnership, can get stuff done.
19 And that's really what I'm here to really talk about
20 here. Is that we need a better collaboration to move
21 these things forward.

22 I mentioned standard five, and this falls
23 right into what needs to happen here with the State
24 bill. These things -- we already have what we need.
25 We have the tools. It's being able to implement them

1 without just, you know, using the stick.

2 So, anyway, I'm just about done. So, I've
3 got this up here on the slide, last slide here for --
4 you know, my personal opinion, because I've been
5 involved with so many studies, we have made impacts
6 in the 30 to 40, 50-percent improvement of delivered
7 efficiency into conditioned space by fixing duct
8 works, dealing with poor maintenance practices and
9 other things, right.

10 The electric meter is really what this is
11 about, right? That's why the CEC, California Energy
12 Commission, that's one of their mandates, is to help
13 lower the power that this equipment does. Well, we
14 can do it and we've proved it. You don't have enough
15 contractors out there that are properly trained. You
16 have to have the contractors trained so they can
17 actually have people on their teams for both
18 installers and service technicians that can be
19 trained.

20 ACCA has a lot of training material. We
21 stand ready to help in any way we can. So, that's
22 all I've got. Thank you.

23 (Applause)

24 MS. ROBERSON: Thank you, Don.

25 While Tino queues up the next slide deck,

1 I'll present Randy Young. He represents the Sheet
2 Metal Workers, Local Union 104, and oversees their
3 Sacramento training facility as a Trustee.

4 His HVAC industry career started in 1986.
5 He is a member of IAPMO. I had to look that up. The
6 International Association of Plumbing and Mechanical
7 Officials, and serves, he serves on their Uniform
8 Mechanical Code Committee. He is here because he
9 firmly believes that together we can make a
10 difference in our industry.

11 Randy.

12 (Applause)

13 MR. YOUNG: Thank you, guys. I mirror a lot
14 of what Don and Mr. Wiseman said. We agree that
15 training is a problem. Contractor training is an
16 issue. But my organization, the Sheet Metal Workers,
17 we do not train contractors, we train workers in the
18 industry.

19 And what I'm going to go through is a slide
20 show of some of the training requirements for our
21 HVAC energy audit sheet metal worker technician,
22 which would fall much in line with the process that
23 we're looking here at 1414.

24 To hear contractors say that we need a level
25 playing field is refreshing, because the Union rep,

1 we've been taunting we need a level playing field for
2 years, and was it always a race to the bottom with
3 wages, or was it bring everybody up in training, and
4 hopefully let everything else work itself out?

5 We're hoping that the training key -- or the
6 training piece is going to be the part that really
7 elevates where we need to be, and then contractors
8 that believe in training will come over and see the
9 light, as I like to say.

10 So why is training necessary? To ensure
11 systems -- and I'm doing exactly what you hate, I'm
12 reading right off my PowerPoint, because I am a sheet
13 metal worker. So if I'm speaking too loud it's
14 because I can't hear.

15 So, training is necessary for us to ensure
16 that systems are designed and installed properly. To
17 ensure the highest level of quality for
18 installations. To assist the State of California in
19 reaching its energy saving goals, and to ensure we
20 have a fully trained, competent workforce for the
21 future.

22 What we know, flexible duct -- I was asked
23 to take some slides out because I had a lot of faulty
24 installations, but we're not really talking about
25 flex duct here.

1 Improperly installed systems, they do cause
2 the unit to work harder. Air leaks out, more energy
3 is required to replace that air. Or it's not getting
4 out, it backs up the unit with back pressure. You
5 get cracked heat exchangers, all kinds of different
6 problems.

7 They do not deliver air flows designed when
8 they're installed. They decrease the life expectancy
9 of the unit. It ends up costing the end users money
10 in energy bills and replacement cost. Causes hot and
11 cold spots in the buildings, both commercial and
12 residential. The problem is significant, so it's one
13 that I wanted to leave in, because you can see the
14 flex was clearly installed by somebody that was
15 untrained.

16 What would training look like? Again, I'm
17 just covering the Sacramento JATC's training
18 occupations, and for this one I'm covering the sheet
19 metal worker energy management technician. We also
20 cover sheet metal worker service technicians,
21 residential sheet metal service tech, air balance
22 adjusting testing technician, and sheet metal worker,
23 period.

24 So, the sheet metal worker energy management
25 technician, our standards are posted and approved

1 with the State, so they're monitored and tracked by
2 the State. The work processes that I'm going to
3 cover in the next few slides are also monitored by
4 the State.

5 Classroom time and on-the-job time equates
6 to about 8,000 hours. Twelve-hundred hours of that
7 is classroom time, the rest is on the job, hands on
8 field training, working directly under a mentor for
9 your first five to six years in the program.

10 We have internal audits to make sure that
11 all the work processes and standards are being met,
12 as well as the State comes in quite often and audits
13 our program to make sure that it's being run as per
14 the standards posted.

15 The sheet metal workers are unique because
16 not only are we governed by the State, we're also
17 governed by the Federal Government. So, we have the
18 State looking at us with a microscope to make sure
19 that we're doing everything properly. We have the
20 Federal Government coming in and making sure that
21 what the State said we're doing is exactly what we're
22 doing.

23 So, we're doubly scrutinized compared to
24 most other training programs. Where they're just
25 looked at by the community colleges, we're looked at

1 by everybody all the time.

2 Training processes covered. General sheet
3 metal work including operation of machines, tools and
4 power equipment, layout and fabrication, welding,
5 installation of ducts, both metallic and non-
6 metallic, housings, plenums, mixing boxes, grilles,
7 registers, diffusers, louvers.

8 We spend extensive time on duct design and
9 air flow because, again, if the duct is designed
10 improperly and it's undersized, it's not going to
11 deliver the amount of air that was proposed or
12 designed.

13 Again, if the duct is kinked or pinched,
14 it's going to be like a water hose, and you're not
15 going to get the air out. So, it's going to cause
16 the unit to work harder to try to get that air out.

17 We train in Title 24 training,
18 commissioning, and we also train to all nationally
19 recognized standards, even ACCA.

20 We do cover industrial heating and cooling,
21 but I'm not going to touch much on this, because it's
22 not really in the scope of this.

23 Energy audit and modification. Building
24 systems overview and energy-cost reduction, human
25 comfort systems, energized and non-energized systems,

1 total system operation, heat exchange theory and
2 application.

3 Utility bill analysis. We can better help
4 educate the customers, how we can help save them
5 money by doing things properly. We look at load
6 management, writing analysis, and about 2,200 hours
7 of training, both on the job and in the field are
8 required for those processes.

9 For residential and commercial AC,
10 installation of duct and equipment, maintain
11 service/repair of HVAC systems. We train to install,
12 maintain, service and repair venting equipment,
13 including those in kitchens, toilets and industrial
14 exhausts. In our industry we cover not just the
15 commercial side, we cover light commercial and
16 residential. So, we do cover all aspects.

17 Testing and balancing, which is a very
18 integral part of making sure that everything's done
19 properly. We test the air handling equipment, duct
20 systems. About 850 hours are required for that
21 process. We also cover blueprint reading materials,
22 takeoffs, estimating layout and control systems with
23 an additional 850 hours of training.

24 This is my disclaimer. That this
25 presentation is based solely on the Sacramento JATC.

1 And they are associated with this category of work
2 with my organization.

3 This program is managed equally by labor and
4 management, meaning we have equal parts of labor at
5 the table and equal parts of management at the table,
6 to decide what we train on. So, you don't just have
7 the contractors telling you what they want trained
8 on, you have industry professionals that have input
9 in every aspect of the training. And that's going to
10 conclude my report.

11 (Applause)

12 MS. ROBERSON: Thank you, Randy.

13 MR. YOUNG: You're welcome.

14 MS. ROBERSON: So that concludes our panel
15 presentation, and we're in the process of
16 transitioning to the open discussion. If you have --
17 if you want to make a comment, please identify
18 yourself by writing down your name and affiliation on
19 a blue card and bringing it up to the table where our
20 WebEx team is sitting. And they will call people's
21 names based on the order in which the comments were
22 received, both on-line and on site.

23 UNIDENTIFIED SPEAKER: If we just have
24 questions, should we still do the card?

25 MS. ROBERSON: If you just have questions,

1 yes, questions, treat them as comments. Yeah.

2 And when Tino calls your name, if you're
3 onsite, Lea will bring you a microphone. So, wait
4 until you get the microphone before you start
5 speaking. Let's see.

6 MR. MENDOZA: Okay. I'm going to go ahead
7 and start reading off the names here. If, real
8 quick, if you're on WebEx, please use the raise hand
9 feature, and then that way I can, when it is your
10 turn, I will unmute you, so that you can make your
11 comment as well.

12 So, first on the blue cards here we have
13 Christopher Ruch.

14 MR. RUCH: Hello. My name's Christopher
15 Ruch. I'm with the National Energy Management
16 Institute.

17 You know, I was looking over all the dockets
18 and reading through what everyone had to say, and I
19 really wanted to commend the Commission on taking the
20 time to really hear what everyone has to say.

21 This is a big enough problem that I think
22 really getting everything out on the table and laying
23 everything out of what the real problems are in front
24 of us, is a good idea. And taking the time to go
25 around the State and hear what everyone has to say I

1 think is very commendable.

2 Looking at SB-350 and the goal of doubling
3 state-wide energy efficiency, training technicians is
4 a huge part of this. I would see that this is part
5 of our sustainable investment into future energy
6 projects, meaning that we want to create our
7 workforce for the future.

8 So not just the projects that we're
9 currently looking at, but make sure that we have the
10 people that move on. So as people move on to
11 creating their own company or things from there, they
12 will have the technician and the training to do that.

13 For that to happen I really think we need to
14 focus on comprehensive State certified training
15 programs. I completely agree in looking at other
16 training programs and other training options,
17 however, you need to have a State certified training
18 program as your main backbone to this.

19 There are a lot of certifications. There's
20 a lot of things that you can get. I have a lot of
21 certifications in different areas, but it's my actual
22 certified State training that really gave me the
23 know-how out in the field.

24 The result would be quality system
25 installations with the design intent being achieved.

1 That being energy savings and also safe installation,
2 including indoor air quality. The big focus here is
3 that to get the energy savings, we really need to see
4 the quality installation from the beginning. Without
5 that, we're not going to see the energy savings. But
6 training alone will not solve this compliance
7 problem.

8 You know, I was reading through the dockets.
9 There were some very good ideas. The City of Davis
10 that was brought up from before, I think that's an
11 excellent approach. I think that's great to do.
12 It's just a matter of state-wide implementation. If
13 we could get to the point where we could get every
14 city in the State to agree and do what the City of
15 Davis is doing, I'm 100-percent for it.

16 Also, streamlining the process, I think
17 that's a great idea because we do need to help the
18 honest -- I mean -- I'm sorry. We need to streamline
19 process to help more contractors do this, but we need
20 to realize that in some senses, we're just going to
21 be also helping the honest be more honest and
22 continue with it.

23 We're still going to run into a problem,
24 because permitting compliance ultimately is about
25 money. I would recommend that we look at HVAC

1 equipment sale registry.

2 I did like what IHACI wrote on 7-20 in the
3 docket with serial tracking. The procedure that they
4 put down I thought was very -- went through all the
5 thoughts, went through what we currently are doing
6 and what we should be doing in the future. I thought
7 it was very well thought out.

8 Lastly, to finish up, the gravity of this
9 problem, which I think everyone addressed, when
10 you're looking at 85-percent of HVAC systems
11 installed incorrectly, and then you're looking at 90-
12 percent of HVAC retrofits do not have a permit.

13 I mean, you can see right away that,
14 obviously, if you're supplying HVAC units, and 90-
15 percent of your customers are going to be affected,
16 you're very clearly going to be a little leery of how
17 you're doing this.

18 But that being said, we're looking at 90-
19 percent compliance by 2020. And I think the only way
20 we're really going to get there is to really take
21 some tough steps. I agree, everyone's going to feel
22 some pain on this.

23 If you're distributing, you're going to have
24 your customers, 90-percent of your customers are
25 going to make a change in the way they do business.

1 That's huge.

2 If you're looking at technician the field,
3 and you're requiring that they have state-sponsored
4 training programs, you ensure that they actually are
5 trained, that's going to require some hurt in the
6 field.

7 But to get to where we want to get,
8 especially if starting where we're at, you know,
9 that's going to be tough steps that we're going to
10 need to do.

11 So, once again, I do appreciate the
12 Commission. I appreciate everyone here taking their
13 time to be here. We're definitely heading in the
14 right direction. Let's just work together to get
15 there.

16 (Applause)

17 MS. ROBERSON: Thank you. Thank you.

18 I, now that I have the timer up, I'm going
19 to start using the three-minute timer. I apologize
20 for that, not getting it up sooner.

21 MR. MENDOZA: All right. Next on the blue
22 cards we have Greg Mahoney.

23 MR. MAHONEY: Thank you. Greg Mahoney. I'm
24 representing CALBO. And I have actually a number of
25 comments. I'll probably hold off on some of those

1 until this afternoon. But just to kind of respond to
2 some of the comments that were made.

3 Kristin's presentation had the number of
4 \$830 for a permit, and 720 was on labor. So, that
5 tells me that there's a significant amount of time
6 being spent getting permits.

7 So, I would absolutely support on-line
8 permitting as probably something that we should make
9 a requirement. I know a lot of cities don't do that,
10 and, unfortunately, even the City of Davis we don't
11 have that available right now.

12 I don't think that state-wide on-line
13 permitting, something that's administered by the
14 State of California is the answer. I don't know how
15 local jurisdictions would fit into that picture.
16 Typically, when you engage a large bureaucracy it
17 doesn't always work the way you intend it to.

18 So, I think we should try to eliminate as
19 many barriers as we can. One being the time it takes
20 to get the permit. Also, I'm going to say this
21 again. I think the installation forms, CF2R's, have
22 no demonstrated value. I think that absolutely CF1R
23 and CF3R we need those. But the forms that say,
24 yeah, I installed it the way I was supposed to, which
25 often are falsified anyway, I don't think the bring

1 any real value.

2 And the reason that I'm told that we have
3 those forms is to prepare for future litigation. And
4 I don't think any of us, that should be our role in
5 this process, is to prepare for future litigation.
6 So, there's two barriers that we could eliminate
7 fairly easily, on-line permitting, and then the
8 elimination of some of the forms that the contractors
9 complain about.

10 In regards to training and certification,
11 CalGreen does have requirements for new
12 installations, and if you are adding conditioned
13 space, I don't think it would be that big of a
14 stretch to just include those certification
15 requirements for HVAC changeouts as well.
16 And in CalGreen it says that you have -- if you're
17 installing HVAC system, you have to either have a
18 state certified apprenticeship program, a utility --
19 a public utility training program, training programs
20 sponsored by trade labor or statewide energy
21 consulting or verification organizations or other
22 programs acceptable. So, it wouldn't be too
23 difficult I don't think to get that codified as well.

24 (Applause)

25 MS. ROBERSON: Thank you, Greg.

1 MR. MENDOZA: Bruce Severance.

2 MR. SEVERANCE: Bruce Severance, Mitsubishi
3 Electric. Given I've got three minutes, and of
4 course I've got 10 minutes' worth of comments to
5 give, I really want to narrow it down to the fact
6 that industry is really looking for reasonable
7 solutions.

8 I've spoken with a lot of folks that are in
9 manufacturing. There's somewhat united opinion that
10 we don't really understand, you know, how difficult
11 or complex it would be to comply with a tracking
12 system.

13 And there's clearly some digital privacy
14 laws that are coming onto the books soon that make
15 that a concern. We don't want to find ourselves in
16 conflict over that issue, where we're trying to
17 comply with one law but breaking another.

18 Also, being able to track equipment into
19 California and then back out of California. If it's
20 warehoused in California and shipped back out of the
21 State, if we're supposed to track from the point that
22 it leaves a major warehouse in Atlanta and crosses
23 the country, and does that truck stop and deliver
24 equipment along the way?

25 It becomes very complex from the standpoint

1 of the manufacturer to deal with that problem, and it
2 hasn't really been clearly defined. So, I think that
3 a lot of the resistance from AHRI and other
4 organizations is that we're kind of seeing that as a
5 worst-case scenario.

6 What I have been able to do is talk with
7 other manufacturers and reps, and it seems -- and
8 AHRI, and it seems that there's -- it's much easier
9 for us to look at the possibility of incentivizing
10 getting, you know, only really offering warranties to
11 licensed contractors that are properly trained and
12 certified. And adding kickers or extended warranties
13 to people that are complying with full commissioning
14 and uploading commissioning data.

15 There are systems that are coming into the
16 market that allow that to occur in a way that cannot
17 be tampered with. So, you know, it's a question of,
18 you know, if that's done by hand initially, and as
19 technology becomes available to upload that through
20 Wi-Fi, we're concerned about having a client's name
21 and address and phone number and personal
22 information, their e-mail addresses, et cetera,
23 identified with that equipment, and, you know,
24 invading privacy laws, but if there's a way for that
25 commissioning to occur in a different way.

1 And we can support that by requiring that
2 all the installers are selling, you know, to -- all
3 the installers are licensed and fully trained, and
4 then add extended warranties.

5 You know, Mitsubishi does this already, and
6 it's been a very successful program. We offer
7 extended warranties to contractors that are doing
8 this kind of commissioning, and that go through our
9 Diamond Builder Program. So, it's an incentive that
10 saves everybody.

11 It, what it does for the contractor is it
12 creates a level playing field and gets rid of the
13 unlicensed contractor that's driving things down to a
14 low-quality level. It helps regulators by getting
15 better compliance. It helps manufacturers by
16 limiting warranty liabilities and reducing 800 number
17 call center overheads. And that's my comment.

18 (Applause)

19 MS. ROBERSON: Thank you, Bruce.

20 I just want to remind everybody that you can
21 speak as often as you like, but only for three
22 minutes at a time.

23 MS. HARO: But we'd also like to remind
24 everyone to try to keep your questions and comments
25 within the scope of the morning panels, because we

1 will have an afternoon panel, which we'll have a
2 discussion after as well.

3 MR. MENDOZA: All right. Barbara Hernesman.

4 MS. HERNESMAN: Thank you. Give me a second
5 here.

6 So, Barbara Hernesman from WHPA. And I want
7 to put a shout out right away to all the people who
8 are actually doing it right. Applaud, yes. There
9 are people out there doing it right, and we're not
10 getting enough recognition for that. Also, I am the
11 director of Strategic Initiatives, so that means come
12 to me if you want to find out what we want to do
13 next.

14 The important part of what Kristin said this
15 morning -- many, many things, but one of the things
16 that sticks in my head, there's been so many studies,
17 so many efforts put forth -- yay, WHPA, but who --
18 this information is available, readily available.
19 And I think the thing is, is now we have to utilize
20 that information. So, what Kristin brought forth
21 this morning are things that are tangible.

22 So, please, everybody out there, take an
23 opportunity to look this stuff up and find out why we
24 have done the work to identify the gaps, the barriers
25 and why the recommendations are out there, and now

1 the next steps is the tactical actions to get it
2 done.

3 There is -- grab my piece of paper here.
4 Bob has been talking compliance, compliance,
5 compliance. It is true, we definitely need to find a
6 solution and stop talking about it.

7 I'm -- you went 60 years, I was thinking 40,
8 but I think the important thing that we have is, why
9 are we not looking at the common thread across the
10 board on all the stakeholders? There's a common
11 thread. I'll make it easy for you. My perception of
12 that is, consumer protection and consumer concerns,
13 right?

14 We all care about what's happening to those
15 who are receiving these services, and even those who
16 are providing the services. And even those who are,
17 like CSLB, trying to hammer down on those who are not
18 doing the services correctly. So, every one of us
19 have a theme here. The common thread is consumer
20 protection.

21 So, let's keep a look at that. And that
22 doesn't get the consumer off the hook. They actually
23 play a part in how this going to work. Because as a
24 contractor for 28 years, I can go in and I, like many
25 up on there on the panel, yes, we're providing a

1 service, and, yes, we're establishing a relationship,
2 and, yes, they're going to call us back -- not for
3 callbacks, but they're going to call us back to do
4 other services.

5 And so, they pay. They are our key to the
6 unlocking of this issue. Compliance is a consumer
7 problem. So, that's one, or two or three.

8 And Don, Don is spot on, workforce,
9 workforce, workforce. What's a properly trained
10 workforce, and how do we get them engaged? All
11 right. So, I, as a contractor, I don't need somebody
12 to hit me over the head, what to do right, but there
13 are some out there that really do need that. And so,
14 rather than hammering on them, how do we get them to
15 change their mindset, so that they can participate --
16 I'm out of time already?

17 MS. ROBERSON: Yes, but you can speak, you
18 can speak again soon.

19 MS. HERNESMAN: One more thing. One more
20 thing. The solution is the engagement of all the
21 stakeholders.

22 (Applause)

23 MS. ROBERSON: Thank you, Barbara.

24 MS. HARO: Thank you, Barbara, and you've
25 raised some very good points.

1 If we are -- we have been talking about this
2 issue for a long time, and we have been discussing
3 the solutions for a long time. If we are going to
4 come up with a plan that's meaningful, it's going to
5 take all the stakeholders in this room, on WebEx, to
6 move the needle, even if it is just a start, but
7 we're hoping to get there.

8 MR. MENDOZA: All right. Charlie McCrudden.

9 MR. MCCRUDDEN: Careful. Sorry. I took --
10 to get my questions.

11 My name is Charlie McCrudden. I'm with the
12 Daikin US Corp., and I have some questions for the
13 panelists, if that's okay? Okay.

14 Kristin, if you should show -- if you could
15 bring up Kristin's slideshow, there was a slide that
16 you skipped over. I think it was second or third
17 after the scale. And I was curious just to have a
18 chance to review that again. So, it would have been
19 maybe slide two or three. That's it.

20 Okay. Could you elaborate on this slide
21 some more?

22 MR. MENDOZA: Ma'am, we've only got --

23 MS. HEINEMEIER: On the data that's shown,
24 the survey that I did, or the -- my recommendations
25 that are based on it?

1 MR. MCCRUDDEN: The recommendations.

2 MS. HEINEMEIER: Recommendations. Thank
3 you, because that was actually one of the main points
4 I wanted to bring, and I don't think I pushed on it
5 enough.

6 Is the question -- the serial number
7 tracking is like the big, the 600-pound gorilla in
8 the room. And I don't have a strong opinion on it,
9 but the -- it would definitely deal with this, you
10 know, what are the chances of getting caught? You
11 will -- I think the chances of getting caught will be
12 much, much higher.

13 But I think that is only half the -- if the
14 chance of getting caught are really, really high, but
15 still you're not, nothing's going to happen to you,
16 then that won't solve anything.

17 I think we need to work on that and we -- I
18 have up there CSLB will be continuing with stings.
19 That they had been. I don't know if they're still
20 doing it, but they have been doing a series of stings
21 to sort of catch people in the act of not complying.

22 And I think, you know, if we can do that and
23 we can really publicize, yes, there is -- you can get
24 caught. People think there's no chance of getting
25 caught. Yeah, you can get caught. Let's let people

1 see that.

2 You know, even if it's a small number, if we
3 have consequences that matter, I think that will be,
4 that will make, will be a big improvement. But I
5 think catching everybody out there, you know, having
6 such a great net that we catch everybody doesn't do
7 any good unless we also have, you know, some way of
8 following through and having some clear and
9 consistent consequences, if you do this three times
10 you will lose your license statewide. Let's work
11 with the Attorney General, let's work with district
12 attorneys and -- I'm sorry. I'm taking your time,
13 hopefully.

14 MR. MCCRUDDEN: No, that's very helpful.
15 Where those stings successful?

16 MS. HEINEMEIER: I had very high hopes for
17 that. I -- in fact, we talked about serial number
18 tracking back in 2010. That's when they really
19 started doing those stings. And we decided it's --
20 the most important thing is to catch some people.

21 I mean, any code official out there knows
22 some people that are not complying, right. It's not
23 like there's -- we don't know them, it's just they're
24 getting away with it. If we can show his video of
25 somebody being caught and he lost his license, I

1 think that would be very compelling.

2 And we were going to make a big PR thing,
3 and I think I even wrote an article in Indoor Comfort
4 News and -- but I don't think it was done
5 consistently. I don't think they ever really -- I
6 don't think anyone that was caught in that had any
7 consequences, so.

8 MR. MCCRUDDEN: Thank you.

9 MS. ROBERSON: Thank you Kristin and
10 Charlie.

11 We do have a representative from the
12 Contractors State License Board up here. She's going
13 to be a panelist in the afternoon, but I think she
14 wants to respond to this question.

15 MS. MOORE: Most definitely everyone that
16 was caught in the sting with violations was
17 disciplined. I can guarantee you that.

