BEFORE THE

CALIFORNIA ENERGY COMMISSION

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| In the matter of: | ) | Docket No. 14-BSTD-01 |
| | ) | |
| | ) | RE: Voluntary Energy |
| | ) | Efficiency Provisions of |
| 2016 Building Energy | ) | the California Green |
| Efficiency Standards Update | ) | Building Standards Code |



CALIFORNIA ENERGY COMMISSION
HEARING ROOM A, 1516 NINTH STREET
SACRAMENTO, CALIFORNIA

WEDNESDAY, AUGUST 6, 2014
10:00 A.M.

Reported by:
Kent Odell

## APPEARANCES

### Staff Present

Joe Loyer
Martha Brook

### Also Present

Bob Raymer, California Building Industry Association
Heidi Hauenstein, Energy Solutions, on behalf of the California Investor Owned Utilities
Jon McHugh, McHugh Energy
Tom Enslow, represents California State Pipe Trades Council, Sheet Metal Workers, IAPMO, Publisher of California Plumbing Code and California Mechanical Code and IATMO Green Mechanical and Plumbing Supplement
Shawn Huff, HCD
Mia Marvelli, Building Standards Commission (BSI)
Mike Fischer, Kellen Company
Mike Hodgson, ConSol
Jerry Desmond, Jr., Plumbing Manufacturers International (PMI)
George Nesbitt, HERS Rater

# I N D E X

P R O C E E D I N G S

AUGUST 6, 2014 10:01 a.m.

MR. LOYER: All right, we're going to get going, it's 10:00ish. My name is Joe Loyer from California Energy Commission. We are recording this meeting both on WebEx and we have a Court Reporter here, as our standard practice for the pre-rulemaking workshops that we have for the 2016 Standards Update.

I have to go over a few housekeeping items right here. We are in Hearing Room A. For those of you not familiar with the building, the closest restrooms are located just outside the door, across the quad here. There is no longer a snack shack up on the second floor -- *that* needs to be updated.

The second floor, see the end of the white awning, yeah, there's just a couple of machines up there. If there is an emergency and the building is evacuated, please follow our staff employees out to the appropriate site, that will be across and kitty corner to us over at Roosevelt Park.

That said, we have an Agenda today. I guesstimate that we will get through my portions

of this in about 30 minutes total. At that point, we'll be taking questions from both people here in the Audience, which are just a few, all familiar faces, and anybody online.

And with that, I think we'll get going. So I think the first thing we should talk about is the general state here, so the contents here are Authority and Standards Update Policy Drivers, Standards Update Process, 2016 Schedule, the CALGreen Scope Overview, and the Local Energy Standards Approval process. And we'll get into why that's important here.

Here is our Authority and process here, these are the Residential and Nonresidential Building Standards in '78, the Standards are developed in an open public process. The California Green Building Standards Code is stemming from a 2007 direction by Arnold Schwarzenegger, then Governor. We have the first one in 2010 and the Energy Commission played a big role in that particular one, as well.

We established the minimum standards for Green Building construction and reducing greenhouse gas emissions, energy consumption, and water use.

The Governor's policy drivers were the Governor's Clean Energy Job Plan, Zero Net Energy Residential by 2020, which is going to be important for this particular presentation, Nonresidential by 2030, the CARB, California Air Resources Board Climate Scoping Plan, and the California Long Term Efficiency Strategic Plan.

The Standards Update includes the following phases: we are in pre-rulemaking now and rulemaking comes later. We have stakeholder meetings, the IOU/POU Case Teams, those have already happened, and the staff workshop which will lead to Draft Standards eventually.

CALGreen right now, the Tier I/Tier II, we don't have drafts of what we think the exact language is going to be at this point. And that's pretty standard for how we have been handling the CALGreen Tier I/Tier II.

The rulemaking will result in a 45-day language and a 15-day language, and then an adoption at a Business Meeting. Right now we're in the May-August timeframe here. The Standards Update process here, you can see, the effective dates will be January 1, 2017.

This is our list of workshops and you can

see that we are the last workshop on the list, so this will probably be the last workshop, I don't think we are scheduling any further until we get into rulemaking at the very least.

So the CALGreen general outline, the CALGreen is set up in several different pieces here, we have mandatory requirements and voluntary provisions. They're broken up into Residential and Nonresidential. They're further broken up into Newly Constructed and Additions and Alterations, Planning and Design, Water Efficiency, Material Conservation, Indoor Environmental Quality, and Energy Efficiency, just to name a few, that's not all of them. But Energy Efficiency is of course the one that we'll be talking about today.

The Mandatory Energy Efficiency Requirements are to comply with the Building Energy Efficiency Standards in CALGreen, CALGreen as the mandatory requirements points to Part 6. The Voluntary Energy Efficiency Provisions are developed by the Energy Commission.

So the Voluntary Programs, the provisions that we provide in Tier I/Tier II, they are to be adopted by local jurisdictions, so CALGreen

Voluntary Provisions have to be adopted by local jurisdictions to be enforceable. CALGreen Voluntary Provisions that exceed the Energy Standards have to be approved by the Energy Commission before they are enforced by the local jurisdiction.

The applications must come from the local jurisdictions, we can't do them for them, and the Energy Commission posts approved local standards on our website. And I posted a little link here, but, well, as anything on our website, it's easy to find-ish, so you do have to look around for it a little bit.