18 MS. HEINEMEIER: Okay. Good.

19 MS. MOORE: And we did do quite a few of
20 them, and I think that they were successful.

21 MS. ROBERSON: Identify yourself.

22 MS. MOORE: I'm sorry. Cynthia Moore with
23 the Contractors Board. I'm program manager with
24 enforcement.

25 And they were successful, and I think we do

1 continue to do them from time to time. We always
2 need sting properties, so if any of you C20
3 contractors that might have a property for us, we can
4 definitely target what you'd like us to target, and
5 let us use a property. Thank you.

6 MS. HEINEMEIER: I'm not sure, was it -- it
7 was dissuasion. I'm not -- I mean, the whole point
8 was like, let's advertise the heck out of this.
9 Everyone will be scared in their shoes, you know, but
10 I don't think that happened.

11 MS. ROBERSON: All right. Thank you.

12 MR. MENDOZA: Okay. We have someone on the
13 WebEx who raised their hand a while ago, so I'm going
14 to unmute. We have George Nesbitt.

15 George, can you hear us?

16 MR. NESBITT: Yes. Can you hear me?

17 MR. MENDOZA: Yes, we can. We -- let's see.
18 We're going to start the timer. We've got three
19 minutes. Go ahead.

20 MR. NESBITT: Yeah. George Nesbitt. I've
21 been an ICC certified building inspector, a licensed
22 general contractor since 1992, and basically entered
23 the Home Performance Contracting and HERS in late
24 2000, early 2001.

25 And since the beginning we've known the

1 problems with bad design, bad installation, the lack
2 of compliance with permits, as well as the energy
3 code. And we know all the technical solutions. We
4 know how to design and install everything right.

5 It's just the system is so broken in so many
6 places, and, you know, we can say, well, I don't --
7 you know, there are contractors that know what a
8 proper job is. They don't do it either because, you
9 know, for various pressures. So, there's a lot of
10 people that think they're doing a good job, but
11 they're not. They're just unaware.

12 There's problems with everything through the
13 whole supply chain, and the solutions have to be
14 through all of them, as everyone has said. There is
15 no single silver bullet.

16 But I think what we -- and back to what
17 Barbara said, and others touched on it some, consumer
18 protection, the consumer. When the consumer hires
19 someone, they expect that that person is a
20 professional. They know their job. They do a good
21 job, and that they're going to do a good job.

22 So, the consumer, whether they're paying the
23 \$2,400 without a permit, or the \$4,000-plus with a
24 permit and HERS verification, is expecting that they
25 are getting what they're paying for, and that it's

1 going to work. That it will deliver them a comfort.
2 You know, that it won't cause problems, yet we know
3 that a lot of times it doesn't, and they're suffering
4 the consequences whether they realize it or not.

5 And so, yes, I definitely would just say
6 that there's not -- the consequences are not being
7 felt enough. The customers aren't calling back the
8 contractors. The manufacturers are warranting stuff
9 that just wasn't installed right.

10 You know, there is no real consequence for
11 not getting a permit, or there isn't enough
12 consequence for not having a license, or not pulling
13 permits and whatnot.

14 So, it is frustrating because, yes, we've
15 been talking about this for so long, and progress has
16 been seemingly minimal, although, yes, I do say
17 people are getting ducts tighter on average. But
18 it's a big problem, and the consumer has really lost.

19 And so, to the extent that we can get the
20 consumer to ask the right questions and ask for the
21 right things up front, and to get the contractors to
22 actually deliver them and make the whole system work
23 together better, so that people do pull permits and
24 do get things verified and that things are right.

25 Thank you.

1 MS. ROBERSON: Thank you, George. We're
2 getting some feedback over the WebEx. George, I
3 don't know if that was you, because you were the only
4 one unmuted, but if --

5 MR. NESBITT: I did not hear any. And I,
6 being on the phone, I have not heard any real audio
7 problems on my end.

8 MS. ROBERSON: Okay. So, I just want to
9 remind people on the WebEx to mute yourself until and
10 unless you're called to speak. Thank you.

11 MR. MENDOZA: Thank you, George.

12 Next, Commissioner McAllister.

13 COMMISSIONER MCALLISTER: Yes. I'm going to
14 take my prerogative here. I'm sorry for the
15 following blue cards, those associated with the blue
16 cards that were up next.

17 But I -- so we talked a lot about the kind
18 of, you know, account, the enforcement piece and, you
19 know, how do we make it accountable, and how do we,
20 you know, make sure that the contractor -- that,
21 basically, essentially, you know, how do we sell that
22 4,000-plus-dollar job versus the \$2,400 job?

23 And we're sort of taking that \$4,300 as, or
24 that increment, you know, 73-percent or \$1,700 or
25 whatever it is, taking that as received wisdom. And

1 I think I also want to talk about Kristin's, you
2 know, other side, or another piece of this equation,
3 which is that transaction cost.

4 You know, how do we -- so, I now know from
5 many other experiences with programs, that that
6 process and difficulty of process and number of steps
7 and cost, and just friction generally, really, really
8 impacts a program. You get that down, program
9 participation goes up. You know, you make it easy,
10 you make it quick, you make it seamless, and that is
11 a big step forward in terms of your -- just the
12 credibility and the, just the functioning of a given
13 program.

14 And this is, essentially, if we think about
15 it like a program, this is permitting across the
16 State, right. So, it really -- and there's a huge --
17 you know, local jurisdictions are critical. So,
18 contractors are critical, local jurisdictions are
19 critical, and, you know, the number of trips to the
20 site, and the delays between -- you know, the time
21 differences between, you know, different steps, you
22 know.

23 So, anyway, a long way to say, I think a key
24 part of this discussion needs to be how we improve
25 the process, so that we get the outcomes we want as

1 much as possible, but that we make it simple and
2 straightforward as possible. So -- and that will get
3 that cost down, and then it will be easier to sell
4 the value to the customer.

5 So, I mean, I really encourage people to
6 throw their ideas into the hopper on that one,
7 because that's at least as important as the other
8 things we've been talking about in my opinion.

9 MS. ROBERSON: Thank you.

10 MR. MENDOZA: All right. Real quick. If I
11 call your name and you're not in the room, I'll just
12 move the card back a little bit and call you again.
13 So, feel free to take a quick breather or break.
14 Unfortunately, we don't have a morning break in the
15 agenda, but I'll make sure that everyone can voice
16 their comment.

17 Next on the blue cards we have Michael
18 Thompson.

19 MR. THOMPSON: Thank you.

20 Hi. My name is Michael Thompson. I'm here
21 representing Enalaysys Corporation, a technology
22 provider. I was in the home performance industry,
23 and I also ran the CBPCA HERS Providership for five
24 years.

25 I'd like to suggest that the industry, and

1 most particularly, the CEC, separate long-term
2 solutions from short-term solutions. Listening to
3 the previous meetings and reading through the
4 comments, there are no end of potential solutions.

5 And, yes, we need training, yes, we need
6 mentorships, but neither of those are going to meet
7 our current goals for 19 -- for 2020.

8 Short-term solutions. And, again, reading
9 through the comments, it seemed obvious that the two
10 short-term solution that were going to be most
11 effective are on-line permitting and equipment
12 registration.

13 Commissioner McAllister, on-line permitting
14 will do what you just suggested, reduce the
15 transaction costs tremendously. The average
16 contractor cites through the WHPA, they spent four
17 hours getting permits. An on-line permitting system
18 will reduce that to about 15 minutes.

19 But if you read through the comments, you'll
20 see no end of obstacles for on-line permitting and
21 registration, mainly complexity, expense to the
22 State, et cetera, et cetera. Those are not true.

23 The Center for Sustainability in San Diego,
24 their report that was paid for by the CEC, they
25 studied an on-line permitting system that's available

1 in the market today. The recommended it for adoption
2 by California. That system could be up in two
3 months, and that system includes an equipment
4 registration system.

5 So, not that it's the end all and be all, it
6 would take refinement of course, but it's something
7 positive we can do in the short term and get results.

8 I'm going to go against, actually, the
9 recommendations of that study, they recommended
10 California adopt, but we have a different idea. We
11 think what California should do, the CEC should write
12 specifications for on-line permitting systems and
13 throw it out to the open market, similar to what they
14 do for the HERS providers right now. That would
15 bring the free-market system into it. It would spur
16 competition, it would spur innovation. And over the
17 long run, I think that would be the most efficient
18 way to do this.

19 So, again, I want to suggest that the CEC
20 focus on what we could do in a short time on positive
21 effects, and put those long-term solutions off for
22 another day. Thank you.

23 MS. ROBERSON: Thank you, Michael.

24 MR. MENDOZA: Lindsey Hawes.

25 MS. HAWES: Hi. Lindsey Hawes with the

1 Center for Sustainable Energy.

2 First off, I want to thank and acknowledge
3 the Commission for recognizing that only a solution
4 that works for all of these market actors and engages
5 all of these market actors in identifying the
6 solution is going to be one that actually works and
7 is effective. So, kudos for bringing these parties
8 together.

9 The Center for Sustainable Energy has been
10 active in HVAC compliance for a couple years now,
11 working with the Western HVAC Performance Alliance,
12 the compliance committee, the compliance industry
13 advisory group, CIAG. Working with the Energy
14 Commission on some building department specific
15 permit streamlining suggestions, a report that we
16 published, I think that Mike was referring to.

17 I'm interested in publishing, or I guess,
18 submitting comments to the docket, and the CSE will
19 get around to doing that, but first I have questions,
20 because I think this is an excellent conversation
21 that definitely needs additional, you know, voices
22 and thoughts.

23 And so, I want to talk just for a moment to
24 something that Kristin mentioned this morning in her
25 presentation specific to trust. That really

1 resonated with me. I think you're spot on in stating
2 that there's a complete lack of trust in this market.
3 The contractors don't trust the State, vice versa.
4 Consumers don't trust either parties.

5 And lack of trust really places a huge drag
6 on any process. It creates unnecessary complication.
7 And system checks that attempt to build trust or
8 break through that trust barrier often at the end of
9 the day result in extra costs that are passed on to
10 the customers, and that works against our ultimate
11 goal, which is energy savings and a balanced grid.

12 So, I'm curious. I think this question is
13 probably targeted towards the contractors on the
14 panel. To what extent do you think some of the
15 solutions that have been floated thus far in this
16 conversation, things like serial number tracking, on-
17 line permitting, automated verification or automated
18 commissioning, that sort of thing, to what extent
19 would those solutions actually help increase and
20 restore trust among these market actors? Do you
21 think those would have a big impact, a small impact,
22 and do you prioritize those at all?

23 And then I have a follow-up question that
24 maybe we can actually answer this afternoon. I'll
25 ask it again probably. To what extent can we expect

1 local government and building departments to play a
2 role in this going forward? What's actually
3 feasible, given their constrained resources?

4 So, I'll actually hold that one, and let's
5 talk about trust and to what extent these solutions
6 offer trust building.

7 MR. WISEMAN: Yeah. Well, yeah. Bob
8 Wiseman here, IHACI. You know, I speak with
9 homeowners all the time, you know, who don't trust
10 contractors, and it's difficult. And it's been
11 mentioned many times that the homeowners are the key
12 to this, and that end users are key.

13 I agree with that completely, because we are
14 a market-driven entity, you know. And if our
15 customers want it, as contractors, we're going to
16 give it to them. We are going to, because that's
17 what we do. We want to make those people happy.

18 You know, Kristin makes a big point of that,
19 that, you know, contractors want happy customers.
20 They do. Absolutely they do, and they'll do anything
21 they can to get it. So, you're justifying that
22 difference in cost. You know, it's very hard to say,
23 you're, you know, you're \$1,700 higher. You know,
24 and, you know, I think some of the things that are
25 out there that have been suggested to your point

1 exactly, I think would help tremendously.

2 You know, I think, you know, IHACI's
3 position on serial number tracking and equipment
4 tracking has been a, has been to support that, you
5 know, in general, because we do believe that would
6 level the playing fields. You know, we are -- I'm
7 looking for another solution, something else that
8 could really do that. I haven't seen it yet.

9 And I think that, you know, for a contractor
10 to be able to tell the homeowner, you know, we're all
11 doing the same thing, and we're all pulling a permit.
12 To not have to have a conversation to justify why
13 we're pulling a permit, I mean, it's an absurd
14 conversation to have from the get-go, but it happens
15 all the time.

16 You know, I mean almost every call that we
17 go on, it's a conversation that has to be had, and
18 that should be eliminated from the -- it's not even
19 an option. It should just be, it happens and you're
20 in the process.

21 So, yeah, I think it would go a long way,
22 and I think on-line serial tracking -- or, excuse me,
23 on-line permitting I think is a great idea. You
24 know, I think it would eliminate a lot of the
25 problems that we're dealing with in terms of --

1 excuse me, time that it takes to get this stuff done,
2 but it -- you know, but the time that it takes to
3 pull a permit varies widely between jurisdiction, you
4 know. And, you know, some jurisdictions it's very
5 quick, some take forever.

6 But, again, that's not going to help
7 anything until we find the people who aren't
8 complying. That is where it has to start. You know,
9 we have to have a mechanism to be able to find the
10 people who are not complying. Being able to find the
11 large, the big contractors who are obviously not
12 participating, that's easy.

13 But it's, again, it's the homeowners who's
14 driving this. And if the homeowner sees a level
15 playing field, contractors will have a level playing
16 field.

17 MS. ROBERSON: Thank you, both.

18 Kristin, go ahead.

19 MR. LANGSTON: Well, I was going to speak at
20 some point since I'm contractor.

21 MS. HEINEMEIER: Okay. Do you want to?

22 MS. ROBERSON: Okay, Don.

23 MR. LANGSTON: Yeah, just real quick. So, I
24 think, once again, my perspective as a commercial
25 contractor -- this is Don Langston with ACCA, is

1 similar experiences that Bob has. But as a
2 commercial contractor we develop that trust in
3 general, because we're doing ongoing maintenance
4 programs, at least I am as a contractor, and most
5 credible contractors are going to have ongoing
6 maintenance and service agreements with their
7 customers.

8 So, the level of trust is higher, but I
9 completely agree. I harken back to a former
10 president, you know, dealing about trust but verify,
11 and that's really where we're at. It's trust but
12 verify. And so, we need to build that trust, but
13 then verification. But what are we verifying?

14 We want to verify performance. That's
15 really the bottom line. We can go through all of
16 this paperwork, all these regulations, but what is
17 the bottom line we're trying to do? We're trying to
18 improve the indoor air quality, the comfort, right,
19 and the energy efficiency.

20 If we get down to a couple of key
21 performance indicators, how that's done, you know,
22 we'll be -- that will take care of itself. But on-
23 line permitting, absolutely. In a commercial
24 environment, depending on what city we're in, it can
25 be like, well, you come in after 2:00 o'clock,

1 they've gone home for the day.

2 So, I've already had a guy that's sat for
3 two hours or drove somewhere to pull a permit for a
4 job. So, four hours for a residential is probably
5 fairly accurate. It can be a lot longer for us. Not
6 only that, we have to have structural, right, so we
7 have to get a structural engineer involved. And so,
8 the complications in commercial magnify.

9 So, anything that can streamline -- you get
10 this on -- I'm holding up a phone, my iPhone. So, if
11 you can put an app that will help streamline the
12 application process for a permit, that's a great
13 start.

14 If on that form there is something that
15 says, hey, also for warranty purposes, it'd be nice
16 to make sure that you're filling out your -- the
17 information for the manufacturer. That would be
18 great, too. So, those are the things that can really
19 right off the bat.

20 MS. HEINEMEIER: I want to make a comment
21 that's related to this. And I want to offer up a
22 thought experiment. I don't -- this isn't a
23 recommendation for a policy, but imagine if the
24 Energy Commission provided a \$1,700 voucher to every
25 customer who was getting in a new system. How would

1 that change the picture? I think suddenly, yeah, we
2 can do all that.

3 You know, the contractors want to make the
4 customer happy. If they can do that \$1,700 worth of
5 work without it, you know, hitting the customer's
6 pocketbook, you know, they would love to do that.
7 Obviously, we want to get that cost down. But
8 another thing that it would do is it would increase
9 the value of what's happening to the customer.

10 It's not like, I'm getting my toaster
11 installed. It's, I'm getting a \$4,000 worth of good
12 stuff here, and that contractor is doing, you know,
13 something amazing for me and I'm not having to pay
14 for it.

15 So, and so the question is, if that was off
16 the table, if it's a level playing field, is training
17 an issue? You know, if the customer will pay for,
18 you know, a quality -- quality workmanship and all
19 the verification that's needed and everything, is
20 training the bottleneck? Are we going to say, oops,
21 sorry, we can't be providing good buildings because
22 we're not trained enough. No.

23 The question is, that the customer can't pay
24 for the trained technicians. So, we may still need
25 that training, but I don't think that that -- I think

1 we would find in that, if you'll go in that thought
2 experiment with me, that that is not the bottleneck.

3 So, the question of trust I think becomes,
4 you know, if that was not -- if that was off the
5 table, that different, that delta, that huge delta in
6 the price was off the table, I think we would have a
7 higher level of trust, respect. We would get higher
8 quality workmanship. I mean, I think that's a valid
9 way of looking at how things might be different.

10 So, something to consider, Andrew, \$1,700
11 vouchers, right?

12 COMMISSIONER MCALLISTER: Do the math.
13 That's a lot of money.

14 MS. HEINEMEIER: Maybe you could reduce that
15 cost somehow? Yeah.

16 MS. ROBERSON: I'm going to remind everybody
17 to speak into their microphone. Thank you.

18 MR. MAHONEY: Greg Mahoney representing
19 CALBO, but I think I'll talk from the City of Davis
20 perspective. I spoke to a HVAC contractor yesterday
21 for about an hour, and he told me that it costs \$550
22 to get a permit, including HERS verification. So,
23 don't know if he just has a more efficient operation,
24 but that is costs that we should be able to cut down.

25 And I think on-line permitting is probably

1 one of the single most important things we could do
2 to kind of chip away at this problem.

3 I've actually been trying to get it in the
4 City of Davis for about four years, and I send an e-
5 mail every month to my IT guys, and there's all these
6 barriers. And I think we're getting there, we're
7 getting closer, but it's something that should be
8 done. And just to say on-line permitting is the
9 answer, the city that I work in, I've tried to get a
10 water heater permit on-line.

11 And so you apply on-line, and then they e-
12 mail you back and say, fill out this form. And then
13 you e-mail that back, and they say, okay, and this is
14 the amount. So, it really takes three tries, and it
15 takes interaction twice with real people.

16 So, yeah, there should be best practices
17 identified with on-line permitting. And there are a
18 number of different permitting systems and softwares
19 and that may be part of the challenges, trying to
20 figure out which -- you know, how to -- I don't know.
21 It may be something that CALBO can kind of take on as
22 a project, to promote this among local code officials
23 and kind of do a best practices for on-line
24 permitting.

25 MS. HARO: Thank you, Greg. Is that an

1 offer? Will CALBO take this on and do the costing
2 and do the specifications for on-line permitting? We
3 are interested in realistic solutions and -- as part
4 of this discussion. So, we do want to hear from our
5 stakeholders, what would realistic implementation
6 look like?

7 COMMISSIONER MCALLISTER: So, back in the
8 day, before I was a Commissioner, I worked on this
9 issue, too, and, you know, cities have -- I mean,
10 Davis is maybe somewhat of an exception, but
11 basically across the state, cities have no resources.
12 I mean, they're -- you know, they over hired in the
13 boom, and then they laid off most of their people,
14 and they're really not going to get to those levels
15 again.

16 So, I guess the -- so, when we brought up
17 on-line permitting, we just basically heard, you
18 know, that's down that priority list. We don't have
19 money for that. And if you're going to make it free,
20 then that's, you know, then we can do it.

21 So, I think there are a lot of interim
22 barriers there that we need to talk about. And,
23 again, I just want to emphasize, this kind of
24 interactive discussion is really what I think is
25 going to help us solve these problems. And so, you

1 know, this is a little more formal with the panel and
2 participants, but you're all knowledgeable.

3 And so, I want to really encourage a sort of
4 facilitated discussion, so that when we're talking
5 about a given topic, it can get drilled down
6 appropriately, so we can come out with
7 recommendations that can go into this report, that
8 they can go into the, you know, the AB758, you know,
9 existing building action plan, that is adopted by the
10 -- this report will probably be adopted by the
11 Commission, or it will be, because it's statutory.

12 And so then, that gives us something
13 concrete to point toward, and it gives us say to the
14 legislature, you know, this is a problem identified.
15 It's policy because we adopted it, and that moves the
16 ball forward.

17 I mean, it's a -- that's the way, you know,
18 this discussion has to move forward in our State.
19 That's the way we do policies. So, I think the more
20 concrete we can get, including like recommending, you
21 know, legislative action, if that's what it's going
22 to take, then that is where we need to end up, so
23 that we can go to legislature and say, hey, look,
24 there it is in the report.

25 And so, on this on-line permitting, for

1 example, you know, getting costs down, if there is
2 general appreciation for that as a good strategy,
3 then let's flesh that out. What does that look like,
4 what are the challenges? Because I know there's been
5 work around the State on, you know, which systems are
6 better than other systems. And, you know,
7 jurisdictions have already made these decisions.
8 Well, let's learn from the ones that have adopted
9 already.

10 So, I guess, you know, we -- the concrete
11 outcomes of this conversation really matter. That's
12 what I'm -- that's like -- I guess that's what I'm
13 saying. And we are in a position to act.

14 You know, there's a lot of, the Commission
15 should do this, the Commission should do that. You
16 know, I want to do. Well, you know, we want to do
17 what's necessary, but we, you know, we need to
18 prioritize. And just like everybody else in the
19 room, you know, we have limited resources. And so I
20 want to do what's most effective and what's really
21 going to move the needle on this and help the
22 marketplace function, you know, in a quality way.

23 MS. HARO: Thank you.

24 Tino, do we have comments on the -- from the
25 on-line people?

1 MR. MENDOZA: We have one raised hand that
2 just went up, and then I have a few more blue cards
3 as well.

4 MS. HARO: Okay --

5 MS. BROOK: This -- I'm just going to be
6 real quick.

7 MS. HARO: -- Martha.

8 MS. BROOK: I raised my hand before that
9 person raised their hand. Martha Brook, Advisor to
10 Commissioner McAllister. And I'm just going to put
11 some provocative statements out there, because I've
12 been thinking about them, and so I'm guessing I'm not
13 the only one.

14 And one is that Bob Wiseman mentioned
15 technology, and I don't think we've really talked
16 about how technology could enable some real changes
17 in the marketplace. And I'm real interested in
18 understanding what these stakeholders here and on-
19 line think about the idea of using technology to
20 change that trust, you know, equation.

21 So, for example, if performance contractors
22 measured their own performance with tools that send
23 that data right from the equipment to a registry,
24 then could you think about doing -- you know,
25 incenting that in some way, could we as the State?

1 And also, when we talk about trust, I think
2 we have to admit that we created the HERS industry in
3 part because of the lack of trust. And so if we've
4 changed that equation in some ways, then do we
5 revisit our requirements for the third-party
6 verification, you know, with and without that
7 technology piece? I think that's something that I'd
8 love to see discussed in some way.

9 So, for example, if you have sent your data
10 measured from a piece -- from a technology solution,
11 do you have to pay a third party to do another check-
12 the-box kind of performance verification?

13 Again, to reduce the cost and improve trust
14 and to get contractors to see the value and high
15 performance in testing their own equipment. I think
16 there's potentially something there.

17 MS. HARO: Thank you.

18 Okay. So, we still have several blue cards
19 and people on-line?

20 MR. MENDOZA: Yes. So, the next blue card,
21 John Lane.

22 MR. LANE: My name is John Lane. I'm a C20
23 contractor in the State of California. I have been
24 in this trade all of my life. I grew up in the
25 trade. I guess 48 years I've been working in this

1 trade.

2 I want to say that Don Langston and Bob
3 Wiseman are both 120-percent correct. If we want to
4 talk about all these things, those two contractors
5 are dead on, all of their stats.

6 I also want to say that I'm an adjunct
7 professor at Mt. San Antonio College. Been there for
8 21 years. So, I've been training I don't know how
9 many service men and contractors throughout the
10 industry. I also have been working with the CSLB on
11 a limited-case basis, and seen -- I can't tell you
12 how much I've seen in failure.

13 I really think a level playing field is
14 necessary. If we want to see more and more even jobs
15 that are put in correctly, a level playing field is a
16 must. To obtain that, we need to get more permits
17 drawn. To obtain that, you need to stop selling
18 equipment to those that are not certified, those
19 people that are not contractors, to other people that
20 are just trying to put jobs in and trying to make a
21 living off grid. We call it "black market."

22 So, if we require before they sell equipment
23 and sell products that they must be licensed, if we
24 require serial number tracking, that triggers a
25 permit. The permit triggers the HERS test, we're

1 going to see more and more quality jobs put in.