So what does the application look like from the local jurisdiction? We require a copy of the Ordinance. The study that shows the expected energy savings and the cost-effectiveness analysis, not only is it a mouthful to say, it's also the big stumbling block for our local jurisdictions.

On that particular front, we've been working with utilities, the IOUs within their local outreach program, to try and put those together for the local jurisdictions. We did that quite successfully under the 2008

Regulations where we have almost 50 local jurisdictions with local ordinances that were approved. The vast vast majority, I think 47 of them actually used the utilities' resources. So that's been successful. And going forward, we see that relationship getting better between us, utilities and the local jurisdictions.

The other important item to understand here is the publicly noticed meeting requirement, and that's four bullets down here. It's important that the local jurisdictions actually put that on their public notice either in front of their City Council or their Boards, and it has to be heard in public, not only the ordinance, but the cost-effectiveness analysis. And that's an important element and that's one that we require evidence of.

The new item, evidence of CEQA compliance, typically these local jurisdictions or local ordinances, they are all considered projects under CEQA, if anybody is cognizant of what CEQA requires here. We find those to be projects under CEQA and then they are almost immediately off ramped under the Common Sense Exemption under CEQA. But that process has to be

undertaken and it culminates in a single page, a new declaration by the local jurisdiction. So it is not significantly a burden. Just like everything else in this list, it's not really that hard, it just has to be done.

And finally, we have a cover letter to tie everything together from the local jurisdictions. The cover letter itself is actually not required by statute, but it really helps out to tie everything together and we absolutely encourage local jurisdictions to use it. And that is the end of the first presentation.

So on to the second presentation here. These are going to be the ideas that we have for the 2016 CALGreen. First we're going to talk about our overall goals, New Definitions, Newly Constructed Residential Building Targets, Residential Additions and Alterations, Newly Constructed Nonresidential Building Targets.

So the goals. The provisions of Tier I should be shown to be cost-effective. That's been a goal for us for a while now. We did it last year for Residential, we didn't do as much as we would want to for Nonresidential, but

that's our goal is to show that Tier I for Residential and Nonresidential is cost-effective.

And it's an important goal to have because that is exactly what the local jurisdictions have to do, so we need to be able to show that what we're doing, what we're providing, is actually cost-effective. And the other two goals should be keeping the first goal in mind.

So the second goal is to establish an energy rating based on plan system within the Compliance Software. That is as opposed to a percent better than standard. So instead of going 15 percent better, we're going to now shift our focus to, I would say, a HERS-like, if not HERS itself for Residential scale and target a number on that scale.

And the last goal is to have Zero Net Energy available for newly constructed Residential Buildings in the provisions, in the Reach Codes.

So the New Definitions that we're proposing right now, Energy Rating Based on Plans, this is to be a unit-less score, it's to be compared to a 2008 Standards home and at least

be HERS complementary, if not directed at HERS itself. The scale is to be based on 2008 Standards set to 100, Zero Net Energy is to be defined as zero on the scale. The 2013 Standards Compliant Home will be approximately 85-90 on the scale. If we look at 2016, our guess -- very much a guess -- is that it will probably be somewhere in the neighborhood of 10 points lower.

Incorporating comparative scales based on available national scales, I think this is where we're going to incorporate RESNET, as well. What our basic idea is, is to have a scale that we would use for compliance purposes for these Tier I tiers, but also have a way to have RESNET have these same buildings, same designs, show up on the RESNET scale. So we would also be open to including other scales if there is a market for it, or if there is a desire for it, and it's something that we can accomplish, obviously.

The Zero Net Energy Design Score is fairly simple: once you buy into this energy rating based on plans, Zero Net Energy Design actually falls right out. It's an Energy Design score of zero. And that includes onsite renewable generation at that point. So it also

needs to be able to take into consideration whatever PV tradeoffs we incorporate into Part 6.

So the targets for the Newly Constructed Residential Buildings. Basically the prerequisites, we start with those, we're going to drop what is the current Energy Design Rating. Now the Energy Design Rating that is currently required is a KTDV or KBTU per square foot value that is basically rendered by the model. We're going to drop that requirement.

We're going to keep quality insulation installations and we are going to have at least some lighting provisions, although the way lighting is right now, we're not sure exactly where those are going to fall out. We think there are going to be changes to that section, but it really depends on what happens in Part 6.

So for Tier I, we set the goal at Tier I to be approximately half way between where the 2013 Standards fall on the scale, 85-90, and the Energy Efficiency Goals for the ZNE, which are 30-40. Now, I know I just got done saying that ZNE will be defined as zero, but, you know, what we've been seeing is that if you get the building itself without solar to come in somewhere between

30 and 40 on the HERS scale, then solar can take it the rest of the way. So we're looking at just that portion of it, the non-solar addition to the ZNE. So if we look at that, then we think approximately Tier I is going to be somewhere along the lines of 60-70 on the scale.

Tier II, we want it to be where the ZNE building sans solar would be, somewhere like 30-40.

And introducing for the first time Tier III. This is how we feel that we can get Zero Net Energy Design on the 2016 Reach Codes, by proposing a Tier III.

Now, right now the Energy Commission is actively engaged in directing research to determine the real numbers that we would be proposing, so these are estimates, they may change, and we may go to 72-73, I don't know. We're going to do research and we've actually got those work authorizations in process.

The new provisions for Additions and Alterations, the first changes, I believe we are proposing to drop Alteration requirements, we're just going to look at Additions. This will be refocusing the provisions to consider Additions

only, prerequisite lighting provisions, and consideration of Part 6. Tier I, energy rating based on plans, it needs to be cost-effective. Again, this is something that we will be pushing on to our work authorization to find the right level, but you can see that we're going to be using this projected rating based on some plans as the benchmark for all of our buildings, and hopefully this will work out well with the work authorization.

Tier II, basically just more restrictive than Tier I.

Targets for Newly Constructed Nonresidential Buildings. So the existing prerequisites, we have an Outdoor Lighting Requirement, we're going to be keeping that, it may change depending on where lighting ends up. Service Water Heating in Restaurants, we're proposing to keep that. Areas where Residential Lighting Standards are required, we're proposing to keep that.

The new provisions, Energy Design Score. What we need to understand -- actually that should be Design Score Based on Rating, or Rating Based on Plans, I'm sorry. We need to understand

that that particular scale will not be the same scale as a Residential Scale, it's got to be a Nonresidential Scale, so will be developed using the existing studies and we will still be pushing for the compliance, you know, to be based on the compliance with the 2008 Standards.

Tier I, we're looking at projects that include Indoor Lighting or Mechanical Systems and Energy Design Score, again, forgot to update that, set to a level that is shown to be cost-effective. That is our intention that should be a design, an energy design based on rating, based on rating and based on plans.

Projects that include Indoor Lighting and Mechanical. We'll be setting that to a more restrictive level than above, but a level that is still shown to be cost-effective because we have two mechanical or two systems that we are incorporating, there should be availability for more energy savings there. But again, that's what our studies have got to bear out.

Tier II is essentially just a step above Tier I, the same divisions, same analysis, and that is it. How was that? Twenty minutes. Very good.

Okay, so at this point we'll go ahead and open this up to comments in the room. And if you would, if you can, we do have a Court Reporter here, please announce your name and if you've got your business card, please give it to the Court Reporter.

MR. RAYMER: Thank you. I'm Bob Raymer with the California Building Industry Association. Sort of a couple of administrative questions. Is it the Energy Commission's plan to develop and adopt the updates to the Green Building Standards in the same timeframe that you're looking at adopting the changes to Part 6, meaning are you seeking to get both Part 6 and Part 11 changes adopted by May of next year?

MR. LOYER: That's what's on our rulemaking schedule, yeah. But obviously they have to take each other into consideration. Actually, the Tier I has to take Part 6 into consideration.

MR. RAYMER: Absolutely. And so one thing is clear, you know, from a resource efficiency standpoint, you guys are spread thin, just about every agency that I work with is spread very thin. And so administratively, you

don't necessarily have to get this done as quickly as you would plan for the Part 6 for whatever it's worth. You've got HCD in the Building Standards Commission that will be developing their updates to Part 11 during the normal triennial cycle, which takes place significantly beyond. Effectively, about the time that they're really getting underway, you guys are going to be finishing Part 6 and Part 11, for whatever that's worth. So, you know, it's not a huge thing to industry, if that's the CEC's goal that's great, but you know, just be aware that administratively you've got some options here.

Now, I'm also suggesting not that we have another formal workshop, but you've touched the 30,000 foot level stuff, the getting into the weeds on Tier I, Tier II, Tier III, I've got a very rough idea, but from a technical perspective don't have a clue as to what it's actually going to mean to construction. If you go back to your last two slides of what's being proposed for Tier I where you're discussing, yeah, go back to the next one, that one, I'm not really understanding what you're saying there. I get into our

lighting, I get mechanical systems, whether it's an either/or, or both, etc., but I'm not really understanding from a physical perspective what issues, what items we would be looking at as potential changes. I'm not looking for package, but I just don't have a clue of what's here, so that's something as you guys work out this system, it would be very helpful to us whether in an informal capacity, or whatever, for CBI and perhaps HCD and BSE to join, and get together and just hear from the Energy Commission as they've got more of this stuff fleshed out, how they plan to present it in Regulation form, as well as their anticipated impact, and again, kind of a dialogue going back and forth because right now there just isn't enough to provide technical comment today.

Having said all that, looking at Tier I, we're very supportive. Industry is very supportive of the Energy Commission sort of taking it upon themselves to show cost-effectiveness for Tier I. By far, the Tier I Energy Efficiency Provisions are the most commonly used by local jurisdictions, we've got lots of, as you mentioned, lots of historical

perspective on that. During the first go-round of the Green Building Standards, almost all of the Green Building local adoptions involved early adoption of HCD's or BSE's provisions on Green Building, but also included a 15 percent uptick on the energy efficiency standards. And it would be very helpful to the locals, so they don't have to reinvent the wheel, or whatever, to have access to sort of a -- I don't want to say generic cost-effective analysis, but at least know going into this that that's an argument they don't need to have at the local level.

Now, having said all that and making sure that you understand we support that, there is a concern when it comes to Tier II and Tier III that you're not planning to do the same thing for Tier II and Tier III. And I would have to suspect that it's possible because we're not sure if Tier II or Tier III at this point in time would be cost-effective. That clearly may be a change in case as the years go on, but we have done some rather significant increase in stringent use of standards over the last four updates, particularly the last two, and you know, the low hanging fruit is gone, you know, to use a

cliché, but this is something that industry needs to understand in going forward, the fact here is we just don't have enough to be able to comment today.