2 I want to say, also, that at the college
3 we've been training a lot of people, and we need
4 certification. Currently, if you want to work for an
5 electrical contractor, you must be certified. You
6 must be certified through the State of California to
7 be an electrician. Same thing should occur in this
8 industry, in HVAC.

9 I see people that go to NATE training, HVAC
10 excellence training, RSES training, it goes on and on
11 and on, but none of it is certified. There's nothing
12 in the State that says, in order for you to work for
13 a contractor you must be certified. So we end up
14 with installations that are not quality because of
15 the training. It's just not there when it comes to
16 that end of it.

17 So, I think all in all, we need more
18 certification. We need to verify, and we need more
19 permits drawn. Thank you.

20 MS. HARO: All right. Thank you.

21 MR. MENDOZA: Thank you, John.

22 Chris Walker.

23 MR. WALKER: Good morning. Chris Walker on
24 behalf of CAL SMACNA, the sheet metal air
25 conditioning contractors, representing 300

1 contractors throughout the State of California.

2 I just want to bring back the attention to,
3 you know, this particular topic was raising awareness
4 and creating value propositions. I -- we see this as
5 a supply and demand issue. The demand is by the
6 consumer when they're making the purchase decision.
7 The supply is what comes through that front door to
8 meet that demand.

9 And, typically, we're talking about
10 residential. We're talking about people who are
11 suffering a breakdown of their current equipment.
12 Whether it's cold or hot outside, they need to have
13 that system replaced yesterday. They're making
14 decisions on the quick.

15 Typically, you have people on fixed incomes.
16 So when you have the price delta between two bids,
17 it's a no-brainer for these folks when they don't
18 perceive any value for the permit. Even if they did
19 perceive value for the permit, they probably wouldn't
20 pay for it because they can't.

21 So, this is the real issue. We need to
22 really focus, in my opinion, our opinion, on the
23 supply side, what's coming through that front door.
24 And in that case, we are very much in support of a
25 state line -- statewide on-line permitting process.

1 Local building officials, their budgets raise and
2 fall based upon the building cycles. That's not
3 adequate for Title 24 enforcement, whether it be
4 residential or non-residential. We think this is a
5 statewide problem and should be addressed on a
6 statewide basis.

7 There are Cap-and-Trade dollars available.
8 There should be grant programs for cities and local
9 jurisdictions that want to voluntarily adopt Title 24
10 specialty expertise to inspect both residential and
11 non-residential.

12 When we're paying a permitting cost, we're
13 paying for the expertise to come out to make sure
14 everything is code compliant. We're not paying, we
15 shouldn't be paying for paperwork pushing, we should
16 be paying for that expertise. And we think there
17 ought to be a statewide fund to help those local
18 jurisdictions that want to move forward, to have
19 consistent funding that is consistent and reliable
20 throughout the building boom cycles.

21 We also are very much in support of
22 equipment registry. It's the only way that we're
23 going to get a bead on where the work is being done.
24 And, finally, workforce standards for all subsidized
25 work. We need to have minimum workforce standards.

1 And we do have certifications. We do have
2 verifiable, quantifiable training that's being done.
3 Our 300 contractors have spent with their labor
4 partners \$135,000,000 over the last 10 years on
5 training. Our competitors cannot say the same. And
6 that's a big difference. That's a big difference in
7 our cost, it's a big difference in our quality and
8 our skill and what we bring to the market. That
9 should not be penalized, it should be supported.
10 Thank you.

11 MS. HARO: Thank you.

12 MR. MENDOZA: Hecter Vargas.

13 MR. VARGAS: Good morning. My name's Hecter
14 Vargas. I'm an owner of ACH Mechanical. I'm a
15 SMACNA member. I'm also on the Board of Directors
16 for SMACNA Southern California, Board of Directors
17 for CAL SMACNA. We're also a union shop. I'm a
18 member of the SMART 105.

19 Yes, you know, I agree 100-percent with
20 Chris, that, you know, the installers should be
21 certified and trained. We do invest a lot of money
22 into our apprenticeship, and we train our
23 technicians. They go through a five-year
24 apprenticeship program. They're certified at the end
25 of the five years to install, repair or replace and

1 service.

2 I also agree with the entire panel in here
3 as far as verification. We already have that on the
4 commercial side. We do that on the light -- big
5 commercial.

6 You know, my shop does a lot of commercial
7 work, hospital and other stuff. I employ about 90
8 people year-round. There's already commissioning
9 agents that come in and commission our buildings.
10 They're third-party, independent, total company that
11 comes in and verifies the system that was installed,
12 meets code, meets the drawings, meets the
13 specifications.

14 They run testing, functional performance
15 testing to make sure that that system is performing
16 like it should. And I think that that's something
17 that should be trickled down to the residential as
18 well. And like Chris says, we need to have our
19 building officials trained to be able to verify all
20 this.

21 You know, lowering our cost, yes, is
22 probably a good thing, because there's a big
23 discrepancy between us and the other competition
24 that's not on our level playing field, but we can
25 only lower those prices so much.

1 What we need to focus on is bringing those
2 non-compliant contractors up to speed, to where they
3 have to raise their prices so that we can all be on
4 the level playing field. And the only way to do that
5 is through a tracking system, through a serial number
6 of the units.

7 If it's a residential unit that's going to
8 be installed, before that building is -- or that unit
9 is totally certified, you're going to have to have
10 your permit and other compliance items that are
11 required for it. And unless we do both of these in
12 the installation and the process, and have trained
13 technicians that know how to install it, and the
14 third party that's going to, whether it's going to be
15 the city or the HERS tester that's going to be
16 testing and certifying this, I don't think we're ever
17 going to get the resolution to this.

18 So, I really think that, you know, lowering
19 the cost is a good way to go, but we also need to
20 enforce and penalize, whether it be state, you know,
21 Contractor State License Board fines. After so many
22 fines, they're license is suspended. That will get
23 anyone, anyone to comply that's not complying.

24 MS. HARO: Thank you.

25 MR. MENDOZA: I have another blue card for

1 Bruce Severance.

2 MR. SEVERANCE: Thank you. First of all, I
3 think that the State really needs to step up to the
4 plate and take the lead on creating an on-line
5 permitting system. It is unreasonable to expect
6 small building departments to swallow that pill, and
7 it will end up taking 15 years to get around to it
8 because of their shifting priorities and limited
9 budgets.

10 If we had a single point of permitting
11 through a State web site, that immediately forwarded
12 paperwork to whatever jurisdiction it needed to, and
13 it was \$100 fee statewide to get a furnace
14 replacement, something that was a very low cost and
15 simplified process. San Luis Obispo it takes 15
16 minutes to file. You pay for it. It's about 110
17 bucks.

18 Contractors are starting to comply with it
19 more because they're realizing it's a simplified
20 system, but we also really need to have a deterrence.

21 The cost of not complying, as Kristin said,
22 I fully support that we should be imposing a
23 statewide mandatory fine and penalty system that's
24 equal from one county to another. If it's not equal
25 from one county to another, and I've seen this

1 before, contractors just start doing work in the
2 neighboring county, and they will circumvent the law.
3 It has to be uniform.

4 So, with that being said, I just want to
5 say, why is this so important? And we've mentioned
6 IAQ. Really important to emphasize that the duct
7 leakage, the 30- to 40-percent duct leakage that I
8 commonly see, the numerous houses that have asbestos
9 in the attic, the open holes in the ceilings of these
10 homes, the infiltration that I've measured from the
11 attic to the home.

12 I was just inspecting a home last night.
13 HVAC contractor went into the house, busted up the
14 Chrysotile asbestos wrapping on the old ducts. Left
15 the old ducts in the attic. Put in new ducts. Left
16 the vents to the attic open to the interior space.
17 Obvious leakage issues, obvious depressurization.
18 That asbestos is going directly back into the home.
19 You can hold your hand up and feel the heat coming
20 through the old vents that were not sealed up, okay.

21 And this was a house with a wife and kids,
22 friends of mine that asked me to take a look at this
23 work. The attic hatch is all busted up. There's
24 open gaps all around it. The corner of the attic
25 hatch is missing.

1 So, this is not atypical. This is very
2 typical of what you see in the industry. It's a
3 serious indoor air quality problem. We need to crack
4 down on it, not just because of the efficiency, there
5 is a moral reason here to crack down on the
6 substandard work.

7 And I fully support creating a nationwide
8 ACCA standard with three levels of techs for
9 apprentices, journeymen that lead a crew in the
10 field, and then the owner of the business, and
11 requiring, not manual heat load calcs, but software
12 heat load calcs.

13 MS. ROBERSON: Bruce --

14 MR. SEVERANCE: And an ACCA standard should
15 be recognized by the State. Thank you.

16 MS. ROBERSON: -- thank you.

17 MS. HARO: Thank you.

18 MR. MENDOZA: Roy Eads.

19 MR. EADS: Yes. Thank you.

20 Okay. I just need to clarify. To begin
21 with here, I'm scheduled for, as a presenter in the
22 afternoon session.

23 MS. ROBERSON: Would you identify yourself
24 and your affiliation first, please?

25 MR. EADS: Yeah. Roy Eads. And no

1 affiliation except for, to be honest about things,
2 when I started the equipment registration process,
3 which I'll be speaking about this afternoon, it was
4 back in 2011 or whatever, and so this -- what I'm
5 going to present this afternoon is a continuation.

6 But I've also been working at CalCERTS for
7 the last nine months, Senior Technical Manager at
8 CalCERTS, so I'm wearing two hats today. But I do
9 want to make sure there's a separation there.

10 Wearing my own hat, as far as on-line
11 permitting, I have worked with several jurisdictions
12 in my prior job helping develop on-line permitting e-
13 tools. And what I have learned there is that each
14 department has their own way of doing things, and
15 it's very difficult to get people to change their
16 ways or whatever. So, that's difficult.

17 But the other thing is, is that the on-line
18 permitting can be broken up into micro permits, and
19 you can have the HVAC, simple HVAC changeouts as one,
20 a simple water heater changeout as another, a simple
21 fenestration, that type of thing. And then you have
22 your complex permits, which will normally go into the
23 building department.

24 But having said that, this conference here
25 is talking about HVAC. So, an HVAC specific on-line

1 permit statewide I think would be extremely
2 beneficial. But right now, and over the past years
3 here, there's many, many departments that are
4 investing a lot of their money and their budget into
5 developing these on-line systems.

6 So, I think there's an urgency to it,
7 because once these people spend \$100,000, 500,000 or
8 whatever they're spending, it's going to be hard to
9 swallow to say, well, get rid of everything you have,
10 and now let's go with this method. So, I think for
11 nothing else, the urgency of it is important there.

12 The virtual inspections I think are a worthy
13 route to consider. I believe it's the County of San
14 Bernardino, and possibly Riverside offer that.

15 And I've been a HERS rater. I was a HERS
16 rater for years. I'd go out and talk to contractors.
17 And I remember on day one guy called me up and said,
18 I can't make it today, Roy. I have to switch it. I
19 went out yesterday and I had to wait five hours for
20 an inspector, and then he called me an hour later and
21 said he couldn't make it.

22 And I'm not saying that's typical. It's not
23 very typical, but nevertheless, that's what the
24 contractors have to deal with, is going into a
25 situation and spending their time. And that's why

1 the cost of the permitting is extremely high because
2 there's a lot of wait time. And --

3 MS. ROBERSON: Thank you. Thank you, Roy.

4 MR. EADS: Okay.

5 MS. ROBERSON: And you can speak again
6 later.

7 MR. EADS: Okay.

8 MR. MENDOZA: Wendy Worrell.

9 MS. WORRELL: I am Wendy Worrell with
10 Western HVAC Performance Alliance, Inc. You've heard
11 WHPA referenced a bit in this room, and so it's nice
12 to see a lot of our stakeholder base here.

13 We do have a very broad and diverse
14 stakeholder base, and we have a very extensive
15 research library. And in the docket I did make some
16 initial base comments, just to remind you to look at
17 three in particular at this point that had been
18 approved as official work products.

19 One of them is the feasibility of on-line
20 permitting. We did do work. It was a working group
21 off the compliance committee. And we did look at
22 what the legal requirements were, what the best
23 practices were, all of that, in that we were looking
24 at the minimum requirements for a changeout. And we
25 did survey both jurisdictions, as well as

1 contractors. So, I encourage you to look at that as
2 you're trying to consider some of the other
3 perspectives.

4 I would also draw your attention to the work
5 that the compliance committee did. That is a white
6 paper focusing on understanding the residential HVAC
7 compliance shortfall. And that piggybacked off some
8 work that the existing buildings energy efficiency
9 action plan committee did.

10 We specifically had been asked by the CEC a
11 few years ago to identify some gaps and barriers that
12 were in their draft action plan update. And so we
13 did go through. We identified, we looked at it
14 through the very specific HVAC lens and came up with
15 some recommendations.

16 And then we put together a second report
17 that is the one that I also referenced in the docket,
18 that had some very specific recommendations that came
19 from our broad stakeholder base. And so there were
20 some in there that included some suggested
21 milestones, timelines, all of that.

22 Given our -- and that, by the way, was
23 linked to in its entirety in the action plan update.
24 So, I do encourage you to look at that, because it is
25 that broad stakeholder perspective.

1 We do appreciate that we had certain
2 limitations on us at the time in terms of our
3 resources, and we completely appreciate all the time
4 and effort that all of the stakeholders have put in
5 on that. And it is what makes us strong.

6 And our next steps in the future are to
7 continue to piggyback off of that work, so that we
8 can get some better cost numbers, get some better
9 specifics. And we will be making some more
10 recommendation once we've had further consultation
11 with our board in going through our extensive
12 research library, to come up with some more specific
13 recommendations for where pilots might start.

14 But one other comment I would make is, we
15 internally have been struggling, trying to find some
16 kind of pictorial graph, some type of interactive
17 logic model that helps us understand how all the
18 parties relate.

19 We started some of that work with the
20 compliance definition matrix, that did clarify all of
21 the stakeholders that were connected to the
22 compliance process and what their role was, if they
23 were just a factor or if they had ownership. So,
24 it's a good place to start, but it's difficult to
25 even figure out like how CSE, CSLB, CPUC contractors,

1 manufacturers, all the stakeholders play together.

2 So, if anybody is aware of anything like
3 that, and they could direct it to us, we would love
4 to find that. Thank you.

5 (Applause)

6 MS. ROBERSON: Thank you, Wendy.

7 MR. MENDOZA: Okay. Moving on to that
8 raised hand that's been up for a while, George
9 Nesbitt on-line, can you hear us?

10 MR. NESBITT: Yes. Can you hear me?

11 MR. MENDOZA: Yes.

12 MR. NESBITT: Okay. Yes. George Nesbitt,
13 HERS rater, again. We (indiscernible), you know,
14 mentioned like the, on the subject of on-line
15 permitting, and, well, the problem is the cities
16 don't have money, blah, blah, blah. But we are going
17 to have to, if anything's going to change, we have to
18 get beyond that, well, there's this barrier, and
19 there's barriers everywhere. And, yes, it's going to
20 cost money.

21 There's going to -- you know, on the one
22 hand, we want more compliance, not only with permits,
23 we want more compliance with the energy code. We
24 want things to work. We want things to save money
25 and save energy. You know, we want to do a lot of

1 things.

2 So, on the one hand, we want to make it
3 easier, yet on the other hand, we need to make it
4 tougher, because there is a lack of compliance and
5 problems. So, there's -- we have to make certain
6 things tougher, but we have to make the process
7 easier.

8 I don't necessarily claim to know what all
9 the solutions are. But, you know, take something
10 like on-line permitting, great probably for a lot of
11 jurisdictions, but there's probably some
12 jurisdictions where it wouldn't matter, smaller
13 jurisdictions. So, it's not always a one-sided
14 solution fits all, but we do need to think about it.

15 Just take the HERS system. Every HERS
16 provider has to create their own training program.
17 They have to create their own registry, and it's
18 expensive. It's duplicative, it's problematic. It's
19 one of the reasons we've had -- you know, haven't had
20 that many providers. It's the reasons we have lost
21 providers.

22 So, and the thing is, there are a lot of
23 solutions put out there, and they don't necessarily
24 get acted on. And we've got to, everyone has to
25 realize, yes, there may be some pain. They may have

1 to give up something, some control. Yes, it's going
2 to cost money, but, ultimately, there's benefits for
3 all of us.

4 And, you know, back to the trust but verify.
5 Yes, verification is very important. You know, yeah,
6 training, certifications, contractor installer
7 certifications are great, but we, you know, we
8 ultimately can't just say we completely trust that
9 just because you got it, you're actually doing a good
10 job.

11 But we do need to be willing to back off on
12 those who can consistently perform, to back off on
13 how much? We can't verify 100-percent of everything
14 all the time.

15 MS. ROBERSON: Thank you, George.

16 MR. NESBITT: Try to focus on where we're
17 making an impact, and we can't, we can't sacrifice
18 the ultimate result to make it easier. Thank you.

19 MR. MENDOZA: Great. Thank you, George.

20 Another comment on-line, it looks like the
21 hand was raised and it went down, but I'm going to
22 unmute David Stephens, in case you're still on and
23 you wanted to make a comment. Can you hear us?

24 MR. STEPHENS: I am still on, and, yes, I
25 would like to make a comment.

1 MR. MENDOZA: Please --

2 MR. STEPHENS: Thank you.

3 MR. MENDOZA: -- please state your name and
4 your affiliation.

5 MR. STEPHEN: Okay. My name is David
6 Stephens. I'm with Johnson Controls. And I have
7 three items that I think are, that I think are very,
8 very important. Those are the processes that we're
9 talking about, the permitting process, the training
10 and serialization, those three items.

11 In process we have to agree with many of the
12 comments about automation and the need for
13 improvement. Now the old saying is, if you do -- you
14 know, in fact, just doing the same thing you've
15 always done and expecting a different result. We
16 have to evolve the process.

17 And while HERS was the major step I think,
18 but that is inspecting, trying to inspect quality
19 into something that's already done. It needs -- we
20 need to automate the process, to simplify the
21 process. We have new technology, and use of that
22 technology is paramount to improving what we're
23 trying to accomplish, what you're trying to
24 accomplish.

25 It has to be simplified, it has to -- it

1 needs to be automated. In terms of training,
2 installer training, I -- and there's two types of
3 training I'm thinking of, installers, as well as
4 consumers. From an installer perspective, I've been
5 doing engineering for over 40 years now. As a
6 licensed PE, we've been doing license engineers for
7 more decades than I want to think about. And we have
8 licensing requirements, we have continuing education
9 requirements.

10 Installers, we all think, those of us that
11 work with the HVAC know that the technology is not
12 what it was in the 1930's, 40's, 50's, 60's, even
13 70's and 80's. It's new technology. It's more
14 complex. It requires a higher level of skill.

15 I have tremendous respect for those people
16 who do it on daily basis. But because of that, the
17 increased complexity, we need to increase the level
18 of sophistication of those installers. And I know
19 several people have spoken today towards that end.

20 Licensing, such as a professional
21 engineering licensor, and I'm not suggesting quite
22 that level, but I am suggesting continuing the
23 licensing and continuing education as is essential.
24 Again, from a licensed engineer perspective, if I, as
25 a license engineer, don't do my job. There's state

1 boards that will take my license and will keep me
2 from doing engineering on a consulting basis.

3 The consumer does not understand the
4 sophistication, so there needs to be consumer
5 training and education. Enlighten them as to how
6 complex the product is that they're talking about.

7 Finally, there's the serialization aspect.
8 We believe firmly that that adds nothing. I go back
9 to the VIN analogy, the vehicle identification number
10 analogy used in the last workshop. And, you know,
11 having a VIN doesn't make people license or tag their
12 cars. It does make them insure their cars.

13 Unless there's some -- and all it does is
14 add, from an HVAC perspective, it adds complexity and
15 adds a cost burden, and delays the process further
16 because there's more data tracking that has to be
17 done. Then you have, of course, the consumer data
18 protection issues.

19 MS. ROBERSON: Excuse me.

20 MR. STEPHENS: All of these I think they're
21 important and need to be considered.

22 MS. ROBERSON: Thank you.

23 MR. MENDOZA: Thank you, David.

24 MS. ROBERSON: Tino, how many comments?

25 MR. MENDOZA: We have one more blue comment,

1 and I don't see any raised hands on-line.

2 MS. ROBERSON: Okay. I'm asking because we
3 want, we would like to let you go and get lunch
4 before noon. So, we're going to try to, we're going
5 to try to do that.

6 MR. MENDOZA: Okay. So, last blue card,
7 Michael Thompson.

8 MR. THOMPSON: Thank you. I would like to
9 try to try to add a little concreteness here. In
10 terms of on-line permitting, the business -- the case
11 for the system that Lindsey studied was this.

12 For municipalities, the cost would be free.
13 For the Energy Commission, the cost would be free,
14 except of course for administrative costs. For the
15 contractor, the cost would be either \$29 or \$49 per
16 permit, on top of the building permit fee, for
17 administration of the on-line system.

18 And that essentially is the totality of the
19 cost. There's no development costs at all because
20 it's already developed.

21 And Martha, I'd just like to address your
22 comments. Art Rosenfeld got the jump on you. What
23 you described when you were talking about
24 certification was, essentially, the third-party
25 quality control program that the CEC put in place in

1 2006 I think it was. That was a good program, but it
2 had a fault, in that it gave municipalities the
3 option of not participating, which it made it
4 extremely complex. And we see we messed up the
5 market and ruined it, so it didn't work. But we
6 think it has a huge viability going forward if we can
7 make it mandatory for all municipalities.

8 MS. ROBERSON: Thank you.

9 MS. HARO: All right. So, if we have no
10 more comments in the room or on-line --

11 MR. EADS: Do we have time for one more or
12 not?

13 MS. ROBERSON: Tino, anymore comments?
14 Okay.

15 MR. EADS: Okay. This is Roy Eads, and this
16 time I'm wearing my CalcERTS hat. Just to address a
17 comment from Greg Mahoney regarding the CF2R's and
18 the proposition to just eliminate the CF2R's. It's
19 everybody would like to eliminate all of the papers
20 if we could, but I don't see that possible. And you
21 have different situations that you have to consider.

22 With the HVAC simple changeout, the majority
23 of those 2R's are just filled out by the HERS rater
24 when the testing is being done, so it's just like a
25 one-time shot.

1 The building departments do not have to
2 collect those documents. They do not have to print
3 them. There is a project status report, a PSR report
4 that is available on-line. And if you wanted to
5 print it, you could print that one page. So that
6 eliminates a lot of paperwork.

7 And then there's group sampling for CF2R's,
8 and the contractors do have to do all of their own
9 sampling and report the results, and then the HERS
10 rater goes out and selects one out of seven, or
11 whatever the grouping is. So, without the 2R, that
12 would be a dilemma.

13 And then you have homeowners and new
14 contractors, and that aren't related to HERS. You
15 have to have a 2R. They have a CF1R where they
16 propose to do something, and the CF2R allows them to
17 say, well, this is what we did, and it does match
18 what we proposed.

19 We take calls, field calls all the time at
20 CalCERTS for these documents also, even though
21 they're not HERS rated, and you would be amazed at
22 how many people don't understand what they're
23 supposed to be putting in until after the fact.

24 The CF2R is what allows the contractor to
25 sign his name and say, this is what I really did do,

1 and that it does meet compliance.

2 MS. HARO: All right. Thank you.

3 So, if we have no more comments on-line or
4 in the room, I'd like to hand it over to Commissioner
5 McAllister.

6 COMMISSIONER MCALLISTER: So you've all
7 heard me talk too much today already. Because,
8 really, the goal was for you guys to get all your,
9 you know, ideas out there in the hopper. And I just
10 want to thank you for the robust discussion, and
11 hoping for more of the same this afternoon.

12 And, again, I just -- let's keep it as real
13 as we possibly can. I know that may sound strange
14 coming from the Energy Commission, but, you know,
15 part of the reason we haven't solved this problem is
16 that we haven't kept it real. And we're sort of
17 like, okay, here's what we want in theory, but, you
18 know, theory to practice a lot's lost in that
19 translation.

20 And so how do we true that up and really
21 make sure that we're doing what's necessary and not
22 doing what's not necessary? So -- and, you know,
23 this is an opportunity to really get that down and
24 play a role in policy in the State. I mean, this is
25 like, this is the real deal. I mean, good ideas are

1 going to get encoded in this document, and go into,
2 you know, a work plan.

3 And we've continued interaction between, you
4 know, all the stakeholders, including local
5 governments, so I think, you know, maybe we haven't
6 quite talked enough about them so far. Because they
7 have a key role in all this, just like the
8 contractors do.

9 So, anyway, just an exhortation to just keep
10 thinking about pragmatically and practically, what is
11 going to get us success in this room. And we're, you
12 know, all ears. We're trying to do the right thing,
13 we just need to know what that is. So, thanks. I
14 look forward to the afternoon. Have a good lunch.