So I would like to say that we're supportive of the cost-effectiveness that you plan to show for Tier I, we're concerned that putting a Tier III into the package may be somewhat non-compatible with where HCD and BSE are going with their Green Building Standards, but that's something that the three agencies and others can work out at a later date. It also concerns me that, when you have a Tier II and a Tier III, you've got many local jurisdictions that will just simply grab onto these, you know, as the new Codes come out, "Well, we don't want to do just minimum Code, we want to go beyond," without a clear understanding of what it means to go beyond. And given the stringency of these last two updates, it concerns me that a local jurisdiction who has normally been inclined to do that will just simply -- I don't want to say blindly do it -- but will just simply make the judgment call, "Well, let's go for it. As a matter of fact, let's go to Tier II, or better

yet Tier III," not understanding that, while the CEC has shown cost-effectiveness for Tier I, that is definitely going to be a huge hurdle for the locals to have to pass for Tier II or Tier III.

Now the Department of Housing and Community Development puts a disclaimer at the front end of their Tier II requirements and, if you bear with me for a moment, it reads under the guise of a note: "The measures necessary to a Tier II status are very stringent. Cities and Counties considering adoption of Tier II as mandatory should carefully consider the stringency of each measure and ensure that the measures are achievable in their location." Now, they're not making a reference to cost-effectiveness because that's not a requirement for their provisions, it is a requirement for this. So the fact here is it would be nice if the CEC could indicate something of a similar manner that, please, take a long hard look at this. Who knows what type of an impact Tier II or Tier III is going to have on low or moderate income housing, entry level housing, etc. There certainly is a market today for solar homes, but it's not the only market. And so as we go

forward over the next three to six years, these are all things that need -- so in conclusion, can we get together again when you guys have actually some stuff that we can look at? I like the concept of Tier I, that's great, we've got some big concerns with Tier II or Tier III, but right now I don't have enough to really comment on.

MR. LOYER: And I'd like to respond to a few of those comments. I think one of the important things is to remember that, even if we at the Energy Commission were to produce a Tier I cost-effectiveness analysis and adopt it and prove it up here, it still has to be adopted down there, down at the local jurisdictions.

MR. RAYMER: Understood.

MR. LOYER: Yeah, absolutely. I think it's a good idea, actually, the preamble essentially that HCD has put in Tier II. I think that's not a bad idea to actually start our initial introductory paragraph off with, just remind the local jurisdictions that, if they are going to go above the Energy Code, they need to get an application in to the Energy Commission because that has actually been a difficulty for several jurisdictions, they did not know that

they needed to get Energy Commission approval. I think just that in and of itself, I think, will help.

MR. RAYMER: I don't want to leave you with the impression that Tier II and Tier III are bad ideas, we just need to know more. I can tell you on a positive note, it's good to have available for industry, particularly designers, to have access of where the agency, in this case the Energy Commission, is planning to go. That's one of the benefits of Tier II for HCD and BSE is that industry has the ability to kind of see what the future may be in terms of mandates, potentially. And so having access to a design tool that can help you effectively understand what it means to be ZNE ready, or ZNE, is very useful, not that we would necessarily want to see a Tier III adopted as a local mandate, but it's good to have that design understanding. Right now it's still sort of a vague cloud that's up there that, you know, we think we know what it means, but jeez, it might be anywhere from eight or nine KWH to three or four KWH, we just don't know.

MR. LOYER: I think that one other thing I

wanted to make clear, when we looked at Tier I, our objective, our goal, is to have Tier I be cost-effective. That doesn't mean that Tier II and Tier III would not be cost-effective, they just wouldn't be as broadly cost-effective. There would definitely be, you know, some Cities that cannot by our definitions get to a Tier II, Tier III implementation. And I think a preamble actually would help local jurisdictions to recognize that.

MR. RAYMER: We agree.

MS. BROOK: This is Martha Brook with the Energy Commission. I just wanted to add that staff thinks that having a Zero Net Energy Tier is critical in the 2016 Update. Again, these are voluntary standards from our perspective, and it's the not having a ZNE Tier is really sort of not consistent with our statewide policy goals, so that's why we're going to dedicate the resources to get that background work done so that everybody can understand what it looks like and when it's calculated in the software, and explain anything we need to for our sister agencies so they understand the importance of having that tier in there.

MR. RAYMER: Understood. So it would be great if we could get back together when you're ready to unveil that.

MR. LOYER: Absolutely.

MR. RAYMER: Thanks a lot.

MR. LOYER: And we're going to have another presentation here, so I'll let her introduce herself. This presentation will be available on the website.

MS. HAUENSTEIN: Good morning. My name is Heidi Hauenstein with Energy Solutions, on behalf of the California Investor Owned Utilities. And the recommendation that we're making today is that the Energy Commission should adopt more stringent Water Efficiency Standards for CALGreen. And just to be clear, we're in the beginning stages of developing this Water Efficiency Proposal for CALGreen, so we're still open to input from anyone who is interested in providing input.

So as we all know, California is in an extreme drought, 100 percent of California is either in extreme drought conditions or worse. Water is being curtailed. Farmers are leaving fields idle. And the prices of food are going to

be impacted, not only in California, but in the nation as a whole.

We also know that supplying water requires a lot of energy. The current estimates say that about 20 percent of the electricity used in California is used to supply, convey and treat potable water, so there is a benefit in water efficiency not only in the inherent benefit of water savings, but also in the embedded energy savings.

California urgently needs to address the water shortage issues. Scientists have predicted that the current drought situation will only get worse with climate change as snowpack is projected to be diminished over time.

On January 17th, Governor Brown proclaimed a State of Emergency in California and directed all State agencies to take all necessary actions to prepare for and respond to the current drought conditions. We also know that establishing more stringent water efficiency standards is a cost-effective intervention for California's drought situation, particularly when we compare water efficiency to responses that aim to increase potable water supply.

The Energy Commission has the authority to establish Efficiency Standards for water and for energy, so we encourage the Energy Commission to take advantage of this opportunity and their authority to take action on our urgent drought situation.

So as I mentioned, the IOU Team is developing a proposal for Water Efficiency Standards in CALGreen. The right recommended changes will likely be based on, 1) the IOU Team's Code Change Proposals for Title 20, and we've been working on the Title 20 Code Changes for the last couple of years, and there's a lot of information in the Title 20 Docket for water efficiency, for toilets, urinals, and faucets, and our research has found that the more stringent standards that I will present in a few slides are cost-effective and are ready to implement for Appliance Standards now. And so they are definitely ready for installation in new construction in the future.

We are also looking at moving existing voluntary CALGreen requirements into the Mandatory sections of CALGreen. We'll be looking at existing model codes like ASHRAE 189.1, 191P,

IGCC, and then also local water efficiency ordinances to see if any of those model codes are a good source of content for CALGreen. And then lastly, we'll be looking for input from experts and other interested parties.

So the recommended Code changes would impact both the mandatory and voluntary requirements for both Residential and Nonresidential Buildings. We'll be looking at Code change proposals both for indoor water use and for outdoor water use. Again, the proposal is still under development and the preliminary proposals that I want to show in the next couple of slides are based on the Title 20 Code change proposals that the IOU Team has been working on for the last couple of years.

Okay, so this is the preliminary proposal, this would be changes to the Mandatory requirements in CALGreen. So it would impact toilets, urinals and faucets. For toilets, let's actually go to the next slide, I think it's a little bit more clear, so for toilets for all New Residential Buildings the requirement would be that dual flush toilets be installed in New Residential Construction, or you can install a

single flush toilet with approximately the same effective flush volume. And then for all toilets in all buildings, we would be tightening up the requirement for dual flush toilets so that the full flush volume uses 1.28 gallons per flush as opposed to what is allowed now of 1.6 gallons per flush.

For urinals, the requirement would be that in all new construction, urinals use no more than a pint per flush, and this is consistent with the current requirements in LA. And then finally, for new construction, residential lavatory faucets, maximum flow rate would be one gallon per minute at 60 PSI. And then I'm just going to flip back to this slide again.

So no changes for lavatory faucets in public areas, no changes to the kitchen faucet requirements. The metering faucet requirement here, currently in CALGreen for Residential Buildings, it's .25 gallons per cycle for Residential Buildings, and for Nonresidential Buildings it's .2 gallons per minute, so the proposal would be more of a cleanup to make sure that the Residential and Nonresidential requirements for metering faucets are consistent.

This shows the first year water and energy savings from the proposal. So we're looking at saving about 400 million gallons of water per year, embedded energy savings of four gigawatt hours for the first year, and then there's also electricity and natural gas savings from the faucet standard due to the reduced hot water use.

When we were looking at water savings opportunity, we actually identified one Code change proposal that may be well suited for Part 6 of Title 24, and that is to prohibit once-through cooling. This requirement is in ASHRAE 189.1 and the recommendation would be to add a mandatory requirement to Section 120.6(e) of Part 6 that would prohibit once-through cooling. So, yeah, you would make the change in both Section 110.2 and 120.6(e).

So our next steps are, well, to encourage the Energy Commission to embrace this opportunity to establish more stringent water efficiency standards in CALGreen and the IOU Team will be developing a water efficiency proposal for CALGreen based on what I just presented here, and we welcome input from anyone who is interested.

And this is my email address and the presentation will be posted.

MR. RAYMER: Ready for questions or comments?

MR. LOYER: Yes.

MR. RAYMER: Bob Raymer with the California Building Industry Association. Wow. I'm no longer suggesting we get together and chew the fat about green building when you've got more -- you need a formal workshop and you need to let the public know that you're thinking about this. I doubt there's anybody from PMI or the Plumbing industry that wouldn't probably have hours and hours of discussion to have with you, not that what you're proposing is bad in any way, but given past practice as we went from AB 715 in 2008 to a host of additional pieces of legislation, these are issues that industries outside of CBI take a very strong interest in, and could all of a sudden turn what would normally be a calm and quiet update of CALGreen on the part of the Energy Commission into a major political back and forth, with groups that the Energy Commission doesn't normally deal with on a regular basis. And so I had no idea this was

going to be proposed today; if I did, I would have at least alerted probably a dozen other parties, I have no idea what the Pipe Trades Council has to think about this. I'm very concerned. You need to have another workshop. And most importantly, you need to loop HCD into this because they have mandatory green building provisions that this is going to overlap, in some cases duplicate, and may conflict with, which is a violation of the Building Standards Commission's nine-point criteria. And so, at a minimum, HCD which already has longstanding 40 plus year authority in this area, you need to coordinate. Now, I understand the Energy Commission has authority for water efficiency, namely from an energy efficiency standpoint, it takes a lot of energy to get water from Point A to Point B, but you're now looking down at the micro level where you get into Parts 5 and Parts 11 where HCD has authority over. And so that all needs to be worked out. I mean, I'm stunned. It would have been nice to be given a heads up about this. We need to have a formal workshop, guys, okay?