15 (Applause)

16 MS. ROBERSON: Excellent. So, I'm going to
17 ask everybody to be back here and ready to resume at
18 1:00 o'clock. That gives you a little over an hour
19 for lunch, and we do have a full panel this
20 afternoon. And we encourage you to come back.
21 Thanks.

22 (Off the record at 11:37 a.m.)

23 (On the record at 1:17 p.m.)

24 MS. ROBERSON: Welcome back, everybody.
25 Lunch took a little bit longer than we thought, but

1 thanks for coming back.

2 Our second panel today is more about the
3 nuts and bolts, rather than the hearts of minds --
4 hearts and minds that we talked about this morning,
5 the nuts and bolts of how we're going to make this
6 happen. Or what are the options for making this
7 happen, what are the considerations, and what are the
8 value propositions for all the people involved?

9 Our first -- we have seven panelists this
10 time. And our first panelist is Cynthia Moore from
11 the Contractors State License Board. Cynthia is the
12 Enforcement Program Manager at the CSLB.

13 (Applause)

14 MS. MOORE: Thank you again for coming back
15 from lunch. I just want to give you a little bit of
16 information about the enforcement division of the
17 Contractors Board.

18 As Judy said, I'm a program manager with
19 enforcement. I've been with enforcement for about 18
20 years, so I've seen the ups and downs, and we've been
21 trying to battle this for a long time. CSLB remains
22 ready to enforce violations of the contractors law.

23 I want to give you a little bit of history
24 that we've been working on with the C20's. Back in
25 2010 we started to turn up the heat on residential

1 HVAC installations. Isn't that great? Yeah, I
2 thought that was clever.

3 Part of that process we were holding
4 workshops. We worked with stakeholders to make an
5 ambassador program. I don't know if you've seen any
6 of that on our web site. It's still there. There is
7 an educational packet for C20 contractors to give to
8 their consumers.

9 And it says, hi, I'm Joe Contractor, and
10 these are all the reasons why you need to comply with
11 energy efficiency and why you need to get these
12 permits. So that does still remain. It may need a
13 little updating. I'm not sure, but it is still
14 there.

15 We also performed enforcement stings with
16 different partnerships, different entities, and we
17 did a lot of outreach. We began to have a zero-
18 tolerance policy for our HVAC contractors for failing
19 to pull permits.

20 And we sent out multiple bulletins to our
21 C20 contractors, directly to their addresses of
22 record, letting them know about the increased
23 enforcement. We created two additional investigator
24 positions that were dedicated to permit enforcement,
25 although all of enforcement continued to address

1 violations as well.

2 From 2016 to now, we have seen a reduction
3 in the number of permit violations. That's just
4 straight stats. I don't know why, I don't know where
5 that's coming from, but we have seen a reduction in
6 the number. They were quite high when we began.

7 I also want to talk and explain that safety
8 and consumer protection are CSLB's highest
9 priorities. We must keep this mind when discussing
10 high fines and strict enforcement. When it comes to
11 energy efficiency, CSLB's goal is compliance. Unlike
12 severely poor workmanship or criminal activity that
13 result in revocation, we gain compliance through
14 progressive discipline and change is business
15 practices.

16 Let me tell you a little bit about our
17 progressive discipline policy. It starts with
18 advisory notices that used to be called "warning
19 letters." Same thing, different name. And when we
20 issue these advisory notices, we have conversations
21 with our contractors about their business practices.
22 We help them change them, we help them improve them.
23 We tell them why, and explain the consequences if
24 they don't. This is not disclosable to the public.
25 It's a warning.

1 The second step is a letter of admonishment.
2 And this has a possible correction -- a corrective
3 action. It also has a training component that we are
4 still, we're in the process of doing it now. It's a
5 permit training video. And, again, we have those
6 conversations about business practice changes. And
7 there is a one-year disclosure on our web site for a
8 letter of admonishment.

9 The next step would be a more formal
10 discipline, which is a citation. A citation comes
11 with civil penalties. For permit violations it
12 ranges from 200 to \$5,000, depending on the severity
13 of the violation. Again, we talk about business
14 practices. We try to impart how important this is.

15 And when you get a citation, it's disclosed
16 to the public for a minimum of five years. And it
17 will result in a revocation of the license for non-
18 compliance, if they don't pay the civil penalties and
19 comply with the orders.

20 Revocation of the license is for the most
21 egregious violations. To my knowledge, I did a
22 little research, we have never revoked for permits
23 alone. We have been successful with our progressive
24 discipline in getting these contractors to change
25 their business practices.

1 Statistics, in 2017 there were 302 permit
2 complaints that were investigated, and 169 resulted
3 in a citation. That's all I have. Thank you very
4 much.

5 (Applause)

6 MS. ROBERSON: Thank you, Cynthia.

7 And as before, we're going to hold questions
8 and comments until after all the panelists have
9 presented.

10 Our next speaker is Greg Mahoney, who is
11 currently serving as the Assistant Director of
12 Community Development and Sustainability for the City
13 of Davis. Is that the same thing as CBO?

14 MR. MAHONEY: Well, it's -- I do that as
15 well.

16 MS. ROBERSON: Okay.

17 MR. MAHONEY: I'm also manager for
18 (indiscernible).

19 MS. ROBERSON: Okay.

20 MR. MAHONEY: I just saw this.

21 Hi. Good afternoon. I just want to make it
22 clear that I'm representing the City of Davis right
23 now and not CALBO. This program has not been vetted
24 by CALBO, so I don't want to give the impression that
25 CALBO supports this in any way.

1 So -- and the program, and it may not be
2 right for every jurisdiction, probably isn't. It's a
3 pretty robust program, as it covers all permits and
4 not just HVAC permits. And I'm sure that if there
5 was a desire, you could trim it down to cover just
6 HVAC permits.

7 Anyway, I want to just to give a little bit
8 of context. Just, City of Davis is about just under
9 70,000 people. You can see how many households,
10 24,000, that includes apartments and all those
11 things. So roughly about 16,000 single-family
12 dwellings, duplexes and triplexes.

13 So this program goes back 40 years. We --
14 there was a couple residents who perished in a fire,
15 and the fire took place in a garage conversion that
16 was unpermitted. So City Council took steps, and
17 implemented this Resale Program.

18 There's been a few iterations over the
19 years. There was a retrofit component, or an energy
20 retrofit component to it for a while, but it was
21 outdated. So, we don't enforce that anymore, and we
22 revised the format and revised it with the input of
23 the real estate community.

24 If anyone is considering a program like
25 this, absolutely imperative that you engage your real

1 estate community. If you start doing it without
2 them, they get really upset.

3 So, some of the benefits of the program. I
4 don't know if you know about your ISO rating in the
5 community that you live in, but your homeowner's
6 insurance are somewhat based on your ISO rating. And
7 so we get credit for this.

8 We have an ISO rating of two. The best is
9 one. It's one through 10. And you have to spend a
10 whole bunch on money on training and outreach to get
11 one. I think there's only about three or four cities
12 in California that have one.

13 It also helps to maintain the housing stock.
14 Because when you buy a house in Davis, you get a
15 clean slate. All the work that's been done on that
16 house has been permitted. And we have records that
17 go back 40 years, so we have these inventories. So
18 we know what the house looked like when you bought
19 it, and we see what it looks like now that you're
20 selling it.

21 There's anecdotal, I guess, feedback from
22 the fire department, that there are fewer structure
23 files per capita in Davis, and they attribute that to
24 the resale program, at least in part. Obviously, it
25 discourages illegal construction, but more

1 importantly for us, it gives us a tool to identify
2 the illegal construction, and also a path to correct
3 it.

4 And ensures compliance with minimum building
5 codes. That is what we're trying to do right now,
6 which is, discourage permit avoidance. And this
7 isn't the purpose of the program at all. It's not a
8 money-making program. It costs us money.

9 There's actually -- last year we had to, the
10 City had to subsidize the program to the tune of
11 about \$60,000. But we did collect about \$70,000 in
12 penalty fees. So, these are fees that are assessed
13 because people did work without permit, and so they
14 get double fee.

15 And this, again, just for context. You
16 probably can't read that, but this is the number of
17 resales per year. We've seen this cycle. We're in
18 the, you know, 500 to 600 resale inspections a year.
19 So that's about how many houses we look at.

20 This is how many HVAC permits we've issued
21 per year. And this doesn't capture the HVAC permits
22 that might have been kind of grouped together with
23 the whole resale permit. We issue these resale
24 permits which covers everything that was done. It
25 may include kitchen remodels and bathroom remodels,

1 and all these things all kind of lumped into that.
2 So, those would not show up. But we're somewhere
3 around 500 HVAC changeouts a year. And this is just
4 about 4,000 building permits a year.

5 So, the Resale Program, all the residential
6 units in the town are subject to this. The single-
7 family duplexes and triplexes are the only structures
8 that are subject to the full inspection process.
9 There's a self-certification process for multi-
10 family. We do have an exception for inter-family
11 transfers. And we also get reports from the county
12 that tells us, you know, which properties have
13 changed hands that month, so we can back check.

14 So, the way it works is, when an -- someone
15 wants to sell their house, they come and submit an
16 application to us. It costs \$426. The cost just
17 went up \$26. It was \$400 for a long time. You're
18 supposed to do it 15 days prior to change of
19 ownership. We like it when they do it a lot sooner.
20 We schedule an inspection at that time.

21 Once we do the inspection, we provide a
22 report within five days, usually the next day or
23 something like that. There is a self-certification
24 fee of \$85 for multi-families.

25 And so the report is broken down into three

1 parts. There's a, b and c items. A items are items
2 that need a permit. Either need to be removed if
3 it's construction that they can't get a permit for,
4 or they have to get a permit, and they have to get
5 the permit signed off.

6 B items are items that can be corrected by
7 the homeowner. That we're not going to go back and
8 inspect.

9 And then item C are just informational
10 items. You know, it may be, you know, this house was
11 designed with a storage loft. It can't be used as a
12 bedroom, things like that.

13 So the resale report, once it's validated,
14 means everything's taken care of. It's good for 18
15 months. And our ordinance says that you have to
16 validate your report within 90 days of when the
17 report was issued. And either the buyer or seller
18 can do it.

19 A lot of times, you know, there's
20 negotiation when they're buying the house. And if
21 they have particularly ugly resale report, the buyer
22 may say, you know, I'll take of the, you know, resale
23 report. And sometimes that's a good decision,
24 sometimes not. And, also, the buyer -- or the seller
25 is required to disclose this report to the buyer

1 before they transfer the house.

2 There are challenges. This is not an
3 insignificant program. And working with the real
4 estate community and real estate transfers can
5 sometimes be very challenging in itself. It
6 definitely requires extra diligence, both from the
7 front counter staff and the inspectors.

8 And it's really important for this to work
9 smoothly, that the front counter staff get very
10 detailed plans that show every single light fixture
11 that's installed in the kitchen, every single
12 receptacle, so that we have all these very detailed
13 plans. So that when a house sells, you know, 15
14 years down the road, we can say, this is what it
15 looked like, you know, during the last resale. So,
16 there is extra effort.

17 And the inspectors also have to be very
18 diligent out in the field. Because if they sign off
19 a kitchen remodel and maybe they didn't look under
20 the sink and see that, you know, the trap wasn't
21 plumbed right or something like that.

22 And then we go do a resale five years later
23 and we call it out, and they say, well, your
24 inspector signed it off before. What do you mean
25 it's not right? So, it kind of forces the building

1 inspection staff to be very thorough and very
2 diligent.

3 One of the biggest challenges in this
4 program is staffing based on fluctuations in the
5 market. So, as the market goes up and down,
6 especially when it goes up, the -- you know, the last
7 thing we want to do is kind of get in the way a
8 resale transfer, and the real estate agents don't
9 like that either.

10 And so, it's not -- a resale inspector
11 probably takes about four or five months to become
12 proficient, because there's a whole lot to learn
13 about our process. Because it's, well, it's the only
14 one that I know of like ours, so it's not like a
15 building inspector can go from one city to another
16 city and get, you know, their run that day and go out
17 and do inspections. It's particular just to Davis.
18 So, staffing is, has been a challenge for us, for,
19 like I said, to address fluctuations in the market.

20 One of the other significant problems we
21 have is when realtors come in at the last minute and
22 say, you know, I need this done, and we have a close
23 of escrow. And we do have a way to kind of address
24 that. We have what's called a "move-up list." But
25 that causes some angst sometimes.

1 Something that we often -- I don't say
2 often. A lot of times we get the owner saying, it
3 wasn't me who did this, it was the previous owner who
4 did this, even though they bought the house in 2000,
5 and they equipment that was manufactured in 2005.

6 And so usually we kind of point to things like
7 that and say, well, maybe you're mistaken or
8 something, don't remember doing it, but, yeah, this
9 was installed -- this was manufactured in 2005. But
10 sometimes you have to just say, well, I can't call
11 this person a liar, and anyway, just deal with it the
12 best you can, so.

13 One of the other significant challenges, say
14 someone does a bathroom remodel. They've redone
15 their shower, or someone, a contractor's redone their
16 shower for them and they didn't put a moisture
17 barrier behind it.

18 So they've, you know, they have this
19 significant outlay of capital, and we're telling it's
20 not code compliant. And we're not going to let you
21 just pass that deficiency on to the buyer. And so
22 they have to redo their shower. And so that's
23 always, gets a little bit ugly sometimes.

24 We have out-of-town agents who aren't
25 familiar with our program, who sometimes sell

1 properties without, without going through this
2 process. And so our recourse is to go after the
3 owner of the property, who is now the new owner. And
4 so that kind of gets ugly sometimes, too. But we
5 don't come across that too often. It's really only
6 when the out-of-town agents get involved.

7 Probably one of the more significant
8 challenges for jurisdictions would be that we don't
9 have full cost recovery with our fees. Like I said,
10 the penalty fees offset a lot of it, but we still end
11 up having to subsidize the program a little bit. So,
12 it's been in place for 40 years. We've kind of got
13 it figured out after 40 years.

14 And it's, I have to say, it's very effective
15 in convincing people that need to get permits and
16 that -- in the City of Davis anyway. That if you
17 don't get a permit now, you will have to get a permit
18 later, and you'll have to bring it up to the current
19 code.

20 So, we have HVAC changeouts that were done
21 in, you know, 2000 or whatever, and we tell them, you
22 need to get, you know, your ducts tested. You have
23 to get a refrigerant charge and air flow, and do
24 whatever it takes to bring it up to current code.

25 We don't make them changeout the units to

1 the efficiency that's required, you know, at permit
2 application date, but everything else they have to
3 comply with. So, that's all I have.

4 MS. HARO: Thank you.

5 (Applause)

6 MS. ROBERSON: Thank you, Greg.

7 While Tino changes the slides, our next
8 speaker panelist is Danny Blustein. He's the manager
9 of Energy Efficiency Strategy and Analysis at the Los
10 Angeles Department of Water of Power, LADWP.

11 Welcome, Danny.

12 (Applause)

13 MS. ROBERSON: New slides, right?

14 MR. BLUESTEIN: Right, new slides.

15 Thank you very much. I have two basic
16 points that I want to cover today in regard to Los
17 Angeles Department of Water and Power supporting
18 compliance with codes. One has to do with education,
19 and one has to do with program, the programs that we
20 run and how we -- the permitting process.

21 So, let me start by saying that we have a
22 very robust portfolio of energy efficiency programs.
23 It's especially important because the City of Los
24 Angeles is determining its path to 100-percent
25 renewable future, and energy efficiency is a big part

1 of that. And, of course, HVAC is a big part of our
2 energy portfolio in a variety of programs.

3 So those programs are designed, and our
4 primary responsibility is to design and run those
5 programs for energy savings. There's a different
6 entity in the City of Los Angeles, the Department of
7 Building and Safety, that's responsible for code
8 enforcement. So, our role is indirect in supporting
9 codes, and it works through LADBS, the Los Angeles
10 Department of Building and Safety.

11 And the way that works is two-fold. It
12 works on an educational level, because we make sure
13 that, in a variety of ways, primarily in conjunction
14 with Southern California Gas, in an annual support of
15 training for the codes, for the permittees at the
16 LADBS, and the inspectors. We want to make sure that
17 they are aware of all the latest Title 24
18 requirements and codes. So, we fund and we
19 participate in that training.

20 We also participate in direct contractor
21 training in terms of programs such as the statewide
22 home upgrade program, which we co-sponsor in our
23 territory with SoCal Gas. We go to those meetings
24 where those contractors are brought in to be, to be
25 educated about the latest codes and what's required

1 when they go out and install equipment. So, that's
2 the educational component.

3 On the program side, I guess the best way to
4 just summarize it would be, that the way it works is,
5 you know, for LADBS, for the Building and Safety
6 Department to enforce something, you know, they have
7 to know about it.

8 So, our job is to make sure that anything
9 that comes across program for, whether it's a direct
10 install program, a rebate program, a contractor
11 driven program, any program that we run that has to
12 do with HVAC equipment, we want to make sure that
13 it's driven to the Department of Building and Safety,
14 so they know about it, and they can enforce the
15 codes.

16 That means that if it's a rebate program, we
17 will not pay the rebate unless we can verify that a
18 permit has been taken, and it has been finalized, which
19 means that the inspector has gone out and verified
20 the installations.

21 On our direct install programs, our own
22 people who go out and do our work, they will not
23 touch any project until they pull a permit.

24 On contractors who work through us on our,
25 like our AC optimization program, where we pay a

1 \$1,200 bonus up front if the customer elects to
2 changeout equipment. We make sure that we verify the
3 permit has been pulled before we pay that upfront
4 bonus. So, no money and no support is going to be
5 given to any project without a permit.

6 And from that point on, because there's an
7 on-line system in L.A., we can check and see what the
8 status of the permit is. And we rely on LADBS to go
9 out and enforce the code through the finaling of that
10 permit. But that's in nutshell, is how we support
11 code compliance.

12 And I guess there's, will be a question and
13 answer session, so I can go into a little detail on
14 anything if people want. But I'll just, I think I'll
15 just keep it simple and stop there.

16 (Applause)

17 MS. ROBERSON: Thank you.

18 The next panelist is Roy Eads, is a HERS
19 reader and a certified energy analyst with a
20 background in residential HVAC system design and
21 diagnostics. We taught HVAC and related courses at
22 College of the Desert in Palm Desert, and now teaches
23 an on-line Title 24 energy code course.

24 Mr. Eads is senior technical management for
25 CalCERTS, which is a statewide HERS provider,

1 however, today he is representing himself.

2 MR. EADS: All right. Thank you, Judy.

3 So, equipment registration, everybody knows,
4 it has serial number tracking. I just thought that
5 term was a bit harsh. I envision a mug shot with
6 somebody having their serial number across the front,
7 and a tracking card around their ankle. Whatever.
8 So, anyway, equipment registration I think is the
9 term that I took the liberty to use.

10 And as far as non-permitted HVAC changeouts
11 go, I think we've discussed this for a decade. So,
12 I'm not going to -- I've got too many slides here
13 anyway for five minutes, so I don't think we need to
14 go over these things, but we all agree on certain
15 things. And we all agree that non-permitted HVAC
16 changeouts appear to be rampant, and they shouldn't
17 be allowed.

18 And as far as the consequences of non-
19 permitted work, that's been discussed today in detail
20 and over the past years, too. But there's a lot of
21 reasons why we do need compliant work done. And then
22 there's a precedent. The federal regulations have
23 said this for equipment registration, which went into
24 effect in July of 2016, and I'll just read this here.

25 It says, "these provisions explain the

1 responsibilities of manufacturers, private labelers,
2 distributors, contractors and dealers with respect to
3 central air conditioners, subject to reasonable
4 standards. The records retention required includes
5 the manufacturer name, model number, serial number,
6 location of installation, address," et cetera, date
7 of installation, et cetera. So, that is already
8 effective.

9 And then the HERS registry also requires the
10 data collection of brands, model numbers, serial
11 numbers, when a project has been installed. So, that
12 is already being done, but the process is really
13 dependent on the building permit being issued,
14 because that's what triggers everything, is the
15 building permit. It will trigger your final
16 inspection, and it will trigger your HERS
17 inspections, and closing out of a permit.

18 The link is when have contractors that do
19 not take out the permit, and then bypass all of the
20 third-party inspections. So, there's been a lot of
21 alternatives to equipment registration, and I think
22 they're all good.

23 You know, increased training and education
24 is needed. I mean, it's without a doubt it should go
25 on forever. And the more we get the better. But I

1 don't see training and education as a standalone that
2 will actually be enough to address the compliance
3 issue.

4 And on-line permitting, there was a lot of
5 good discussion today on that. Same thing, I think
6 it's beautiful if we could implement something like.

7 And then I had mentioned earlier, virtual
8 inspections where the installer goes out and then
9 makes an appointment with the inspector in the
10 office, and then they use a video camera or whatever,
11 and do the inspection with the building inspector
12 doesn't even have to go out. That's kind of an
13 interesting concept.

14 And then you have incentives. I don't
15 believe in the incentives, because I don't think you
16 should pay somebody to do something that they were
17 already supposed to do. So -- and then the, there's
18 not enough money. You know, the pockets aren't deep
19 enough to do incentives for longevity. You know, it
20 could be a boost, but it's not going to be
21 sustainable.

22 Rapid market transformation through consumer
23 education. That's good, also. We should -- it
24 shouldn't be ignored. But, again, standalone, I
25 don't think it's enough to be able to convince

1 contractors that they need to get a permit.

2 So -- whoops. Sorry, folks. Went the wrong
3 direction. The most feasible solution is equipment
4 registration, and I guess that's my personal opinion,
5 but if you look at the comments that have been posted
6 just recently, and even today, that it seems to be
7 pretty overwhelming that serial number tracking is
8 accepted, other than the manufacturers seem to be the
9 resistance. And they have questions and concerns
10 that are legitimate and that need to be addressed.

11 The question is, is that if we can't address
12 those concerns, then what? Then would we have
13 agreement or not?

14 So, the way the system works, the way I
15 envision it, and I don't have any sample software or
16 anything like that. This is just, came out of my
17 head. And I remember going to -- or listening to
18 some meetings, and just getting so frustrated because
19 everybody said, well, it won't work. You can't work,
20 you can't do this, you can't do that. And I just
21 said, you know, I'm going to clear down. I'll show
22 how it works. You know, it's pretty simple and I
23 think people are figuring the arguments make it very
24 complicated.

25 The participants, it says ENR here. I used

1 my prior paper that I did in 2013, was equipment
2 number registration. And that's one reason why I'm
3 not presenting CalcERTS today, and non-affiliated at
4 this point, because I've been working on this project
5 much, much longer than I've been at CalcERTS.

6 But the participants are the manufacturers,
7 whether they're in state or out of state. You have
8 your distributors, your warehouse wholesaler or
9 retailer. You have your installers. You have HVAC
10 contractors, general contractors, and then you'll
11 notice it says, "homeowners."

12 Well, the homeowners are there, but that's
13 only if they're doing their own project, and then
14 they would be acting as the general contractor, and
15 they would be subject to the same rules and
16 regulations as the general contractor. Otherwise, a
17 homeowner, just as a client or a customer or
18 consumer, does not have any disability or any contact
19 with this system.

20 And then you have the HERS rater, who
21 already performs field verifications. So nothing
22 changes there, it's just that the HERS rater is the
23 final step in the process.

24 So, to begin the process everybody has to
25 have an account, so you just sign up. You designate

1 a manufacturer, installer, distributor, HERS rater,
2 et cetera. Obviously, you're going to put your name
3 and address, phone number, contact number, et cetera.
4 And then you will get a user I.D. and create a
5 password.

6 The screens are very simple. Basically, you
7 have an active list and you have an inactive list.
8 The active list is basically the equipment that you
9 have in your possession. And it will just be a list
10 of model numbers, serial numbers, et cetera, of
11 different pieces of equipment, and that's what you
12 have in your possession.

13 The inactive list is that once you transfer
14 that to another party, well, then somebody else has
15 possession, so now it's just in your inactive list.
16 So, you're able to see what you have and where you've
17 sent it.

18 But one of the concerns that have been
19 docketed is like, well, you don't want everybody
20 seeing all of our information and everything. You
21 don't see anything except for what you have on your
22 own active list or inactive list. You don't see
23 anything that is -- that you wouldn't see in a normal
24 day of business.

25 And then, obviously, you would have to have

1 a personal profile, just to keep your name and
2 address and everything current.

3 And then for the manufacturers, that's where
4 the process starts. So, the manufacturers would have
5 another screen where they actually add the equipment.
6 Because you only add the model numbers and serial
7 numbers once, and that prevents duplication and
8 changing of numbers, et cetera. So once it's there,
9 well, then it just gets transferred, boom, boom,
10 boom, down the line, until the HERS rater finally
11 inspects it and says, yeah, it was installed and it
12 had a permit.

13 So, the data input, again, I envision it as
14 very simple. You're going to specify what it is, and
15 this is a lot to read right here, but it's more
16 simple than what it looks on the screen, I guess.
17 You add new equipment on the column on the left, and
18 basically you tell what the equipment is, the brand,
19 model number, serial number, date of manufacturing,
20 click in and boom, you're done.

21 If you're doing large numbers, a large
22 volume, then there should be a way to do a batch
23 dump, here you can dump the information in without
24 having to do one at a time.

25 And then the transfer column in the center,

1 that's basically anybody that transfers. You just
2 select the equipment that's on your list. You have a
3 drop-down list of your clients. You select their
4 name, ABC Air Conditioning or whatever, and click in
5 or boom, it's transferred. It goes to your inactive
6 list. So the time amount and the amount of clicks is
7 very small and very short in time.

8 And then your contractor, you'll see on the
9 far right, basically does the same thing, but
10 obviously, there's going to be building permits,
11 install dates and that type of stuff, but I believe
12 that stuff, that information would probably just be
13 drawn over from the HERS registry, so it didn't have
14 to be duplicated either.

15 And then the final step is your HERS rater.
16 The HERS rater goes out anyway, so it's not a special
17 trip or anything like that. And you either pass or
18 you fail, like a normal HERS verification. And if it
19 passes, the HERS rater goes back and inputs the
20 information. And they collect the model number and
21 serial numbers and brand and everything already, so
22 they put that in anyway.

23 And then once they have that, I envision it
24 as probably a look up from the HERS registry tied
25 into the data registry, that takes the HERS rater

1 over there, and he just goes, click, click, click,
2 boom, and those pieces of equipment have been
3 installed. They've been permitted, and they've been
4 HERS verified.

5 So, this is the paper I just sent in for
6 docket, last night, really. So, you know, contact
7 information, et cetera. But primarily I see it as a
8 very simple process. And any of the arguments or
9 whatever that have been presented I think have
10 solutions, and they can be, it can be discussed.

11 I think the next step is basically doing a
12 feasibility and cost study. The CEC had RFP-16-403
13 recently. I think that needs to be resurrected.
14 There's people that have already done work on that
15 project. And then I think that would speed things
16 up.

17 And then at that point, somebody goes out
18 and speaks with the different stakeholders, the
19 manufacturers, and see what their needs are, see what
20 their complaints are, et cetera, and try to come up
21 with a solution.

22 But I think there are solutions out there,
23 and I think this will work. And I think it's the
24 only viable option that will meet our goals of energy
25 efficiency through compliance. That's it.

1 (Applause)

2 MS. ROBERSON: Thank you, Roy. Our next
3 panelist is Charlie McCrudden. He represents AHRI,
4 the Air Conditioning, Heating and Refrigeration
5 Institute. He is director of government affairs for
6 Daiken US Corporation -- did I say that right?

7 MR. MCCRUDDEN: Yes.

8 MS. ROBERSON: Perfect. Daiken US Corp. is
9 the parent company of Goodman, Amana, Daiken -- and
10 Daiken North America. He has served on several
11 Department of Energy working groups, including
12 appliance standards and rulemaking, and then central
13 air conditioners and heat pumps.

14 Welcome.

15 MR. MCCRUDDEN: Thank you. Thank you for
16 valiantly pronouncing Daiken correctly, but also my
17 last name, which is always butchered.

18 So, I just want to, since I'm in the later
19 panel, I did a little preamble to my presentation, so
20 I'm just going to read it, because I didn't have
21 really a chance to think about it and sort of
22 memorize it. But I do want to appreciate CEC holding
23 this stakeholder meeting. And I want to especially
24 commend them for doing a redo of the first
25 stakeholder meeting, remember we had a Webex problem-

1 - and I think that was very important.

2 So, I've been doing a lot of reading of the
3 transcripts, and I found that there's a lot of
4 stakeholder viewpoints that are aligned here. And I
5 think really, you're a couple -- your slides
6 testified to that, which I think are the first couple
7 of slides.

8 And I think we've all recognized that there
9 are really three compliance issues here. The first
10 is permits, second is performance and verification.
11 And we have to be careful not to misalign those,
12 because we're really talking about a couple different
13 things, different actors, different violations of
14 compliance.

15 Even though we have alignment I think there
16 is a fair bit of conflict or tension on how to -- how
17 do we get there? And that's why it's really good
18 that I think we're having this discussion. This is a
19 very complicated problem, and it's going to take a
20 lot of meetings and workshops like this.

21 I think there's an urgency here related to
22 the pending deadline that we have by the end of the
23 year. And I think that is unnecessarily sort of
24 stressing this discussion. I don't have a remedy for
25 that, because I understand it's a statutory

1 situation.

2 So, if that means more discussion, more
3 meetings, whether or not -- that's fine. You know, I
4 think the manufacturers here are willing to partake
5 in that discussion and want to be part of it.

6 Let me be clear. I am here as sort of
7 wearing two hats. That somebody else was wearing two
8 hats earlier -- yes. As AHRI and as Daiken.

9 So, let me get to my slides. Manufacturers
10 cannot predict where equipment is going to be
11 installed. Units leave the loading dock at the
12 factory and they go to distribution locations all
13 over the country.

14 From those distributions they go to other
15 distribution centers. And so -- and those
16 distribution centers don't respect state borders.
17 So, in many ways, it's impossible for a manufacturer
18 to predict what equipment will be installed in the
19 State of California. So, I think that's something
20 that's very, very important.

21 It's probably been said over and over again
22 in the earlier years that we've been discussing this.
23 But I have to reiterate that we have, as a
24 manufacturer, we do not know where a product will end
25 up, and I'll explain that further.

1 Manufacturers though are also not present at
2 the location of the violation. The violations are
3 being committed by individuals, either technicians,
4 and this is a term we have to use carefully as well.
5 They have technicians who are individuals. We have
6 contractors who are typically the companies. And in
7 this case, we have DIY homeowners. And I lumped the
8 DIY homeowners in there because there's a lot of them
9 out there.

10 And in some cases they think they know what
11 they're doing. Maybe they're former technicians.
12 Maybe they have a relationship where they can get
13 equipment. But we have to make sure efforts, as part
14 of this initiative, are aimed at the DIY homeowners.

15 Violations on the permitting only occur at
16 the point of installation, nowhere else. Licensure
17 is not a guarantee that permits are being pulled. We
18 know that. The data has shown that.

19 Digital tracking, that's the word I'm going
20 to use, digital tracking proposes new obligation and
21 burdens on entities, manufacturers and distributors,
22 that are not associated with these violations. That
23 is a point I'm going to reiterate.

24 Digital tracking proposes new obligations
25 and burdens on entities that are not associated with

1 these violations.

2 In our view, digital tracking will not lead
3 to higher compliance rates. It is unlikely to compel
4 scofflaws to change their behavior. They were likely
5 to evade detection by not filling out permits, as
6 they have been. Unless every piece of equipment
7 intended for installation in the United States,
8 either imported or domestically manufactured, is
9 digitally tracked, an incomplete paper trail will
10 lead to gaps. Every piece of equipment has to be
11 part of this or it fails. That is an overwhelming
12 and very untenable outcome.

13 Digital tracking will not find non-compliant
14 installations. HVAC equipment currently enters the
15 state via internet sales or across border
16 distribution. Investigations initiated at the
17 discovery of a not-in-compliant install won't always
18 track back to the installer.

19 So, someone goes in, they find a piece of
20 equipment. They realize there's no -- this was
21 installed. There was no permit filed. Where do you
22 go from there? You have sparse information that will
23 lead to the violator. Gaps like this in the serial
24 number track -- in the serial number list won't
25 identify the source of the equipment. It could be

1 coming from out of state, it could be coming from the
2 internet, it could be coming from in state.

3 The key to digital tracking is being able to
4 match the serial numbers from one list to the other.
5 So, if it's the list that has been -- if it's the
6 list from the permits, it has to match to the list
7 submitted by whatever entity is holding it first. If
8 you cannot make a match, serial number tracking
9 cannot work.

10 This is difficult to see, and I apologize.
11 I could not get this. What I've done here is tried
12 to create the -- the far left is manufacturer, ABC's
13 -- these are the 20 products that they've
14 manufactured in the year. Twenty. So, this is just
15 a small model.

16 The second column is those that were, that
17 landed at a distribution center in California. The
18 third is distribution centers near California, so
19 Arizona, Nevada, New Mexico, Oregon. The fourth is
20 serial numbers arriving throughout the rest of the
21 U.S. and Canada. And, finally, the last column is
22 serial numbers submitted by contractors with a
23 permit. And what I'm trying to show here is the gaps
24 that are there.

25 The top one shows -- and then it says,

1 XYZ001, landed at a distribution center in
2 California. It never shows up in the record. It's a
3 permit. Is it non-compliant? We don't know. Is it
4 still in a distribution center? Perhaps. Is it --
5 was it installed in Oregon? Perhaps. Too much
6 uncertainty there.

7 There are a number of outcomes that could
8 happen to a piece of equipment, whether it lands in a
9 distribution center in California, just outside
10 California, or in Maine.

11 I'm reluctant to say this, but I will say
12 this. You can take out your phone right now and you
13 can look on-line and you can go to eBay, and you can
14 find equipment for sale, and most of it has free
15 shipping. There are a couple of retailers out there
16 who sell these products on-line to anyone. There is
17 no way to control that product coming from out of
18 state. It simply can't happen.

19 We've discussed this many -- over many days
20 at the Regional Standards Enforcement working group,
21 as part of the DOE's original standards enforcement.
22 And many, actually, there were many other
23 representatives in the room at the time. In fact, I
24 think CEC was a member on that panel.

25 I don't want to oversimplify this. I don't

1 want to move on, but it's a little hard to read. So,
2 I'm just going to move on to the next one.

3 HVAC registries are not simple to create or
4 manage, okay. I showed them all here at 28 -- 20,
5 well, 20 serial numbers from a manufacturer. We're
6 talking about hundreds of thousands of units. We're
7 talking about foreign and domestic manufacturers,
8 okay. This is a massive amount of data. Knowing
9 that the equipment can come from the states -- from
10 into the state from out of state undermines that
11 whole process.

12 End runs have concerns about this data.
13 It's not a matter of who can see on a tracking web
14 site what's, what OEM's have submitted. That's not
15 the concern. OEM's are concerned about a breach of
16 that database. If you all know about the Target data
17 breach that released 40 to 60,000,000 Visa -- or
18 credit card numbers. We know it happened because it
19 was through HVAC.

20 A contractor in Monroeville, Pennsylvania
21 had his company hacked. They happened to the ESCO
22 for a Target in western Pennsylvania. They got from
23 the contractor's site to the Target store, to
24 Minneapolis headquarters of Target in three steps.

25 Now, that's Target's problem. They should -

1 - that should never have happened. But this data is
2 vulnerable. This is for a distributor and a
3 contractor, their good will. This is every -- this
4 is their business, and for manufacturers, too.

5 Yes, manufacturers do maintain records on
6 sales to distributors as part of the enforcement for
7 regional standards. That's information collection.
8 That is maintained by the manufacturer and turned
9 over to the Government only upon request. Submitting
10 that data to the Government is a completely different
11 situation.

12 There are practical and feasible solutions
13 here to -- and these are previously identified gaps
14 through reports from WHPA and others. And so I think
15 what I'll do is just, these are, I think, on
16 everybodys, but there's a couple that maybe are new.

17 On contractor education, public service
18 announcements, trade association outreach, dealer
19 networks, distributor counter info. Technician
20 certification and contract for accreditation are
21 crucial I think to making this a success. Continuing
22 education requirements. This is where the value
23 proposition is.

24 One of the things we were asked about is,
25 what do we bring -- is what can we bring, or whether

1 we have a value proposition. This is where it is.
2 For all the reasons everyone has said before, about
3 better installations, fewer warranty calls. This
4 makes the contractor population better. And this is
5 something that the industry has tried, but there are
6 a lot of contractors out there that we don't control.
7 There will always be some that will be, as I call
8 them, bottom feeders. But we will, I think, address
9 those in the middle first.

10 Homeowner and building and education is also
11 critical. Again, PSA's, I think if the homeowner
12 understands the potential loss of energy based on the
13 significant investment that they've made, that may
14 help changing their hearts and minds. So all of this
15 is part of what we feel as manufacturers, is the
16 solution and how we go forward.

17 Now I unfortunately have to leave in about
18 10 minutes to get to the airport. So I dropped this
19 all day and I'm going to scoot out.

20 So this is where I put my contact
21 information. If anyone does want to contact me,
22 that's fine. And I don't know if it's appropriate or
23 it could be part of the docket, if maybe if there was
24 any interaction, that we would -- that I could have
25 or the manufacturers could have, of anyone with

1 questions, to make it more fulsome. Because if I'm
2 not here -- I don't know if that's appropriate. So,
3 I'm looking to you, Judy.

4 MS. ROBERSON: I'm sorry. Could you repeat
5 that?

6 MR. MCCRUDDEN: So the question is, since
7 I'm not here to answer any questions that may be
8 posed, if someone does contact me and I enter into a
9 dialogue with them, if that could be docketed in any
10 way, or if that's appropriate. Because I don't want
11 to feel -- people to think like I'm putting this out
12 there and then leaving.

13 UNIDENTIFIED SPEAKER: You are.

14 MR. MCCRUDDEN: And it's been pointed out
15 that I am. Thank you. Okay.

16 MS. ROBERSON: Enter questions into dockets
17 or --

18 MS. HARO: (Indiscernible.)

19 MR. MCCRUDDEN: Okay.

20 MS. HARO: -- want that dialogue to be a part
21 of the record.

22 MR. MCCRUDDEN: And I'm pleased to do that.
23 So, thank you.

24 MR. MENDOZA: And for those on-line, the
25 answer was, yes, that can be entered into the docket

1 if there is a dialogue. Just as, you know, as long
2 as everyone knows that that's going to be made
3 public, and that will --

4 MR. MCCRUDDEN: Okay.

5 MR. MENDOZA: -- be available.

6 MR. MCCRUDDEN: Okay. Sure.

7 MS. ROBERSON: Thank you, Charlie.

8 (Applause)

9 MS. ROBERSON: And everyone can, you can
10 consider me the liaison or the hub of these
11 communications until a better one comes along. I
12 have building -- business cards -- building cards.
13 Business cards are at the back of the room. I had it
14 in my pocket. They will be on the last slide of the
15 presentation.

16 So, if you have any questions, any comments
17 about the process or the content, you can feed them
18 through me and I will do my best to connect you with
19 the right people.

20 Our next panelist is Alex Ayers. Alex is
21 with the Heating, Air Conditioning and Refrigeration
22 Distributors International, HARDI, and I'll let him
23 take it from here. Sorry.

24 MR. AYERS: Thank you for all of you. Thank
25 you for the CEC for hosting these workshops. I think

1 it's good that you guys are trying to get as much
2 stakeholder input as possible before coming up with
3 any kind of final rules on this one.

4 As I said, I am Alex Ayers. I'm the
5 director of Government affairs for HARDI. I'm based
6 in Washington, D.C., but I also do a lot of the state
7 level work.

8 First and foremost, you know, our mission is
9 to protect the channel for distributors between
10 manufacturers and contractors. Our role is as a,
11 such as a funnel. It's not just the OEM's that our
12 members buy from. We buy from everybody, from the
13 duct work, the, you know, the controls, everything
14 that goes into a tract installation. That is what
15 the key is to the distribution system.

16 We take all the various manufacturers and
17 put them into one place to buy all of that for the
18 contractors, to make it as easy as possible. For
19 that reason, we do our best to make sure that that
20 channel is protected.

21 Just a little bit, kind of as an easy way to
22 put this into a visual form of the HVAC, our value
23 chain. From manufacturer to distributors, our
24 members, to contractors, who then sell to consumers.

25 We have -- let's give four primary duties

1 that we provide. We are, obviously, the primary
2 source of equipment and supplies. We also serve as a
3 knowledge base whenever there's a question. Often
4 times we are also the source for the contractor to
5 submit warranty information. And then, finally,
6 training.

7 This is different from the training that
8 ACCA provides. This is very much specific to a
9 manufacturer. So, if, typically our distributors are
10 based around specific manufacturers, so anything that
11 is unique to that product line, we can teach to the
12 contractors and technicians. So, I did want to
13 clarify that it is different training than the ACCA
14 training that was mentioned earlier.

15 In this process, we spend a lot of time
16 looking at how we can help channel, and that's where
17 the training comes in, the knowledge base, is that
18 these are not services that we sell, these are
19 services we provide just as the cost of doing
20 business.

21 We look at it as our way to help our
22 customers, who then help their customers. So, we are
23 always looking for ways that help increase compliance
24 and make sure that quality installation is a number
25 one priority.

1 Unfortunately, the system is changing. As
2 technology grows, the method of distribution is
3 seeing some outside threats. And one of the things
4 that we are very concerned about through the digital
5 tracking process, is the rise of internet sales.

6 It's already common to see web sites like
7 this one. They sell split units that we're talking
8 about today. They also sell mini splits. They sell
9 furnaces and everything else.

10 I blacked out the manufacturer because there
11 is everyone. You can get just about any product over
12 the internet now. This one is just very common.

13 And even Amazon. Amazon will ship directly
14 to the consumer. Then they have to go find their own
15 installer. Chances are, because all of our
16 contractors work through distributors, you're going
17 to find the guy just with a truck who's going to have
18 the lowest level of service that we don't really want
19 to provide.

20 That's where we would protect the channel,
21 that protects the good contractors that are out there
22 doing quality installation.

23 As I said, we're also knowledge based.
24 Whenever there's a unique situation, a contractor can
25 talk to our members, you know, making sure that

1 they're doing the right equipment.

2 Talking about the correct installation of
3 that equipment, if there's a unique situation or --
4 and especially when you're getting into some of the
5 retrofits, talking about older systems, making sure
6 that you're not putting too much air through a small
7 duct work without having to replace that duct work.

8 And really, and this is kind of where the
9 value chain comes back to us. Is that on the
10 warranty side we are the source of the products that
11 -- either replacement or things that need to be
12 fixed. While the manufacturer does cover the cost of
13 that, there is a delay in that process. So, the
14 fewer warranty fixes that has to happen, the better
15 it is for distributors. So, in the long run we're
16 much better in that system.

17 Just kind of a few, last notes. There's
18 been a lot of talk about contractors that are
19 licensed versus unlicensed. Many people think that
20 our distributors will just sell to basically anyone.
21 We have very strict guidelines when you become a
22 HARDI member, as to who you are supposed to sell to.
23 You cannot sell directly to a consumer. Also, at the
24 same time, there are federal regulations about
25 refrigerant sales, 608 certifications, all of that.

1 Basically, our assumption is that you are
2 608 certified, most likely you would have also gone
3 through the process to have a C20 here in California,
4 or whatever your state regulation is. Because some
5 states -- we cannot mandate as a HARDI member to do
6 that, because not all states have licenses, but we
7 strongly urge that. And that's all I have.

8 (Applause)

9 MS. ROBERSON: Thank you, Alex.

10 One more panelist, and then we can all start
11 talking. Last but not least, Paul Thomas is the HVAC
12 strategy lead for San Diego Gas and Electric.
13 Welcome, Paul.

14 (Applause)

15 MR. THOMAS: Thank you so much. I want to
16 thank Commissioner McAllister, Lea Haro, and the rest
17 of the CEC staff for giving me this opportunity.

18 As an additional introduction because,
19 unfortunately, I did not give Judy my full
20 introduction in time. I am the strategy lead for
21 HVAC at SD&GE in the customer programs or energy
22 efficiency group.

23 And mostly what that means is, I'm working
24 on starting up programs, the new statewide programs
25 or HVAC programs that we're going to be having.

1 Those are going to be launching up in midstream for
2 both commercial and residential in about 2020 time
3 frame, and then a downstream residential pilot will
4 that will likely look something like a quality
5 installation, quality maintenance program about a
6 year after that. So that's kind of my day job, if
7 you will.

8 And although I have about 20 years of
9 experience in energy efficiency, I'm pretty new to
10 HVAC. So I've seen this on a panel last week, but,
11 once again, I'm really humbled by the knowledge and
12 the experience on the panel in the room, because I am
13 just learning so much about the HVAC industry and
14 market.

15 And one of the ways that I'm doing that is
16 by being currently on the board of directors to the
17 Western HVAC Performance Alliance. Which, if you're
18 not familiar, or if you have not -- or if you're not
19 familiar with us in our new reincarnation as the
20 Phoenix rising from the ashes, please look us up on-
21 line, and I think you'll find some great resources
22 there, and join us as well.

23 So there's two main takeaways I think that I
24 want to focus on for this, this presentation. And
25 the two main ways that the IOUs, that the customer

1 programs affect compliance for the HVAC market, is
2 codes and standards programs, and our energy
3 efficiency rebates associated with HVAC installation.

4 Now codes and standards, if you go to, I
5 think it's energycodeace.com. I'm looking at Jeremy
6 Reid (phonetic). Jeremy is with SDG&E. He serves on
7 their -- or manages our codes and standards programs.
8 We have some other representatives. I think Randall
9 Hegitt (phonetic) from SoCal Edison, as well as
10 Charles Kim (phonetic). So, talk to them about this
11 when you get a moment, and they've got lots of
12 information on this.

13 But Energy Code Ace program records the
14 standards. It's got tons of resources, tools,
15 educations, trainings on compliance.

16 Energy efficiency programs, where we offer
17 rebates and incentives, really it's about getting the
18 upper echelon of the product checks, right. It's
19 about offering incentives to get far above code,
20 hopefully, in terms of efficiency and what's
21 installed. So those are the two main ways that we
22 affect compliance. And we can talk a little bit more
23 about that.

24 But what I'd like to do is give a bit of an
25 overview, because, like I said, I'm a newbie. And so

1 I had to take in how we interact with the HVAC
2 industry and how we are going down the road, and some
3 of the history around energy efficiency with HVAC,
4 and HVAC programs in particular.

5 So I'm going to share with you kind of how
6 I've loosely put this all together in my mind. And
7 so we go back more than decade ago. The CPUC had,
8 they outlined this big bill strategy in the long-term
9 energy efficiency strategic plan. And that is that
10 HVAC will be transformed, or the HVAC market will be
11 transformed to ensure that it's energy performance is
12 optimal for California's climate. And this is kind
13 of a landmark document and guide for the energy
14 utilities and many other parties in this State. Much
15 larger than just the energy utilities.

16 And then you take that and you go into this,
17 into chapter six, your section six, which focuses
18 purely on HVAC, and then this vision was laid out.
19 And that's that the residential and small commercial
20 HVAC units will be transformed to ensure that
21 technology, equipment installation and maintenance
22 are of the highest quality to promote energy
23 efficiency and peak load reduction in California's
24 climate.

25 So, as I think about me learning through

1 this. I'm like, okay. So there's a big, bold goal,
2 and we're kind of honing in on a tighter vision. And
3 then in that chapter there were these goals that were
4 laid out, and I won't read all of these, but you see
5 the first one talks about consistent and effective
6 compliance.

7 And so, this document originally came out in
8 2008, 2009. I'm looking at my IOU colleagues. I
9 think it was about that time. And it was updated in
10 2011. I think that we are due for some more in terms
11 of updating it from there, but that's kind of another
12 topic.

13 But back then, I mean, this was front and
14 center as far as a need. And the IOUs, certainly
15 with our programs, are a piece of that. But there
16 was a recognition that there's a whole lot more in
17 terms of stakeholders and what needs to be done.

18 But out of this document, this guide, we
19 have these strategic problematic elements. And so,
20 the way I like to think about it is, our programs are
21 designed in these kind of buckets, if you will.

22 So the first up in midstream, to get the
23 right equipment, the high-efficiency equipment into
24 our marketplace, right, working with manufacturers
25 and distributors. I guess that this is going to be

1 going statewide in just a couple years. We're doing
2 work to prepare for that right now.

3 Quality installation. Now we've got the
4 right equipment in the marketplace of California, and
5 we're going to make sure that it's installed
6 correctly to optimize its performance throughout its
7 lifetime.

8 And then quality maintenance, to make sure
9 that equipment that was installed correctly, but
10 then, also, equipment that was already in place, is
11 being maintained for optimal performance throughout
12 its remaining life. And then all of those
13 programmatic elements, these strategies, are
14 supported by robust workforce education and training
15 elements.

16 And so we've got quite a bit in that area,
17 too. As a matter of fact, this center here, there's
18 one in Tulare that Edison has, one in Downey that the
19 gas company has, two for PG&E, and we have one in San
20 Diego as well. It's focused really on this education
21 and training, HVAC energy efficiency being a primary
22 part of that.