MR. LOYER: And if I may respond a little

bit. We have, I believe, HCD in the room. So, Heidi, what kind of outreach have you had to HCD?

MS. HAUENSTEIN: We haven't reached out to HCD yet, but we plan to.

MR. LOYER: I think for the most part this is something the Energy Commission would take in as a proposal, advisement, but this is absolutely something that we would want to make sure that HCD is on board with, cognizant of, maybe take over from us and implement in their Regulations. But this is, just to be clear, this is not part of our proposal at this point. This is the Case Team's utilities proposal. So we treat it as a proposal, as in general.

MR. MCHUGH: Thanks. This is Jon McHugh with McHugh Energy. This proposal that's shown up above is intended to provide some outreach to stakeholders in this process for the larger HCD process that Bob is alluding to. So my understanding about CALGreen is that essentially the Building Standards Commission essentially owns that document and the primary lead on the residential applications is HCD. We're proposing this to the Energy Commission so that they consider these water efficiency issues, and I

know that the various State agencies have conversations about what makes sense for the update. The primary purpose of this presentation, except the part about Part 6, is to start the larger conversation with HCD, so it's not our intent that the California Energy Commission is carrying the water fixture efficiency proposals forward, this is something that we're going to be doing with HCD and the Building Standards Commission. We certainly want, you know, since the Energy Commission does have the authority to regulate water consumption, we certainly want you to be aware of it, we certainly want to get your input, even though we're not expecting that you're going to be taking the lead on these measures.

MS. BROOK: So Jon, this is Martha. Can we figure out a way to fit in your Part 6 proposals in to our other subject specific pre-rulemaking workshops? The once-through cooling thing, so can we talk about that in our HVAC workshops or our process workshops? It seems like the right place.

MR. MCHUGH: Exactly. We just thought, since we're talking about water issues, we wanted

to highlight them, you know, provide as much public notice to the concept. But certainly that actually makes more sense because we're talking about CALGreen here, but nonetheless, since the topic was brought up, we thought it would make sense to bring that up.

MS. BROOK: Okay.

MR. ENSLOW: Tom Enslow. I represent the California State Pipe Trades Council and also the Sheet Metal Workers, and also IATMO, who is the publisher of the California Plumbing Code and the California Mechanical Code, and also of the IATMO Green Mechanical and Plumbing Supplement.

We would reiterate all of the concerns Bob Raymer addressed, particularly the fact that this wasn't on the agenda at all. And you know, obviously all of my clients support water efficiency and increased water efficiency in California and they have for years, but there are concerns with how this is going forward in that these important stakeholders haven't been brought in on just, you know, your slides looking at what model codes you're looking at. You miss the key model code wherein California the Plumbing Code and the Mechanical Code are based on the IAPMO

model codes, not the ICC Codes, and so you shouldn't be looking at the IGCC, you should be looking at the IAPMO Green Plumbing and Mechanical Supplement, which fits with the Plumbing Codes, so that you don't have any conflicts and it is state-of-the-art, continually being updated as the Reach Codes for IAPMO. And so that would be, I would say, your starting place where you should be looking for those sort of Codes.

And as far as doing this through the Energy Commission process, the Energy Commission's authority over water use is limited to water use, to energy efficiency related water use. And they are limited to provisions that are shown not to have any conflicts with any performance, or health and safety, or sanitary issues, and a number of other provisions under the statutes that they have to comply with. And part of this is because these provisions have traditionally gone through HCD and BSE and these other agencies, which also go through a stakeholder process of its own, and they're based on the Model Codes. And for the most part, we'd like to see those types of proposals go through

that process. So I think the idea that maybe some of this could get off loaded to HCD or BSE does make some sense, but I think a general stakeholder meeting with all those agencies and all the appropriate stakeholders would be useful. And again, the devil is always in the details. One of the issues we've had over the years is that there is a lot of great ideas how to save energy or be more green, but you have to be cognizant that these systems are, you know, there's more policy considerations taking place, you know, really an entire home is not just energy efficiency but also performance, health and safety, sanitation, and particularly when it comes to water systems, how these systems work and if you're talking about existing buildings where they have to do upgrades and the upgrades are significant enough they have to use the new Codes, you know, how those work with older pipes and older designs, sometimes there can be real issues that need to be looked at. So it is really important to bring in all the stakeholders who have experience in this and to make sure that they're moving in the direction that's going to work and can be cost-efficient and protect

sanitation and health and safety.

MS. BROOK: This is Martha. I had a question. So you mentioned the Green Supplement to IAPMO. Does HCD and the Building Standards Commission reference that document in their CALGreen?

MR. ENSLOW: They looked at that document in adopting their – CALGreen, like the Energy Code, is a California creation, so they look to the other green model documents out there when they're adopting it, whether it's the ICC or Plumbing and Mechanical, yes, they look to the IAPMO document and they have brought in what they have felt is appropriate for the CALGreen. But they don't adopt it, you know, per se.

MS. BROOK: Okay. So I also just wanted to mention that I think the point of this proposal was just to get it on everybody's radar and I would say that we succeeded in that, you definitely have it on your radar. And you know, it is really important for us to take the water situation in California seriously and we need to work with our other sister agencies to continue to make improvements in what we can do, especially when new construction is such a great

opportunity to make some improvements in that area.