23 So this is how we kind of arrived at this
24 place, to provide some text from an energy efficiency
25 program's perspective, our, kind of our IOU

1 perspective.

2 Then as we keep continuing down the road,
3 these key impacts that are listed here are helping us
4 to refine and hone our portfolio of what we're
5 offering and/or able to offer. SB-1414 right there
6 on the first bullet of legislative, that we will not
7 offer an incentive or rebate -- by law, we're not
8 allowed to unless we have proof of permit closure.
9 And so that is one of the key ways that we're able to
10 affect compliance.

11 And then (indiscernible) and me, we're
12 constantly doing the impact evaluations or -- in the
13 State. The CPUC manages those, looking at compliance
14 and other related efforts around energy efficiency
15 for HVAC, and other programmatic areas.

16 We had stakeholder feedback from the WHPA
17 and other organizations. By the way, on the WHPA
18 we've got ACCA, ASHRAE represented, AHRI, HARDI, all
19 of what was in our board, amongst other organizations
20 as well. It's a really great diverse set of industry
21 stakeholders.

22 And then, like I said, workforce education
23 and training. And we have a specific programmatic
24 area, kind of around seminars that you see at this
25 facility here, but also, like I mentioned before,

1 associated with codes and standards and the work that
2 we do there. And then ET, developing new measures
3 for the future, and codes and standards as we kind of
4 push the line up higher.

5 So, I think that's about it. And, really,
6 it's about getting into questions now. And I know
7 what I'll do with questions, but --

8 UNIDENTIFIED SPEAKER: Does SB-1414 affect
9 downstream?

10 MR. THOMAS: That's right. SB-1414 only is
11 for the downstream programs. It's a clarification,
12 so.

13 MS. ROBERSON: Thank you, Paul.

14 (Applause)

15 MS. ROBERSON: All right. Now we can open
16 it up to questions and comments. Let me make
17 adjustment to this slide. Wait a minute.

18 MR. MENDOZA: Okay. We have one question
19 that came in from on-line. So, I'll go ahead and
20 start with that. The question's specific for Roy
21 Eads, and the question reads, "please describe who
22 you envision paying fees to in equipment registry
23 system, and at what points during the product
24 lifecycle? Okay.

25 MR. EADS: Is this live here?

1 MS. ROBERSON: I'm sure it's breathing.

2 MR. EADS: Is it live? Okay.

3 So, I think the first step is to prepare a
4 cost analysis and feasibility study. And then with
5 that information you can drill into it and get
6 accurate details, or at least more accurate
7 estimates. If I were to just start guessing right
8 now, it would be just off the cuff. So, that's what
9 I would recommend, is having a study done to be able
10 to come up with those pieces of information that are
11 accurate.

12 MR. MENDOZA: Thank you, Roy. And just to
13 clarify, that question came in from Jack McBursin
14 (phonetic).

15 Okay. Moving on to the blue cards. We've
16 got first up, Bruce Severance.

17 MR. SEVERANCE: Hello. Is this working?
18 Yeah. Okay. Yeah. The key thing I see is that the
19 business model for HVAC really needs to change. What
20 triggers the sale is an emergency replacement. It's
21 usually really cold or really hot outside, and all of
22 the sudden the homeowner realizes the system isn't
23 working properly. They don't come to that discovery
24 in the in between season.

25 So the HVAC contractor's showing up. He's

1 under pressure to get the box in by the end of the
2 day. He's got a crew that's got five other calls
3 just like that.

4 They're putting in whatever they happen to
5 have in the shop that day, to save the trip down to
6 the warehouse. They're not doing any heat and load
7 calcs. Permits are too complicated. They're
8 foregoing the process because they feel they have to.

9 So, obviously, streamlining the permit
10 process is important, but it seems like we really
11 need to make it convenient for the contractor to
12 replace ducts, not on that day, but on another day
13 when, in the off season, help them solve their off-
14 peak, slowdown problem that they experience in the in
15 between seasons.

16 Allow them to get a \$100 deposit. Require
17 them to get a \$100 deposit on that contract, even
18 though it might be deferred for six months, so that
19 the homeowner is motivated to call them back and say,
20 hey, remember that duct system? Weren't you supposed
21 to show up on March 15th? Where are you guys?

22 And then in the meantime, they should be
23 required to do a heat load calc, so that their sizing
24 the equipment properly for the loads of the home.

25 And this is not something that should take more than

1 an hour.

2 The guy answering the phone back at the
3 office could be doing that heat load calc while the
4 crew is on their way down to the warehouse to pick up
5 the equipment. And it's really not that complicated
6 to include the package of upgrading the ducts at the
7 same time.

8 That's the real problem here is, they're
9 trying to solve the problem so they're oversizing the
10 box, the air handler, and shoving it into a hole, and
11 not doing any of the math, and then not addressing
12 the duct leakage unless they get a call back. And
13 that's the culprit. So, the business model needs to
14 change, and there needs to be incentives set up to do
15 that.

16 CSLB rules need to change in order to
17 accommodate that scenario. The billing department
18 needs to accommodate the flexibility of maybe opening
19 a permit in January, and not closing it until June or
20 May or some other later date.

21 It would also allow the refrigerant charge
22 verification to occur when temperatures outside
23 accommodate that. So, there seems to be some
24 seasonal, you know, load shifting issues involved in
25 this. I just open up everybody's mind to those

1 possibilities.

2 I have to mention that I have run into a
3 number of situations where building officials and
4 building inspectors kind of refuse to do their job.
5 And as a contractor, I kind of demand that. But I've
6 literally had a building inspector throw CF1R's and
7 my load calcs in the trash in front of me, and I was
8 offended by this. And it was somebody I knew, and he
9 said, I just never look at that. We're a small
10 department. I don't have time to be bothered with
11 that. I don't require it.

12 Building officials need to be accountable
13 for doing their job. And if a HERS rater's
14 complaining about that, he needs to have a 1-800
15 number hotline to complain to about that. If
16 building officials aren't supporting HERS raters in
17 the field, why would they be motivated to do their
18 job?

19 MS. ROBERSON: Thank you, Bruce. Thank you.

20 MS. HARO: I would like to say that if HERS
21 raters or consumers are fighting issues in the field,
22 that if they call into the energy standards hotline,
23 someone will look into the issue.

24 MR. MENDOZA: John Lane.

25 MR. LANE: My name's John Lane. I'm a C20

1 contractor in the State. I've been contracting for
2 31 years. And I was speaking earlier in the morning
3 session. I'm also -- I didn't mention that I'm also
4 a HERS rater from CalCERTS.

5 I think what I want to say is, I don't
6 understand what the hoopla is. Currently right now,
7 a contractor has to draw a permit. He has to get a
8 CF1R, at least in some cities.

9 Cities are still not good in continuity, so
10 every city's a little different. But if we required
11 people, our contractors, homeowner/builder,
12 owner/builder or our contractors, to first, a, get a
13 CF1R from either a HERS rater or just go on the
14 CalCERTS registry, register, and then obtain the
15 CF1R, which is quite simple. Take the CF1R down to
16 the local city, get his permit, then go buy his
17 equipment.

18 So, the problem is, is the purchase of the
19 equipment. If we would just require a permit to be
20 associated with the sale of the equipment. I realize
21 that wholesalers don't want to be the police, but
22 they currently are already policing. They're already
23 stopping the sale of refrigerants if you don't have a
24 608 or a 609.

25 So, why not stop the sale of equipment and

1 other materials at the same place, and just require a
2 permit before the sale of the product is done.

3 If they buy the product on-line, they still
4 get it installed. You still have to go to the city
5 about a permit. You still have to get the CF1R. So,
6 we already have those things in place. You still can
7 go down to the CalCERTS registry and register with
8 the State Registry System. All that stuff's in
9 place. I don't understand what the hoopla is about.

10 Why we just can't require the CF1R, the
11 permit, purchase the equipment, install the
12 equipment, have your HERS rater, and then have an
13 inspection. I don't really see all why it's
14 difficult. I don't understand.

15 MS. ROBERSON: Thank you.

16 MR. EADS: Can I respond a little bit on
17 that? Yeah, and I appreciate the comments, sir. The
18 -- for simple changeouts, HVAC changeouts, a CF1R is
19 required, but the standards allow for a manually
20 completed CF1R to be submitted, because there's no
21 plans or anything that have to be checked.

22 But, eventually, before the inspections
23 happen, and especially before the final inspection,
24 well, then the CF1R will have to be registered with
25 the HERS registry.

1 And the other problem that you were talking
2 about was on weekends. That's always come up quite a
3 bit as far as having to have your permit to go get
4 the equipment. And sometimes there's just -- like a
5 lot of the building departmentss are closed on
6 Fridays.

7 So, you would block off the supply chain if
8 you had to have the permit, unless there's an option
9 method, like an on-line permit or whatever. But the
10 serial number tracking, which I referred to as the
11 "equipment registration," solves that issue.

12 MR. AYERS: One quick addition would be that
13 right now we do have a permitting timeline issue.
14 It's just that will a contractor want to wait four
15 hours to get a permit before going and buying the
16 equipment? That just delays the entire process.

17 If you can fix that it might be easier, but
18 that right now is a major roadblock that needs to be
19 taken care of first.

20 MS. ROBERSON: Thank you.

21 MS. ROBERSON: Kristin Heinemeier.

22 MS. HEINEMEIER: Thanks. And I think on
23 that, just to respond to that last question. The
24 other issue is that I believe a lot of installers
25 purchase a lot of equipment and have it warehoused.

1 They don't know yet where it's going to go when they
2 purchase it, so they can't, they don't have permits
3 yet at the point when they get the equipment. So
4 that would be difficult to do.

5 My question, I have a question for -- I'm
6 going to stand up -- for the gentleman from HARDI,
7 and gentleman from AHRI who's not here. And then for
8 the gentleman who's not from CalCERTS, not
9 representing CalCERTS.

10 I feel like I'm really, I haven't quite
11 decided how I feel about serial number tracking, or
12 whatever you want to call it. I feel like I'm an
13 undecided voter at a townhall meeting, and I want to
14 ask you like for some campaign promises here.

15 I want to know, you know, to the folks from
16 HARDI and AHRI, if we did not do serial number
17 tracking, I think we all recognize that there needs
18 to be a huge paradigm shift. That it's not going to
19 be, you know, a little bit more training or something
20 like that to solve this problem. We need to go from
21 like 10-percent compliance to 10-percent non-
22 compliance in just a few years.

23 How are we going to get from here to there,
24 you know, unless we do something dramatic like this?
25 What is it that you guys are bringing to the table

1 that you think will take big steps in solving this
2 problem?

3 And then to the folks that are -- you know,
4 and others in the room, who are supporting serial
5 number tracking, there are real concerns, you know,
6 real difficulties that this is going to create for
7 the manufacturers and distributors. And how can you
8 see facilitating that happening, making that easier
9 for the industry to participate in?

10 So, I don't -- I'm sorry for like -- I can
11 just barely see you. I'm sorry for, you know,
12 looking responsible -- I'm sure there are others that
13 are supporting -- that are opposed to serial number
14 tracking, but you're sitting up there.

15 So, what do you promise me if you get my
16 vote?

17 MR. AYERS: I would actually suggest that if
18 you really want to look at some of the ways that we
19 can fix the solution, go to other states. Look at
20 what other states are doing and how their enforcement
21 works, because no one else has a serial number
22 tracking system. This is a unique idea to California
23 right now.

24 So if you go and look at some of the other
25 states that have high code compliance, see what

1 they're doing. Look at how they do it.

2 UNIDENTIFIED SPEAKER: (Indiscernible) -- do
3 you know?

4 MR. AYERS: I -- one of the things that
5 comes to mind is Georgia. Theirs is largely, it's
6 from the distributor's perspective, they use an on-
7 line database to ensure that it's a licensed
8 contractor that's buying the equipment. That is not
9 currently a requirement here in California. So, we
10 can look at that.

11 I'm sure some of members would dislike the
12 idea if they have to look at a database every time to
13 find out if someone has a license, but if you do it
14 in similar fashion to the 608. We look once. You
15 know we have it. It's on file. That becomes much
16 easier. There's much less to go around.

17 But that does not solve the problem of the
18 non-licensed contractors getting out-of-state HVAC.
19 That problem does not also get fixed through a serial
20 number tracking system either.

21 So, I would say that some of the problems
22 that exist also can't be fixed by serial number
23 tracking, and so we shouldn't think of it as a silver
24 bullet, because it really isn't. And, quite frankly,
25 it will increase a lot of costs nationwide that will

1 most likely be passed on to only California because
2 this is a California system.

3 MS. HEINEMEIER: But it also doesn't solve
4 the -- the licensed contractor who is not taking out
5 a permit. Can you address that?

6 MS. ROBERSON: Kristin.

7 MS. HEINEMEIER: Sorry. That doesn't
8 address the licensed contractor who's not taking out
9 a permit, which is probably a large percentage of the
10 non-compliance that's happening. And I'd like to
11 hear from Mr. Eads.

12 MR. AYERS: I would say that you'd be better
13 to look at, what is the cost. Kristin this morning
14 talked about how there is a large cost to actually
15 going through the process, fixing that solution for
16 the licensed contractors.

17 MS. HARO: I'd also like to give the
18 representative from AHRI an opportunity to respond.

19 MS. CARPIZO: Good afternoon. Hi. So my
20 name's Marie Carpizo. I work with AHRI, and Charlie
21 McCrudden who had to leave, unfortunately, gave I
22 think a really great presentation in terms of the
23 manufacturer's perspective.

24 What we're encouraging in this discussion is
25 to look at the alternate approaches that we've

1 recommended in our joint statements with HARDI, as
2 alternatives to an equipment registry, serial number
3 tracking, whatever you want -- digital number
4 tracking, as sort of the end all sort of solution.
5 We can't expect overnight that the compliance issue
6 is going to be resolved, right? We have to look at
7 different approaches.

8 And one of the things that is troublesome
9 for manufacturers to swallow in terms of the idea of
10 digital number tracking, is one that he mentioned,
11 the data breach, which I don't see addressed in Mr.
12 Eads' presentation. How do we secure that data?
13 Again, it's not about sharing the information, it's
14 about securing that our information is protected.

15 So, some of the approaches that we looked at
16 was identifying the consumers. You know, educating
17 the consumers about the idea of working with a
18 licensed contractor, versus an unlicensed contractor.
19 Providing more education and training for their
20 contractor. On-line permitting.

21 I mean, I don't think we've really exhausted
22 these other approaches before going to the extreme of
23 an equipment registry system, where we know that
24 there are still unanswered questions in terms of data
25 privacy, in terms of securing the data for our

1 manufacturers, as well as consumers, especially with
2 the new -- I mean, we're in an era now of where
3 consumer privacy information is a hot topic.

4 With GDPR, California recently passed a
5 privacy law for consumer information. So we have to
6 look at this other consideration as a possible
7 barrier to anything that would be successful in terms
8 of a digital number tracking system.

9 So we're at -- we're urging stakeholders.
10 We're here to talk. We're here to, you know, to
11 engage in this discussion, provide our input. And we
12 hope that you can see some of the challenges that
13 we're seeing, that I don't think others have really
14 thought about.

15 So, I mean, that's why we're here. But
16 those are the main ones. Look at the other
17 alternative approaches. Let's exhaust those areas
18 first before we come to an end all for an equipment
19 registry system. That's our position.

20 MS. ROBERSON: Roy, would you like to
21 respond?

22 MR. EADS: Yeah. Okay. So I'd love to
23 respond on that. So, security and privacy issues and
24 that, I go into it in a little more detail on the
25 paper that should be docketed shortly, and the past

1 document. But the information that's collected, like
2 for instance, Johnson Controls just docketed a
3 comment just yesterday or day before. And they were
4 talking about, worrying about the privacy issue of
5 contractor's state license numbers and addresses and
6 information and phone numbers, et cetera, but none of
7 that information is collected. The only information
8 that needs to be collected is the manufacturer's
9 brand, the model number, the serial number, and then
10 who you transferred it to.

11 Now, that is not visible to anybody other
12 than that entity. They can see what they have had in
13 their possession and what -- and who they've
14 transferred it to. The person they transferred it to
15 cannot look backwards, and you can't look forward.

16 So, you can only look at what he has had in
17 his possession. He'll know who he got it from, but
18 that's just normal business practices. You know
19 where you get your -- you know, you have invoices and
20 receipts and stuff.

21 And then, so, there's -- the only data on
22 privacy, phone numbers, addresses and that, is
23 basically in your permit process and your HERS
24 registry, which is already existing, and security
25 issues have already been addressed there.

1 So, I don't see where there's a high threat
2 of privacy in the data registry that I'm envisioning,
3 because the information isn't collected in the first
4 place. So, if it's not collected, how can it be
5 compromised? Does that make sense?

6 MR. MENDOZA: Thank you, Roy.

7 Great question, Kristin. I did see a hand
8 that kept raising since you asked the question back
9 there. So, we'll give you a chance to make a comment
10 right now, and then we do want to stick to the blue
11 card process just to make sure that everyone gets a
12 fair chance to make a comment.

13 MR. ABRIL: My name's Dion Abril. I'm with
14 the Western States Council. As far as the registry's
15 concerned, I think it -- having the registry, we are
16 in support of the registry. What was my point that
17 you got me going on about -- okay. So, as far as the
18 registry is concerned, I think there was a, there was
19 -- as far as enforcement, that's what -- okay. I'm
20 sorry. I lost my train of thought.

21 It's a first step towards the enforcement.
22 Also, as far as trusting from the customer, I think
23 what it does is it makes -- there's an underground
24 economy out there right now. That the cash -- and I
25 understand you said that there's a certain, specific

1 person that you'll sell to, right, as far as there's
2 criteria that you have to have, that you'll sell to.

3 But the reality of it is, there's still cash
4 sales going on out there. And the problem with that
5 is, is that the customers know that, right, and a
6 good contractor will come in and actually state, hey,
7 you know, this is what you have to do.

8 Well, my neighbor got so-and-so to do it,
9 and he did it for cash, and it's 200 -- or \$2,000, or
10 whatever it may be, how come I have to pay \$4,000 for
11 that, and you're going to have to do -- he never did
12 a permit.

13 So, those type of things, I think a
14 registry, as far as that concern, can solve a lot of
15 that problem. But, also, as far as -- you know, just
16 basically, I guess that's the whole thing. I think
17 it can help out of a few different ways.

18 MR. AYERS: One quick note on the idea that
19 -- Mr. Abril hit the very underground thing, the cash
20 only. Where is that gentleman getting his -- the
21 HVAC system from? Is he buying it in Nevada? Is he
22 going over state line specifically to avoid the
23 tracking system if this were to exist?

24 MR. ABRIL: A lot of the times it's the same
25 thing. It's the weekend warrior that comes in and

1 it's not -- he's not going to drive to Nevada to go
2 get it and come back.

3 MR. AYERS: But if he's already doing this
4 underground, he's avoiding the tracking system
5 anyways. So he's going to want to avoid the tracking
6 system the entire time.

7 MR. ABRIL: Yeah. I would not -- I don't
8 think we are the ones selling it to him.

9 MS. ROBERSON: Okay. A minute. I'm going
10 to ask everybody to wait until your name is called,
11 and then speak into a microphone. We want to hear
12 what you have to say, but not all at once.

13 MR. MENDOZA: Okay. Next we have Wendy
14 Worrell.

15 MS. WORRELL: Hi. Wendy Worrell, Western
16 HVAC Performance Alliance, Inc. In follow-up to my
17 comments earlier that we have an extensive research
18 database, you will definitely see a lack of
19 information directly related to serial number
20 tracking.

21 That will be rectified. We have spent well
22 over three years of stakeholder time working on this
23 topic. But because it was so volatile, in our prior
24 iteration and the funding sources and the constraints
25 we had on us, that executive committee had made the

1 decision that discussion of that was off the table
2 because they could not come up with a position.

3 At this point, the board will have on their
4 agenda at the end of August to make a decision on
5 what we are doing with all of that hard work that was
6 done. We had a white paper that was developed, as
7 well as pro and con argument position papers.

8 And we do want to get information out. We
9 just want to make sure that it's being put out in a
10 way that is capturing and presenting stakeholder
11 opinions and perspectives. It's not going to be a
12 position paper from WHPA, but it will be information
13 that will inform, which is one of our
14 responsibilities in our mission as a non-profit.

15 So, I'm just letting you know that will be
16 forthcoming. We do have a lot of information that's
17 there. So, please be patient. We will get that out,
18 and I want to make sure that all the stakeholders
19 who've been involved and have shared much of the
20 similar conversation from here, it is already
21 captured in documents. And so we're working to get
22 that released.

23 MS. HARO: Thank you, Wendy.

24 MR. MENDOZA: Lindsey Hawes.

25 MS. HAWES: Hi. Lindsey Hawes, Center for

1 Sustainable Energy. I appreciate this really healthy
2 conversation around serial number tracking, equipment
3 registration, digital tracking, et cetera, whatever
4 name you want to call it. But I really feel like
5 this really needs to be an all-in approach, a multi-
6 pronged approach, if you will. But I think many
7 people have said it, not one single solution is going
8 to solve this problem.

9 So I want to kind of shift gears, if that's
10 okay, and talk a little bit about some of the other
11 solutions that have been proposed, specifically, on-
12 line permitting, automated verification, ongoing
13 commissioning and self-certification by contractors
14 at the time of installation, especially emergency
15 installs, that sort of thing.

16 Primarily I want to talk about these because
17 they all require involvement by local building
18 departments. At some level a local jurisdiction is
19 likely going to play a part in compliance, enforcing
20 implementation of these types of compliance levers.

21 And so, I'm just curious. I'd love to hear
22 from Greg, as well as others on the panel, or
23 contractors in the room, based on your experiences
24 working with building departments. What is actually
25 feasible here?

1 I mean, if the City of Davis, a super-
2 progressive city that passed a super-progressive
3 ordinance 40 years ago, can't get on-line permitting
4 after four years of lobbying from a very intelligent
5 and persuasive and successful chief building
6 official, is an on-line permitting system that is not
7 statewide going to work?

8 Is self-certification by contractors
9 adopted, you know, at the jurisdiction level, without
10 some sort of mandate from the Commission, or
11 legislation that says, you must adopt this type of
12 approach, is that a feasible solution? Because these
13 local jurisdictions don't have the resources to
14 implement these solutions on their own.

15 And even if we were to take the approach to
16 require them to implement, unless there are
17 significant resources handed to them, to then follow
18 through on those requirements, I have serious
19 concerns about the success of those approaches. So,
20 I think that's something that I'd love to hear from
21 folks in the room. Thanks.

22 MS. ROBERSON: Thank you, Lindsey.

23 Panel?

24 MR. MAHONEY: Do you want me to speak to
25 that? Now I'm embarrassed that I aired my dirty

1 laundry. But, no, I think we are going to, we are
2 going to see on-line permitting. And the IT manager
3 tells me it's the vendor now that's slowing this up,
4 but I think it's the answer.

5 And I just -- for me to really comment on
6 what a statewide on-line permitting program would
7 look like, I'd have to see it. I'm not convinced
8 that at this point that a statewide -- adding another
9 layer of bureaucracy is going to make it easier. But
10 I understand where you're trying to get to, and I
11 think on-line permitting, yes, would remove a huge
12 barrier.

13 And while I have the floor, can I comment on
14 Bruce's comment? So the heating load calcs are not
15 required by code on a HVAC changeout. So, although
16 that building official's behavior may be
17 unprofessional, that was not something that's
18 required for a permit. And --

19 MR. SEVERANCE: But a CF1R is.

20 MR. MAHONEY: Well, if you were doing on-
21 line permitting, the CF1R would not be collected by
22 the building department, it would be filed with the
23 provider. So, I don't know that can -- like I said,
24 the unprofessional behavior, I would say, not doing
25 his job. I wouldn't go that far.

1 And not that it makes any difference, but I
2 think it takes a lot longer to do a load calc than on
3 hour. It probably takes an hour just to drive to the
4 site to collect all the data, in other words, all the
5 data. But, anyway. Unprofessional behavior, not
6 necessarily not doing his job.

7 MS. HAWES: Can you speak to some of the
8 other things, like self-certification and --

9 MR. MAHONEY: Self-certification for?

10 MS. HAWES: Installation by a contractor
11 that been preapproved. You said something like that?
12 Sorry.

13 MS. HARO: Can we just remind people in the
14 room to speak in the mike, so that the court reporter
15 can capture it, and the people on WebEx can hear it.

16 So, can you repeat the question?

17 MS. HAWES: Would you mind, or anyone else
18 mind speaking to some of the other solutions that
19 trigger -- that are, I guess, affected by building
20 departments. Things like self-certification on
21 installations, self-certifying by the contractor if
22 they've been preapproved, say by the jurisdiction to
23 be able to self-certify? That's what's happening in
24 some places for certain installs.

25 MR. MAHONEY: I would say regarding self-

1 certification, as a general rule I typically think
2 it's not worth the paper it's written on. Though,
3 you know, it keeps honest people honest. And if
4 there was a rigorous process to approve contractors,
5 you know, then that would -- could be something that,
6 you know, you could look at.

7 The problem is, when you approve some
8 contractors and don't approve others, then the
9 contractors who are not approved, they -- I've been,
10 you know, personally threatened to be sued because I
11 took a contractor off of a list. And as an
12 individual, sued as an individual. So, it's kind of
13 a slippery slope when you start saying who can do
14 something -- which contractors can do it and which
15 ones can't. And I have a lot of experience with
16 self-certification, that often times the dishonest
17 people will just, well, they'll sign anything to get
18 their permit filed. And not even small contractors,
19 very, very large contractors.

20 MR. MENDOZA: Okay. We have a hand raised
21 on-line. We have George Nesbitt. I'm going to
22 unmute you, George. Can you hear us?

23 MR. NESBITT: I can hear you. Can you hear
24 me?

25 MR. MENDOZA: Yes.

1 MR. NESBITT: Yeah. George Nesbitt, HERS
2 rater and a contractor. God, I can't -- I don't even
3 want to say. It's such a big problem. We -- I see
4 -- well first, I want to just start out, the City of
5 Davis program a time of sale, I think's a very
6 successful program, but I think it also points out
7 that even though it's been around for so long, all
8 the realtors should know about it, all the homeowners
9 should know about. You still have people who come in
10 late, people that have done work without permits, so
11 on and so forth. So it's done a lot of good things.
12 It's successful. It's probably helped drive more
13 people to get permits up front, but it's still not
14 easy, and there's probably pressure to back off. So,
15 we can't expect we'll ever get to where -- a perfect
16 point.

17 You know, the only, the only true silver
18 bullet would be if every installer was committed to
19 designing, making the right choices, and installing
20 things right. And we're not going to get there
21 either.

22 So, it's a matter of making a lot of changes
23 to make things easier, but still making sure things
24 get done right. But not making it so complicated,
25 and I think, you know, the problem is, we do have

1 processes that -- I mean, honestly the HERS process
2 is pretty messed up.

3 And I can see where I, as a general
4 contractor, I have refrigerant certification. I've
5 also been trained to properly design and install
6 systems. That you could create a system where I
7 can't buy a piece of equipment, even though I am
8 qualified.

9 So, you know, if we make too many
10 restrictions, where you can't buy equipment without a
11 permit, and you can't do this without that, that it
12 makes it harder, and it makes, more likely, people
13 just underground.

14 And so, if we can reduce some of the upfront
15 bill errors, but still make sure that things are --
16 so you don't require a load calc to get a permit, but
17 you still require it before your final. You know,
18 don't require a CF1R when you issue the permit, but
19 you certainly require it, or at least 2R and a 3R,
20 you know, that kind of thing.

21 That I'd say the downside to that sometimes
22 in my experience in programs is, yes, you're supposed
23 to have named a HERS rater up front. If they don't
24 do it, they get to the end of the process, they call
25 us, and it's too late. So, it's really a delicate

1 balance of each --

2 MS. ROBERSON: Thank you, George.

3 MR. NESBITT: -- between trying to get
4 things done.

5 MR. MENDOZA: Okay. Next we have Dave
6 Winningham.

7 MR. WINNINGHAM: Hi. I'm Dave Winningham.
8 I work for Lennox International. I'm the senior
9 engineering manager of regulatory affairs for Lennox,
10 and we are a HVACR manufacturer.

11 I think most of the people in this room --
12 and I really appreciate the discussion. They're well
13 aligned around what the goals are. And everybody
14 wants to produce a good product, have it installed as
15 it's intended, and the consumer really reap the
16 benefits.

17 But we've also discussed the cost of
18 compliance, and I've heard a lot of the data
19 regarding the energy lost, but, apparently, that
20 doesn't resonate with consumers.

21 I think one of the fundamental keys that may
22 be missing here is a generation of somehow, something
23 that the consumer can understand the benefits.
24 What's in it for me?

25 Thirty-percent duct loss doesn't mean

1 anything to a consumer. What does it mean to my
2 monthly bill every month? And to put together some
3 typical scenarios that tell that story. You know,
4 can see -- you see work with the industry to invest,
5 to build verifiable data that demonstrates the value
6 of a compliant installation to consumers, and, you
7 know, make that public.

8 The other thing, just listening to the
9 conversation today, it seems like we've got a lot of
10 processes that are broken, or the perception of them
11 being broken, and maybe overly stringent or
12 prescriptive requirements in a process that is overly
13 burdensome.

14 I think one of the first steps, just as in
15 any business, is going to do things that provide
16 value to their business, as well as their customer.
17 To kind of walk through the current requirements, as
18 well as the process top to bottom, and do a value
19 analysis. What's the cost of doing this, and what's
20 the benefit, and to eliminate the ones that don't
21 provide a reasonable value proposition.

22 And it's not something that's done simply or
23 easily. And there's going to be probably rigorous
24 debate around it, but I think to get where you want
25 to go, to reduce the cost, the overall cost to the

1 consumer, and to provide a quantifiable, if you do it
2 right, here's what's in it for you, is critical.

3 Otherwise, we're just going to kind of
4 continue, continuing the cycle and people -- you
5 know, this is a very, very competitive business, very
6 competitive industry, from a manufacturer to
7 distributor down to the contractor level. And until
8 everybody can kind of get on the same as, what's in
9 it for the end consumer, I think it's still going to
10 be a struggle.

11 MS. ROBERSON: Thank you.

12 MR. MENDOZA: Next up we have Marie Carpizo.

13 MS. CARPIZO: Hi. So, I have a question for
14 Cynthia Moore. I know you talked a little bit about
15 the disciplinary practice, and about identifying
16 those, I guess, licensed contractors that are in
17 violation. And you mentioned sort of like, I don't
18 know if you want to call it like a shame law, where
19 the citation is disclosed to the public for five
20 years.

21 I was curious to find out, how much, how
22 much are -- are people actually using that? Are we
23 seeing folks, the public, the consumer, going to that
24 site? Are they aware that that site, that
25 information was available for them to find those

1 contractors that are in violation? I mean, are you
2 seeing a lot of internet, you know, foot tracking in
3 that area? I'm just curious to find out in terms of
4 how public is it to the consumer to see, and if
5 they're aware of it. Do they know that exists? If
6 it's a resource for them.

7 MS. MOORE: It is on our web site, and it's
8 part of the license look up, when you look up a
9 license. We do have people call and they ask about
10 the different citations and different legal actions.
11 I don't have any data for you, unfortunately, but,
12 again, the problem is, does the consumer care that
13 this contractor is in violation of not pulling
14 permits. Some do, some don't. Some are very, very
15 concerned, and some do not care.

16 So, unfortunately, I don't have any data for
17 you to check for traffic and things like that, but it
18 is -- it does show up on the license record itself
19 under disciplinary actions. It's not in any other
20 separate place.

21 MR. MENDOZA: Michael Thompson.

22 MR. THOMPSON: Just a quick question for
23 Roy. With regards to an equipment tracking system,
24 why would the manufacturers have to be involved at
25 all? When I get a license plate for my car in

1 California, Ford has nothing to do with that. Why
2 doesn't the tracking system just start at the
3 distributor and go from there?

4 MR. EADS: I guess that's a question that
5 would have to be discussed thoroughly. You know, my
6 original reasoning is, just get it at the beginning,
7 then just follow it through, so that you don't have
8 missing steps or whatever. So, if it comes from the
9 factory, there it is. And then if it goes to the
10 supplier, it's clear.

11 It, possibly it could leave the manufacturer
12 with an option to not record everything or whatever,
13 and then the suppliers necessarily don't have to
14 record, because the manufacturer didn't record. So,
15 I just think all parties, it starts at one point, and
16 that piece of equipment has been numbered, serial
17 number, model number, et cetera, let's just track
18 that to each step of the way, and it's basically just
19 a transfer of possession.

20 So, if you get from the beginning, then
21 there's no sidetracks that it will take in the
22 meantime. I'm just thinking -- I don't know if that
23 makes sense. I'm thinking that there's a, I'm
24 thinking that it leaves a loophole for a little bit
25 more imperfection of the system if you start at the

1 second level, rather than at the first level. But
2 that's definitely something to consider and think
3 out.

4 MR. MENDOZA: Barbara Hernesman.

5 MS. HERNESMAN: Thanks, Lea.

6 Barbara Hernesman from WHPA. And I've been
7 listening in -- quite attentively. The thing that
8 I'm hearing the most is, is that it seems like
9 everybody wants a step-by-step solution. Somehow
10 you're all talking about it from this one -- pointing
11 fingers.

12 And I think the thing that I'm back there
13 thinking about is, so, why not collectively bring
14 these people together, that includes the consumer and
15 the manufacturer or distributor -- I've highlighted
16 the manufacturer/distributors, to stop talking about
17 what the problem is but identifying a very specific
18 tactic.

19 And I think the thing is, is that, you know,
20 anything you do is, if you put it out and you do one
21 thing, and next year you do an analysis of, did it
22 work or did it not work, then you can modify
23 anything, right?

24 We do this in -- when you are -- when I'm
25 wearing my contractor hat, which I'm not in this

1 particular case, but basically the bottom line is, is
2 so, the thing I'm hearing the most is, you want to do
3 something.

4 So, how about we put a step-by-step process
5 together, where we collectively gather up the
6 stakeholders, they sit in a room and they talk about
7 it in -- you know, like we're doing right now, but
8 you don't get to walk out of the room without a
9 tactic.

10 And then when -- and then we do the tactic.
11 Not just talk about, but we do the tactic. Because
12 I'm listening and, you know, the consumer's part of
13 it, the contractor's back here in the back, you know,
14 not to point fingers, but they're having good
15 conversations back here that we're not hearing. And
16 that's the part I think we're missing.

17 So, here's a shout out. Let's let entities
18 who do this really well, get these folks together in
19 a room, facilitate this, come up with answers. Put
20 together a plan for the first year through five
21 years, and we modify it as we move along and we find
22 out what works and what doesn't work. And stop
23 pointing fingers at each other, but everybody take
24 some responsibility.

25 MS. HARO: Thank you, Barbara. Are you

1 offering to --

2 MS. HERNESMAN: I'm not sure I'm --

3 (indiscernible).

4 MS. HARO: So, yes, the WHPA is offering?

5 MS. HERNESMAN: The WHPA -- (indiscernible).

6 MS. HARO: Okay. That sounds great.

7 MR. MENDOZA: All right. Up next we have

8 Bob Wiseman.

9 MR. WISEMAN: Thank you. A lot of great
10 discussion, and thank you, everybody. I love it.
11 Just, you know, just, I just want to point a point.
12 You know, IHACI at this point does support some kind
13 of serial or data or some type of tracking, but with
14 a very limited scope. You know, quite honestly, I
15 would never bring the manufacturers into a process
16 like this, because it doesn't matter, you know. You
17 know, the simpler something like this is, the better.

18 I've heard some version of serial number
19 tracking that are absolutely frightening, and I
20 wouldn't have anything to do with it, you know. So,
21 it's important that we remember, all data tracking is
22 not the same.

23 You know, contractors don't want to be the
24 enforcers, distributors don't want to be the
25 enforcers. Nobody wants to be the enforcer, and I

1 understand that, you know, quite honestly.

2 So, you know, quite simply, you know, if a
3 contractor does his job, pulls permits on his job,
4 they should never hear from the Government. They
5 should never hear from it.

6 If a distributor sends out a list of say,
7 here's what, you know, equipment was sold, that
8 should be the end of it, you know, unless there's,
9 you know, unless that contractor, that list that
10 they've sent out and it's matched with those serial
11 numbers doesn't, you know, doesn't jive up. And it
12 doesn't -- then the contractor has to be contacted
13 and dealt with. But the simpler, the better.

14 One of the slides up there, you know, and
15 then, unfortunately, he had to take off. But we
16 know, you know, manufacturers may not know where
17 equipment's being sold, but distributors do.
18 Distributors know if they sell me equipment. They
19 could make a list of that equipment. They can't --
20 do they know where I put it? Not necessarily. You
21 know, but if it doesn't match up with a HERS number,
22 then that could be a problem.

23 One of the other points I want to make, and,
24 you know, this is a difficult thing. But, you know,
25 the idea of on-line purchasing, you know, and the

1 stuff coming in over the borders.

2 You know, I tried to buy, you know, a couple
3 weeks ago I tried to buy an ozone generator. Because
4 they remove air, you know, they remove odors from the
5 air and so forth. I tried to buy it and get it
6 shipped to me.

7 Well, Amazon wouldn't ship it to me. Why?
8 Because it's in the State of California. And the
9 California couldn't take it, okay, because, and it
10 just said very clearly, I'm sorry, you're not in area
11 that this can be shipped to. There are mechanisms
12 out there to deal with this kind of stuff.

13 The same thing with ammunition for weapons
14 and so forth. I'm not a gun guy, my neighbor is. He
15 cannot get, you know, ammunition shipped to him.
16 Okay. There's ways to stop this. You know, and it
17 works. I understand.

18 You know, could there be a distributor in
19 the corner in Arizona, Nevada some place smuggling
20 something across the Colorado River? Sure, but
21 that's not our model. I'll leave it at that.

22 MS. ROBERSON: Good timing. Thank you, Bob.

23 MR. MENDOZA: Eric Taylor.

24 MR. TAYLOR: Hi. My name is Eric Taylor.

25 I'm from the California Energy Alliance. I'd like to

1 keep going off of Bob. That was perfect. We didn't
2 plan it this way either.

3 I was on the WHPA, and I was the pro side of
4 serial number tracking. And I agree with the
5 gentleman that was here earlier, that that's
6 impossible to track. I mean, that isn't -- that's a
7 nightmare. And I disagree with the plan that you've
8 come up with as well. But there is a very easy way
9 of doing this that's very simple, and I'm just going
10 to make the recommendation and throw it out.

11 And the recommendation is, is that the
12 California Energy Commission creates their own
13 numbering system. And it's in a database. And this
14 numbering system is a manifest system to where they
15 send the -- a manifest to the distributors. And the
16 program becomes tag, you're it.

17 And so what happens is, is that a contractor
18 or a technician comes, picks up an air conditioning
19 system out of the warehouse, and just like the DMV
20 tags, the OEM has a manifest that came from the
21 California Energy Commission, and he tags the air
22 conditioning system with this tag.

23 And, basically, there is no address. There
24 is nothing. You just know that that air conditioner
25 went to that contractor, and that contractor has to

1 be a licensed contractor. You guys said that you
2 don't sell to unlicensed contractors, then that
3 contractor has to have a license. So that that
4 license number is going to be created in a database
5 of how many air conditioner systems that he has. Now
6 it's audible.

7 And so then the Commission can basically
8 once a year ask the distributors, send in your
9 manifests. That will give you an idea of how many
10 air conditioner systems came into the State, and then
11 went to the HVAC contractors.

12 So that's the one idea. And we are going to
13 be filing that system that -- on the docket as well.
14 And just remember, tag, you're it. That's going to
15 be the name of the -- so, number two is what the --
16 the work that the WHPA did is just fabulous. I mean,
17 you guys worked for years and years.

18 I was on the committee, and it was really
19 disappointing when we finally got to a point that we
20 were -- we thought we had something that was going to
21 work. And it just, we weren't allowed to talk about
22 it anymore and we couldn't figure out why.

23 But now seeing the other side, and looking
24 at the processes, I know that that's going to be
25 really difficult. So, that's my comments.

1 MS. HARO: Thank you, Eric.

2 MR. MENDOZA: Okay. We're going to go to a
3 hand raised on the WebEx. We have Elsia Galawish.
4 Can you hear me?

5 MS. GALAWISH: Yes. Can you hear me?

6 MR. MENDOZA: Yes.

7 MS. GALAWISH: Okay. Great. This is Elsia
8 Galawish, the Associate Director of WHPA. And after
9 listening to all the discussion, I would like to
10 notify everyone that a lot of the issues being
11 addressed here contain WHPA board's approval. We
12 have the manufacturer who is very interested in
13 forming a subject matter committee of manufacturers
14 and distributors, to ensure that they are part of
15 actively working towards a solution for these, what I
16 consider volatile topics.

17 I just wanted to let everyone know that,
18 and that shortly that will be coming. Thank you.

19 MS. HARO: Thank you, Elsia.

20 MR. MENDOZA: Thank you, Elsia.

21 Next we'll have Lindsey Hawes.

22 MS. HAWES: All right. I want to shift
23 gears one more time. This time I am interested in
24 next steps. So, I know that the Energy Commission is
25 collecting all of this fantastic stakeholder feedback

1 through this excellent process. That we may see
2 additional processes facilitated by WHPA.

3 We know that the statewide HVAC admin,
4 SDG&E, is looking to go out to third-party program
5 implementation, most likely in the near future.

6 So, I have a couple, I guess multi-pronged
7 question for SDG&E. To what extent do you anticipate
8 your RFA and RFP for statewide HVAC admin would align
9 with what the Commission is working on right now, and
10 will the timing work out? Like will you wait to hear
11 the guidance from the CEC before you go to bid?

12 And then for the Commission, how do you see
13 this implementation happening? Like are you going to
14 re-release that RFP? Do you know yet? What do you
15 envision in terms of once you determine your
16 guidance, helping get that back, helping get that --
17 facilitating some action being taken on the, I guess
18 it was the serial number tracking, for lack of a
19 number -- lack of a -- what was the RFP, for
20 feasibility study?

21 UNIDENTIFIED SPEAKER: 16403.

22 MS. HAWES: Four-o-three. That was it,
23 16403. That's fine. Thank you.

24 MR. THOMAS: Okay. Well, hold the
25 microphone close, because I may need to ask a

1 clarifying question.

2 But Paul Thomas from SDG&E. So we have the
3 lead PA for a substantive HVAC programs. The two,
4 two HVAC programs that are going statewide, up in
5 midstream, and that's both for residential and
6 commercial. And then downstream residential pilot.

7 The downstream residential pilot is not
8 anticipated to launch until 2021. Back up, I think
9 about 18 months. That's when the RFA starts. So,
10 plenty of time on that end. And that would be the
11 one that I think this would apply more to, because
12 that's where we get into actual installation.

13 The up in the midstream, these I don't --
14 depending on what comes out from the CEC, I don't
15 know how much it would apply to the upper midstream
16 side of the program. But we do work with
17 distributors, so if it was something along those
18 lines, we'd have to see how that shook out. But we,
19 I think we have some time there as well.

20 We are not planning to go to RFA until, I
21 believe -- it moved on me, so bear with me. But I
22 believe it's Q1 of 2019. That's RFA. And so RFA, to
23 select, you know, bidders, that would go into the RFP
24 phase.

25 And then, once again, we're not talking

1 about launching the program, because the negotiations
2 take place once an implementer is selected, launching
3 the program in 2020. And so, there's some time with
4 that as well. So, does that answer the question
5 though? Okay. Good. I was nervous about it.

6 MS. HERNESMAN: And to answer the rest of
7 your question, so, in terms of implementing this
8 plan, so we are waiting to see what the results of
9 just public process will be before we have
10 recommendations that could determine what the
11 appropriate next steps for implementation will be.
12 So that will be part of the plan.

13 MR. MENDOZA: Up next, Marie Carpizo.

14 MS. CARPIZO: Hi again. So, I want to go
15 back to Mr. Roy -- Ead is your last name?

16 MR. EADS: Eads.

17 MS. CARPIZO: "Eads." Sorry. So I wanted
18 to go back to more talking about your proposed plan
19 for a digital number tracking system.

20 In my -- in our comments we raise some
21 concerns about the logistics of it, who would be the
22 agency that would be monitoring this tracking,
23 monitoring this information. Obviously, there's
24 questions about training, hiring staff. There's
25 questions about funding. Where do you see the

1 funding coming from?

2 So, there's a lot of questions in terms of
3 implementing something statewide like this. How you
4 -- I have not read your full report, so how -- and
5 from your presentation. Could you kind of walk us
6 through how you envision this system, the digital
7 number tracking system being implemented, and, you
8 know, the logistics and stuff like that. Is that too
9 difficult to track?

10 MR. EADS: Okay. Again, I don't have all
11 the answers for you. So, I came up with the concept
12 and threw it out there.

13 The -- I am recommending or suggesting a
14 survey, you know, a feasibility study, and talk about
15 those things and try to determine where it's coming
16 from. The enforcement is the strong issue. They
17 say, where is that going to come from?

18 Initially, you may be able to get funding
19 from imposing fines. But if the system works, well
20 then that money would dry up at some point.

21 So, I don't know. The CSLB, I don't think
22 they have additional funding to do something like
23 this. I won't speak for them, but my premise is that
24 they don't. So, that's something that the CEC I
25 think has to take into consideration, you know, and

1 try to determine that.

2 But I don't have all the answers. I'm just
3 throwing it out, and I'm just trying to think on a
4 simplistic method. You know, it's like, don't make
5 it more complicated than it is, and try to make it as
6 simple as you can. And then, hopefully then, that
7 will be more likely to survive.

8 MS. CARPIZO: So, these are definitely
9 questions that need to be answered, right --

10 MR. EADS: Yes.

11 MS. CARPIZO: -- before investing time,
12 resources, money, stuff, into something like that.
13 That we, you know, as stakeholders need to really
14 start talking about when it comes to a digital number
15 tracking system. So, you know, we've posed some
16 questions out there. We're just trying to understand
17 how a digital number tracking system can actually get
18 down to that level of identifying those non-compliant
19 contractors. How is that going to solve the solution
20 (sic)? Because I still haven't in my mind -- and I
21 don't know if anyone else is, has it already figured
22 out, how does that get down to the person that's not
23 in compliance? How does that digital number tracking
24 system get down to finding that person that's not in
25 compliance?

1 MR. EADS: We have a hand in the back there.
2 Do you have a response or -- or was that a question?

3 COMMISSIONER MCALLISTER: I wanted to just
4 inject something real quick here. So this
5 conversation has already taken place multiple times
6 in the California legislature. And there's been a
7 lot of work, you know, already in, you know, WHPA and
8 others. I think -- I don't think there's a lot of
9 sort of unknowns here. Like I think a lot of these
10 questions have been vetted already. But it takes
11 resources. And so I think that point, I just wanted
12 to build on that.

13 So, the main idea has been that the
14 legislature, you know, essentially either through a
15 budget change proposal or a bill, you know, gets some
16 resources to the Energy Commission to build this
17 thing. And so there just hasn't been consensus about
18 whether this thing ought to be built.

19 And so, part of the idea in this report,
20 okay, and where it goes later is, you know, the
21 question is, is this going to be a recommendation in
22 this report?

23 And if so, what are the sort of, you know,
24 salving -- you know, other than complementary
25 policies that we might put in place to sort of make

1 it palatable to the industry, or to the opposition of
2 this idea, right, and that might be, you know,
3 facilitation of permitting, it might be investing
4 money, you know, resources in sort of, you know,
5 regulatory energy and, you know, admin energy in some
6 kind of permitting facilitation tools and stuff like
7 that.

8 You know, many of the ideas here complement.
9 And so, I think our task here, I just want to keep us
10 on point, is to try to figure what combination of
11 efforts is the, you know, one, two, three, four
12 priorities that is going to move this conversation
13 forward and get us where we want to go.

14 And so, I think -- you know, again, we are
15 going to have to be open to things maybe we don't
16 want as much if we are expecting to get what we do
17 want. And so, I'm just going to exhort again,
18 everyone to kind of approach this with an open mind,
19 and not just try to shut down other people's idea.

20 MS. HARO: Thank you, Commissioner.

21 MR. WISEMAN: Thank you. I was just going
22 to respond to how a tracking system would get you to
23 a contractor who's doing illegal installations.

24 MS. ROBERSON: Well, Bob Wiseman.

25 MR. WISEMAN: Bob Wiseman, IHACI. Thank

1 you.

2 You know, if a distributor has a list of the
3 equipment that I have purchased, that list with that
4 serial number can be put in a database. And that
5 database can be compared against the HERS registry.
6 Okay.

7 Now, the HERS registry is the culmination of
8 the permitting process. The, those two databases can
9 be compared and identify the contractor who didn't
10 install equipment with a permit. You know, you'd
11 have a list of stuff, you know, from the HERS
12 database, and you'd have a list of equipment from the
13 distributor database. You know, and if there's not a
14 HERS rating for each of those pieces of equipment,
15 there's something wrong. You know, and, you know, it
16 would allow for that ability.

17 You know, one of the fears, of course, is,
18 well, somebody types a number wrong, or somebody
19 makes, you know, a mistake. You know, I would
20 encourage the Commission, and we're not -- nobody is
21 going to look for 100-percent compliance here,
22 because there's going -- if this goes forward, there
23 would -- there could be potential problems. You
24 know, I mean somebody wrote down a number wrong.