MR. ENSLOW: Yes, and all my clients support that goal, definitely.

MR. LOYER: I'd also like to remind everybody that we are in the comment period, and anybody can make comments, even HCD.

MR. HUFF: Shawn Huff, HCD. I'll leave my card for you. I probably wasn't prepared to speak much today, this was a curve ball, to say the least, so I just wanted to echo the sentiments of Mr. Raymer and Enslow that you probably do need to build a broad coalition. We support the goals of the Administration and water savings as a general principle in California, we understand that. We did run into some instances during the last rulemaking cycle through our comment periods, etc. with some of the industry stakeholders and it is very important that we ensure that there is product availability that minimum health and safety issues are met. So we would want to work with everybody on that aspect. That is part of what our charter is, is minimum health and safety standards that would be in Part 5, 6, BSE, etc. So I'll leave my card and would

be glad to talk. Thank you.

MS. MARVELLI: Mia Marvelli with the Building Standards Commission, and I'll leave a card too. Most everything has been said, but basically I just want to reach out, we will be conducting workshops in the fall, and so we'll be discussing obviously these issues and many other issues; and importantly, CALGreen and the changes that I think we're looking at having several workshops on CALGreen. So again, we support all these issues, it's just a matter of where they go and how they go, and so I'll give you my information and if you have any questions about the rulemaking process and our process and how we work with the other agencies, I'd be happy to work with you on that.

MS. BROOK: Okay, thank you.

MR. FISCHER: Hi. Mike Fischer with the Kellen Company. I wasn't sure when you segued into the next presentation that we had left behind, the CEC presentation, so I missed the chance to speak, so I'm going to kind of circle back to that. Having said that --

MR. LOYER: We're absolutely in the Energy Commission proposal.

MR. FISCHER: That's what I thought. Having said that, I just want to point out that I agree with Bob about the presentation that was just delivered and I sent a quick email to one of my colleagues at PMI saying "you should be here." And so the beautify of Smart Phones. That's all I did, yeah. I'm sure there will be more coming from that. The first thing that greeted me when I got off the plane last night was a sign "Save Water" essentially at the airport, so I know it's an important issue for California and I was very diligent this morning in my hotel.

Back on your proposal, though, I have to echo what Bob said about another workshop. Tier I, Tier II, Tier III with just baseline ranges of percentages is not enough to really help us flesh out where we're going to be before you segue immediately into rulemaking. So I would urge -- and I can't speak for the other requirements that are in other parts of CALGreen, but specifically in energy efficiency where the metrics are so well quantified, I really believe you should try to schedule another workshop. I know it's difficult in these budget days, you know, trying to find time and trying to find that opportunity,

so I would echo that.

I do have one question I'd like to ask, and that is I just want to make sure as I report back to my clients on this issue on the insulation on roof industries, the question is going to be the difference between your Tier II and your Tier III concept. I think I understand that there's a direct correlation to how solar PV and other potential renewables are used, so I was hoping that you might be able to kind of expand on that for my benefit today. I would appreciate that.

MR. LOYER: Sure. Yeah, absolutely. Right now we're considering a trade in the base requirements for Part 6 and I think it's more than considering, I think it's basically a proposal on our part, to allow solar panels to be traded off for certain aspects of the Building Requirements in Part 6. Now, as we look at Tier I and Tier II, that has ramifications. So we have to be careful that our requirements in Tier I aren't so strict that a solar panel trade can't be used. We also have to be considerate of, if there is an individual or -- it can't be an individual -- but a local jurisdiction that does

want to have a Tier III implemented, and shows it to be cost-effective, and goes through the process of what they need to do, that when it gets to a ZNE ready building, that there is enough space left on the rooftop to actually implement a ZNE home at that point. And there's very good reasons for why we didn't have this language together at this point, mainly because there are too many balls in the air as far as the base Code is going, in particular lighting, but also we need to be more sure about exactly how this rating on design, rating on plans, is going to actually work and exactly how we're going to implement that in the Residential section and in the Nonresidential section. Those are the critical path elements. Actually getting to the right target, once we have those critical path elements in place, the right target should be able to be something that we can reasonably easily study and determine and come to a reasonable conclusion about.

MR. FISCHER: Thank you. Just a follow-up question. Once you get past your problem of how to deal with Part 6, and I feel bad for you, the difference between the Tier II and Tier III,

is it safe to say that's going to come from either envelope and mechanical requirement and compliance? Or is it going to depend almost completely on the renewables?

MR. LOYER: I would say the difference is probably going to be almost exclusively renewables, but you know, when you hold the door open…. That's the beauty of establishing a target and not a prescriptive path to it. We allow the market, who in many instances are much brighter than we are, not all, but they can get to that target by a myriad of different routes, some will include thicker walls, better insulation, better windows, better lighting, you know, a better hot water distribution system, instantaneous hot water, there are all different kinds of ways that you can get a Zero Net Energy. But if we establish the goal and we establish it through an asset rating system like we're describing, then I think we actually give the marketplace the best tool that they could have to get there.

MR. FISCHER: Thank you.

MS. BROOK: Yeah, this is Martha. I just wanted to clarify a couple things. The rating

based on plans that we are talking about is consistent with the California HERS definition for a projected rating based on plans, and that means that the whole building metric. And so when I think about Tier II, I'm thinking about everything you could do with Building Energy Efficiency without renewables and figure out where the number is on the scale to get you there, and then the Tier III would really be meeting the remaining unregulated loads with a renewable energy source such as solar electric system. So again, Title 24 doesn't regulate appliances or plug loads, but we're still adding them into that rating metric. And so when you get to Tier III ZNE level, you really do need some sort of renewable offset for those unregulated loads.