25 If somebody doesn't have one serial number,

1 are we going to take the next, you know, three months
2 and try to track down that serial number? Let's hope
3 not, okay, because that's kind of defeating the
4 purpose. But by the same token, you know, this does
5 give us the ability for that, those small contractors
6 -- and I'm not picking on small contractors, because
7 I was a small contractor. But, you know, it's very
8 easy for them to get out of the process, and this
9 literally levels the playing field for everybody.

10 MS. HARO: Thank you, Bob.

11 MR. THOMAS: Okay. Are we allowed to
12 comment at will? Okay. I sure hope I don't get
13 myself into trouble.

14 MS. HARO: Paul Thomas.

15 MR. THOMAS: Paul Thomas with SDG&E. And,
16 you know, one of things that I'm going to pull out
17 from Bob's comments, I work with Bob quite a bit on a
18 fair amount of actually tough issues in a short
19 amount of time. So, we've kind of bonded along these
20 lines. One of the things I've always appreciated
21 about him is that he's very, kind of like even keel
22 and level headed.

23 And I think what we need to take out of some
24 of these comments is, if I'm reading the situation
25 right, as a newbie that does not know -- probably

1 knows the least out of anyone in this room, is I
2 think the goal is not perfection. It seems like for
3 between where we are and perfection is quite a way.

4 And so, I think that's a good, that's good
5 context, or a good kind of perspective to keep in
6 mind with this, no matter what the solution is. And,
7 you know, we -- I would look forward to increased
8 compliance, because I think that would increase
9 program performance as well on our end.

10 And so, anyways, I think that that's kind of
11 an important pearl, if you will, that I pulled out of
12 what Bob was saying, and I think a few others as
13 well.

14 MR. MENDOZA: Okay. Just a quick time
15 check. We have about 20 minutes left for the comment
16 period. So, I just wanted to bring that up.

17 Next we have Bruce Severance.

18 MR. SEVERANCE: Bruce Severance, Mitsubishi
19 Electric. First of all, I just, I wanted to bring
20 attention back to Eric Taylor's comments about
21 creating a digital tracking system that does not use
22 serial numbers, which I think is a really brilliant
23 idea.

24 So, if I understand him correctly, what he's
25 suggesting is something like a UL label. Having

1 owned a UL certified, original equipment
2 manufacturing company at one time, that's a fairly
3 simple system.

4 So, there would be something like a UL decal
5 that the CEC issues. The distributors would be given
6 a stack of 500 of these, with a manifest they have to
7 track the serial number, the license number of the
8 individual that maybe gets that piece of equipment,
9 but that doesn't necessarily leave their facility.
10 But they're responsible for matching that new CEC
11 label --

12 UNIDENTIFIED SPEAKER: It's the number to
13 the contractor?

14 MR. SEVERANCE: To the contractor. Yeah. I
15 think we need to close the circle and have that
16 number also matched to a permit number. It needs to
17 match to a permit number as well.

18 And to really close the circle so that
19 distributors aren't selling on a Sunday morning to a
20 bunch of guys with no logos on their trucks, I really
21 think that we should require, CSLB should require
22 that every HVAC service vehicle is labeled with a
23 logo and a license number, as they do for plumbers.
24 And, you know, that that should be mandatory. And it
25 should be really foolproof.

1 If HARDI can get behind it to require that
2 everybody walking in the door buying any kind of
3 equipment, you know, ducting is another thing, tape
4 is another thing, that equipment sales should go only
5 to licensed contractors in the State of California.

6 And thirdly, that heat load calcs, if
7 they're not currently required for replacements,
8 every agency I've dealt with in my county required
9 heat load calcs on a replacement except that one
10 agency. It's absurd if it's not required for
11 replacement, because that's the problem. The problem
12 is, they're taking out a two-ton unit and putting in
13 a five ton on the old ducts that were only -- that
14 were too small for the two-ton unit.

15 So now you've got a quarter of the airflow
16 going through the system, stressed heat exchangers,
17 depressurization, poor indoor air quality. These are
18 the issues we're trying to solve. The efficiency
19 issue is tied to all those things.

20 So, we're giving people the quality they
21 deserve by requiring that heat load calc. If that's
22 in fact the case, that's news to me, because I've had
23 agencies require that for a long. Thank you very
24 much.

25 MS. HARO: Thank you, Bruce.

1 MR. MENDOZA: Kristin Heinemeier.

2 MS. MOORE: Can I respond to that, just real
3 quick? Cynthia Moore with the Contractors Board.

4 All commercially registered vehicles for licensed
5 contractors are required to have their license number
6 on there, specific bold font, I don't know the exact
7 numbers, but that's already a requirement. And I
8 assume they're not going to use a Prius to pick up an
9 air conditioning unit, so it's probably going to be a
10 commercially registered vehicle.

11 UNIDENTIFIED SPEAKER: I've heard building
12 permits --

13 MS. HARO: Wait, wait, wait.

14 MS. ROBERSON: Mike.

15 MR. AYERS: One quick thing from HARDI's
16 perspective. We have never said that we'd require
17 that you sell to a licensed contractor, because some
18 states do not have that requirement. So, naturally
19 we don't have, but we'd oppose that. I'll put it
20 that way.

21 MR. SEVERANCE: I understand that. And what
22 I was saying is, if California doesn't currently
23 require -- this is Bruce Severance, Mitsubishi. If
24 California doesn't currently require that every truck
25 that shows up matches a licensed contractor, the

1 State should require that.

2 And if distributors are willing to go along
3 with that program in the State of California, to me,
4 that chokes off, you know, where the bottleneck
5 should be, right. It's really controlling at the
6 point of sale without requiring a serial number being
7 tracked from the manufacturer.

8 The interstate commerce piece of that, I
9 just feel that conversation of serial number tracking
10 should end. And we should reach an agreement. Eric
11 Taylor had a very smart idea, and I also agree with
12 Barbara's idea.

13 Let's all get in a room and not leave until
14 we fix this. I think that's a brilliant idea. We
15 need to have a marathon session, including all the
16 stakeholders, HARDI, AHRI. Let's come up with a
17 solution that makes sense for everybody. Let's fix
18 it.

19 MS. HARO: Thank you.

20 MR. MAHONEY: Can I respond really quickly?
21 Greg Mahoney, CALBO. And I actually intended to
22 require submittal of load calcs to go on with
23 changeouts, and that's not in the energy code. I
24 even called in to Energy Commission to ask if I could
25 require that, and they told me, no, it's not in the

1 code. It's for new construction.

2 And like it or not, I don't require any, I
3 don't require anything that's not required by the
4 code.

5 MS. HARO: Okay. Thank you.

6 So, Kristin has patiently been waiting to
7 ask her question.

8 MS. HEINEMEIER: Thank you. Actually, I
9 think these are comments, not questions, but I
10 reserve the right to put a question mark at the end.

11 Three, I, first of all, I want to really
12 encourage the CEC to look into what's going on in
13 other states. I think that was a great point, that
14 this is -- this can't be unique to California. Other
15 states have codes and people. And my understanding
16 is the compliance rates are much higher.

17 And so what is about California that's so --
18 I'm hearing a, no. Look into other states. And, you
19 know, what other solutions have there been? And, you
20 know, if there's, if this is a problem in other
21 states, then I really think a national solution is
22 called for.

23 California should participate with other
24 states in coming up with, you know -- I understand
25 that you don't want to issue a serial number just for

1 California, but if this is an issue in other states,
2 that kind of thing should be considered.

3 A comment on -- Ms. Carpizo made a comment
4 that I was really struck by, talking about we need to
5 exhaust other solutions. I think that's an excellent
6 point. I think, you know, a lot of what I was saying
7 in my presentation is that I think that we need to --
8 there's a whole host of things that are really
9 necessary but not sufficient. And I totally agree
10 that we need to do that.

11 But on the other hand, we don't have a lot
12 of time. You know, the world is warming faster than
13 we can keep track of. And the State has very
14 ambitious goals, you know, with deadlines very soon.
15 So we don't have a lot of time to try some things
16 out, only to find out that they're not working.

17 So, I'm not going to put you on the spot,
18 but I do want to say that, I'd like to think that the
19 people that are detractors of serial number tracking
20 would be willing to contribute to establishing
21 metrics and milestones.

22 So, you know, let's throw everything we have
23 at it. If it's not working, then, yeah, we're going
24 to do serial number tracking. I think you'll get
25 some skin in the game. And, again, we don't have a

1 lot of time, but set up some milestones.

2 And then, finally -- and this, I'm not sure
3 if it's a question, but it kind of follows on to the
4 previous discussion about enforcement. If we did
5 have serial number tracking, the gentleman from AHRI,
6 that spreadsheet was really handy. You know, seeing
7 all the different possible permutations.

8 And I just wonder what plans the CLSB has,
9 and I think I'm hearing there aren't plans yet, but
10 to enforce. Again, it's not going to just split out,
11 okay, this guy loses his license, it's going to
12 provide some kind of evidence. You know, we don't
13 want it to automatically spit out, but it's going to
14 provide some evidence this contractor has gotten
15 eight units and only three permits have been filed.
16 What's that discrepancy? What kind of evidence do
17 you need to take action against that person? That
18 obviously is not enough evidence, but what will be?

19 And are you willing to work with the
20 Attorney General and district attorneys to come up
21 with, you know, what are the grounds, and let's tie
22 it with whatever system we come up with, what are the
23 grounds that are sufficient for proving malfeasance
24 and taking action?

25 MS. MOORE: Right. Well, we have zero

1 funding to do any additional investigation on this.
2 The legislation that we're working with now gives
3 CSLB no funding whatsoever. So we have no plans to
4 do additional -- we don't have the staff to go
5 through this huge database and find these violations
6 and identify them.

7 And as you said, the database is not going
8 to give you violation. You're going to have to find
9 out where it was installed, prove that it was
10 installed, and then prove that it was not done with a
11 permit. The permitting part is probably easy enough,
12 but how do you find out where it was installed? If
13 the contractor tells you to take a hike, you know, a
14 judge is not going to give us a subpoena to make him
15 prove to us where he put it. They're just not.

16 So, it's difficult. It's not impossible,
17 because a lot of our contractors will tell you. You
18 know, they're honest with us, and they will say, this
19 is where I did it, and we can find the information,
20 but right now, it definitely requires some major
21 legislation and additional funding and staffing.

22 MS. HEINEMEIER: Okay. A really, really
23 fast follow-up. I think you need more funding. I
24 think a lot of the cities need more funding. I
25 think, you know, that we want to save the world here,

1 and it's, someone's going to have to pony up some
2 money to do it.

3 And I really encourage the Commission and
4 whoever to let the legislature know that more funding
5 is needed to solve this problem. It's not going to
6 get solved without it.

7 MS. HARO: Thank you, Kristin.

8 MR. MENDOZA: Dave Winningham.

9 MR. WINNINGHAM: Hi. Dave Winningham with
10 Lennox International. Just a quick response to the
11 WHPA in regard to establishing a working group to
12 address this. I can't speak for all of our AHRI
13 members, but Lennox would be willing to participate.

14 There is a model for this, actually. The
15 Department of Energy uses a working group format to
16 solve problems at the federal level in regard to
17 federal efficiency standards. It's called ASRAC.
18 I've participated in several.

19 I'm actually an ASRAC member. But be
20 careful of what you ask for, because it's not easy
21 work. It's hard work, and it's usually days on end
22 in a windowless conference room for weeks and months.

23 It can take a lot of time to get 15, 20
24 people all on the same page, and it usually involves
25 a fair amount of groundwork by the agency to provide

1 kind of a charter, if you will, establishment of the
2 ground rules, and then data for the working group to
3 vet, collect and to make decisions by.

4 So my kind of previous recommendation to
5 kind of do a Pareto of the current requirements, as
6 well as the process and what's the cost benefit, is
7 kind of a fundamental to feed into a process like
8 that. And recognizing we don't have a lot of time
9 here, and there are a lot of things going on in
10 California that there is not a lot of time on.
11 Believe me.

12 But one simple request as we establish
13 this working work, is don't schedule meetings on
14 Fridays. I have to travel back to South Carolina,
15 and I won't get home today. Sorry.

16 MS. HARO: Thank you, Dave.

17 MR. MENDOZA: Up next, Eric Beriault.

18 MR. BERIAULT: Sorry. It's actually Eric
19 Berrio (phonetic). It's my handwriting. I'm with
20 Energuy of the HERS rating company in California
21 here. We work from San Diego all the way up to
22 Redding.

23 So, I think that, you know, lots of good
24 comments here. I think we really need to listen to
25 our HVAC contractors, because they're the ones at the

1 kitchen table. You know, the 16, \$1,700 difference,
2 for sure, it's at least that. For sure. So -- but I
3 think that what we can do is we can use some existing
4 technology to reduce some of those costs, which will
5 help level the playing field.

6 The one is the on-line permitting. There's
7 lots of ways to do it, but we haven't done anything
8 so far, except talk about it. So, maybe we can work
9 on that. Just a simple landing page, maybe just to
10 even direct contractors to know whether or not you
11 can pull the permit on-line. Something simple like
12 that.

13 Another thing we can do is we can use smart
14 tools that currently exist, right, like, you know,
15 your refrigerant gauges, your smart tools. They're
16 Bluetooth enabled. Let's connect that to the
17 registry, right?

18 Then we can give those tools to the
19 contractor, so that they can verify their own
20 installations. So they can do it cheaper and
21 quicker, and that will help them reduce their costs
22 and level the playing field.

23 And I'm a HERS rater, right. It's counter-
24 intuitive. But it's not, because if we get this
25 fixed and we increase compliance, there's going to be

1 enough for everyone to go around, right. The good
2 contractors will get more work, and the HERS raters
3 will get more work.

4 So, I also want to remind everyone that
5 there's actually an equipment registry in place right
6 now. It's called the HERS registry. Just a
7 reminder. So -- but, obviously, that's only for
8 permitted work, right. So, it's part of the
9 permitting process.

10 So, if we take that one step backwards and,
11 you know, talk about maybe including the CF1R process
12 for the purchase of the equipment, then all of a
13 sudden, you know, we're all on, we're all in the
14 circle. So, that's something to consider.

15 It doesn't require really any additional cost
16 programming wise or anything like that, but it
17 requires a discussion on how to do it properly. But
18 it's already there, so let's use that. Thank you.

19 MR. MENDOZA: Okay. We're going to move to
20 comments from the WebEx. First up we have George
21 Nesbitt. George?

22 MR. NESBITT: Can you hear --

23 MR. MENDOZA: Yes --

24 MR. NESBITT: -- can you hear me?

25 MR. MENDOZA: -- I can hear you.

1 MR. NESBITT: George Nesbitt, HERS rater. I
2 guess what I'd like to do is put out perhaps a little
3 change to the Energy Commission, in the sense that
4 regulations and -- obviously, I mean, Government
5 regulations are part of what we need. But I think we
6 also need the think about time scales.

7 The energy code is adopted every three
8 years, yet it's adopted like almost three years
9 before it goes into effect or, you know, and so the
10 time scale is really long and slow. And we're
11 practically starting on the adoption of new codes
12 before we've actually implemented, you know, the
13 current code.

14 And then with the HERS system, it was
15 adopted in '99. It came into effect in the energy
16 code in 2001, and 2008 it was revised to actually
17 include a rating system, as opposed to just verifying
18 code issues.

19 And it was then implemented in August of
20 2010, and we've heard it was going to be revised, and
21 hear yet again, it will be, yet that's a process that
22 could take another two or three years, and you know,
23 when there's problems things need to change.

24 And so how do you write regulations and
25 rules that can change, and change midstream when

1 things aren't working. And then in the case of you
2 do change things with the HERS provider, but the
3 truth is, the HERS rater has been left out of that,
4 and there's been a lot of change to certain things.
5 And, you know, these things impact our work, too.

6 So, how do we do what we need to do without
7 locking ourselves in such a rigid manner that we
8 can't change and don't change, and that when problems
9 arise, they don't get fixed? You know, so, how do we
10 be more flexible and responsive, so that we can make
11 things work and work well? Thank you.

12 MR. MENDOZA: Thank you, George.

13 MR. AYERS: Can I make one quick comment?

14 MS. HARO: Go ahead.

15 MR. MENDOZA: Up next on the WebEx, we
16 have --

17 MR. AYERS: Can I make one more comment?
18 Quickly going back to the -- I'm sorry. This is Alex
19 Ayers with HARDI. Going back to the permit required
20 for purchase, you want to also think about for some
21 of the contractors that keep small amounts of
22 inventory on hand, they would have this prior to any
23 permit.

24 You can also take that a step further and
25 think of the end consumer. That's going to add time

1 for them in the hot months of July and August to get
2 a replacement in place.

3 They -- I see you're shaking your head, no,
4 but, you know, you're going to have it in your own
5 warehouse versus going to one of our members, buying
6 that unit, having to have the permit in hand when you
7 buy that unit, instead of being able to go out that
8 afternoon if you already have that component on place
9 -- in place.

10 MR. MENDOZA: Okay. On the WebEx we have
11 Elsia Galawish. I'm going to unmute you.

12 MS. GALAWISH: I'm so sorry now.

13 MR. MENDOZA: Okay. Thank you, Elsia.

14 Okay. That's it for the WebEx. Any more
15 comments in-house? We'll just stick with times.
16 We've got five minutes left.

17 MR. LANE: Once again, my name is John Lane.
18 I'm an HVAC contractor. I want to say that there was
19 years ago, we used to have to what was called
20 Douglas-Guardian. The contractor I used to work for
21 when I was a lot younger, they would come in and
22 check serial numbers within his warehouse, because he
23 used to warehouse that equipment. He didn't pay for
24 it. He only paid for it at use.

25 So, the Douglas warehousing would come in,

1 check the serial numbers every month, and whatever
2 was missing he paid for. And so some of the bigger
3 contractors do that. They don't pay up front for
4 \$100,000 worth of equipment, they warehouse it for
5 the distributor, and pay a flooring tax or a flooring
6 interest, any way you look at.

7 There wouldn't be anything any hard person
8 could figure out, that's what he has to do. If he's
9 going to be a flooring contractor who was going to
10 carry \$100,000 worth of equipment, then it would just
11 have to be checked monthly. That wouldn't be that big a
12 deal for him

13 But for the one-time guy like me, I couldn't
14 buy the equipment unless I had my permit in place.
15 That is not that hard for us to do. It wouldn't be
16 very expensive for us to use the HERS system that's
17 already in place. We're already registering.

18 When you build a home right now currently,
19 the process is that you get an architect. The
20 architect goes to a Title 24 guy, gets a survey done,
21 and that information goes through the plan check.
22 There is a small number that's followed through the
23 process with the CF1R before it goes on through
24 construction.

25 Once it's constructed, then it gets checked

1 by all the HERS raters that are needed for glass, for
2 glazing, for flooring, electrical, such HVAC. And so
3 all those things are approved based on that little
4 number.

5 We're already tracking a lot of things.
6 Everybody's talking about starting up some other
7 bureaucracy, some other tracking system, when we
8 already have a system in place. It's just a matter
9 of injecting a couple little things in between that,
10 like the sale of the product.

11 I want to mention, also -- I'm sorry. Load
12 calculation. Chapter 17 of the California Mechanical
13 Code requires that the loads be calc'd before we do
14 any installation, but nobody does it. The only
15 people that do it are the people like Bob or myself.
16 I have the software. I've been doing that way for 30
17 years. But most contractors, it's a pain in the ass.
18 It takes about four or five years -- four or five
19 hours to do that process, in order to go out, and
20 there's the property, come back, put the information
21 in the software, and then make a conclusion whether
22 or not the equipment is currently correct, or even if
23 we're going to install a new system.

24 So, it is in the California Mechanical Code,
25 Chapter 17. You can check it out. Also, in Chapter

1 three, go read the CMC if you'd like to. I read it.
2 I don't know why I do, but I do. So, there you go.

3 (Applause)

4 MS. HARO: So, before I hand it back to Judy
5 to discuss next steps, Commissioner, would you like
6 to say some closing remarks?

7 COMMISSIONER MCALLISTER: Anyway, I've been
8 listening with interest all afternoon. So, thanks
9 everybody for all your comments. And I really do
10 believe these are solvable problems. You know, in
11 the same way that, you know, if you have solar system
12 on your roof, you've got, your inverter is web
13 connected. You're finding out all sorts of stuff
14 about it all the time. You can program that to have
15 automatic flags go up.

16 I feel like those sorts of things, and the
17 few that brought that kind of functionality, I mean,
18 there's no reason why we shouldn't have that, or at
19 least think about having that and figuring out
20 pathways to have that, to support what we're trying
21 to achieve.

22 And, actually, at the end of the day, I
23 believe it's going to support the industry because
24 we're going to get more quality and more
25 accountability, and happier customers.

1 So, we need to come up to the -- the Energy
2 Commission has been tasked with the -- by the
3 legislature to come up with a plan. And so, that's
4 what we're trying to do, and I think we're going, you
5 know, we're going to have some judgments based on the
6 record and the ideas that we've got in the hopper
7 today and the last two meetings, and based on your
8 written comments that will still come in, about how
9 we think this problem will be solved.

10 And so, you know, the effort here is just
11 part of an ongoing effort to make sure that we're
12 grounded. That we have the right relationships, that
13 we have a trust across the marketplace. And, you
14 know, very intentionally, we're trying to build that
15 trust.

16 And so, we really build that trust by making
17 reasonable, good decisions that are everybody is
18 looking to us to make. And so, I just want to invite
19 all of you to keep participating, keeping your
20 attention, get on the ListServe. If you're not on
21 the ListServe, you know, submit comments.

22 We're going to look at those comments and
23 figure what's palatable and what's just absolutely a
24 non-starter. Because then, you know, you know,
25 everybody in this room and beyond, and other people

1 you represent the stakeholders.

2 So, you're the folks who are going to make
3 this happen. You know, so we want to help you help
4 it make -- help make it happen. And so, let's think
5 about this as a team effort. It has to be a team
6 effort. There's no -- and there's a lot of upside.
7 I think we're mostly hearing today that it's a rising
8 tide kind of a situation. If we can do better, then
9 we're going to have a better marketplace that
10 functions well.

11 So, anyway, I really enjoyed the
12 conversations. I learned a lot. And I'm really glad
13 all of you are bringing your expertise to this. And
14 I thank you for really pushing the conversation
15 forward.

16 (Applause)

17 MS. ROBERSON: Okay. We have two more
18 slides, and this is about next steps. The back of
19 the agendas that were on the back table when you came
20 in, have this slide on them, so that you can find
21 these links. These are three links to the California
22 Energy Commission web site. Relevant information
23 about SB-1414.

24 The first one is under the enforcement page.
25 It's where you find the comments and the dockets and

1 the notices and the background about SB-1414.

2 The second one is a link to the Energy
3 Commission ListServes. And if you want to receive
4 regular e-mails every time something is docketed to
5 SB-1414 docket, I would urge you -- let them learn
6 that you subscribe to one of these ListServes, either
7 building or energy efficiency standards, or
8 efficiency topics. Those are both tied to the
9 docket.

10 And then the last link is the link to the
11 docket, which if you don't -- if the number is
12 inscrutable to you, then the title of the docket is,
13 "Improving Energy Compliance of Central Air
14 Conditioning and Heat Pump Systems."

15 Any questions about how to stay in touch?
16 How to keep up with this process? Okay.

17 The next and last slide -- except for my
18 contact information, is our schedule as it is now.
19 This is August 3rd. This is the last of three
20 workshops that have been scheduled.

21 We would like stakeholder comments submitted
22 to the docket as soon as possible after this meeting.
23 The sooner you get them in, the sooner they will be
24 considered. No later than August 20th. It's not
25 that we're going to close the docket, but the sooner

1 you submit comments, the better that can be
2 incorporated into the planning phase.

3 I expect to be drafting the compliance plan
4 in August, and having internal review probably in
5 September/October. Sometime around that time period
6 we are going to have a public comment period on the
7 draft plan, as required by the legislation.

8 And after that public comment period is over
9 and we receive and address the comments, we'll
10 revise/finalize the plan. And, ideally, have it
11 approved at the December business meeting,
12 Commissioner Business Meeting.

13 Okay. That's -- I should also emphasize
14 that this is a plan. This -- we're not going to
15 solve this problem by the end of the year, but we're
16 going to come up with a plan to solve the problem by
17 the end of the year. And it will take more time to
18 obviously implement it, and take the necessary action
19 to get it into place.

20 Okay. Thank you all for coming. It's very
21 important.

22 (Applause)

23 (The hearing was adjourned at 3:50 p.m.)

24

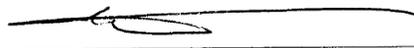
25

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A handwritten signature in cursive script, appearing to read "Barbara J. Miller", is written over a horizontal line.

Certified Transcriber