MR. HODGSON: Hi. Mike Hodgson, ConSol. I would like to go back, Joe, to your proposals also, but I want to commend you for having one of the more exciting Part 6 workshops we've had this year. And I would just make a recommendation to Mr. McHugh that he has his preamble before the presentation rather than after, so that people can calm down. But Joe, in talking about what

you're proposing, you know, we have to have as a building industry, have to have a grip on what the building features are and what the targets are. And to do that, we need software. And the issue that I heard was that there is work authorizations, etc., but when are we going to be able to have software to understand the potential impact of Tier I, Tier II, even 2016 Standards?

MR. LOYER: Do you want to --

MS. BROOK: This is Martha. So kind of in a difficult spot in terms of answering because we haven't had all the Management approval to get the work authorizations started. So if we started quickly, we would have the ability to calculate those projected ratings in the software by the end of the calendar year. And so that's an "if," but that's what we hope to accomplish. And I think what staff will be taking back to our Management to discuss is because, as Bob Raymer mentioned at the beginning, we're not obligated to adopt Part 11 at the same time we adopt Part 6, we can think about what we would have to do in order to have the public workshop with the rating numbers in the proposed regulations so that everybody has a chance to digest those and

discuss them in an open process, before we would ever complete a rulemaking for Part 11, even if that meant that it didn't get adopted at exactly the same time as Part 6.

MR. HODGSON: So language for Part 11 would come out early next year, then? Would that be the timing? I'm just trying to find out about sequence. If we can't analyze it similar to the 2016 Standards, we're having difficulty figuring out our cost analysis since we can't do base case. You know, we're wondering if we have software, then we can be a little bit more productive in our comments back to staff.

MS. BROOK: On Part 11?

MR. HODGSON: On Part 11 and Part 6, actually.

MS. BROOK: Okay, Part 6, the software is in large part all ready, I mean, we're already doing 2016 analysis with the current software, so really the big gap for the software is the calculation of the ratings, not the functionality.

MR. HODGSON: Okay, so let's go back to Part 6, then. So there is software available in Part 6 that can give us the standard budget in

2016?

MS. BROOK: Well, soon. Like next week we're going to have a version out to some stakeholders that actually has the 2016 TDV included --

MR. HODGSON: Okay, just to be clear, because right now we can do it, so it's coming out soon. So that's great. Okay, and the scores, let's move on to the issue of the scores. One of the things that was mentioned was to maybe incorporate other scores like RESNET.

MS. BROOK: Uh-huh,

MR. HODGSON: Well, I'd like kind of an off -- not off line discussion, but we have a discussion going on right now on how to bring those scores possibly closer together before we try to acknowledge either one of them.

MS. BROOK: Right.

MR. HODGSON: And I would like that discussion with the Building industry and the Energy Commission and the large Leading Builders of America, which is a different group than CBIA, that we kind of continue those discussions so that we can get that tightening up of the scores, like same base case, same house, same --

MS. BROOK: Right, exactly.

MR. HODGSON: -- then some back and forth because we're never going to get -- I'm guessing we're not going to get the world to adopt TDV, so we may have to have different kind of rating scales based on what those are. But I hope the intent is that we try to bring them together as close as possible.

MS. BROOK: It is the intent and, in fact, what we will be considering in the work going forward is adopting a different baseline, and so adopting the national baseline instead of the 2008 baseline.

MR. HODGSON: Okay, so I just wanted to make sure that was kind of the intent and we're still doing that. And then, switching over to Nonres, you said that the Nonres Standards, especially Tier I and Tier II need to be cost-effective. And my question has become, because we're now beginning to do 2013 Nonres Standards, over what time is that cost-effective? And I'll just give you an example. We just had a project that we're working on for a nonprofit that moved from the old Standard, a previous version of the Standards, to the 2013, they haven't gone to

permit yet, so we had to go to rebid. And we rebid the lighting controls, and our bid went from $56,000 to $84,000 just for the controls. It took us six weeks to actually get drawings, right? And the client decided not to do it because it wasn't cost-effective by their definition, they're on a five-year lease and they're not going to pay for it. So in the cost-effectiveness, you know, Residential has one mindset, theoretically you buy a home and you amortize it over 30 years, right?

MS. BROOK: Uh-huh.

MR. HODGSON: In Nonres, are we still dealing with 30 years, or are we going down to a shorter timeframe?

MR. LOYER: No. Nonres would be more like 15 years --

MS. BROOK: Wait, careful.

MR. LOYER: That's been our standard for --

MS. BROOK: Still 30 years for the envelope and it's 15 for the lighting and mechanical systems.

MR. HODGSON: Okay, all right, yeah. And so we may want to look at that since average

leases are not 15 years, so --

MR. LOYER: We also want to consider that that's for newly constructed buildings. When we look at Additions and Alterations, especially when we're looking at an Alteration like you're suggesting on lighting, and especially when we're looking at the local jurisdiction, remember that the local jurisdiction's cost-effectiveness is not necessarily the Energy Commission's Standard Cost-Effectiveness.

MR. HODGSON: Yes. I'm not saying what the right answer is, I'm just saying we'd like to have that discussion because what the intent of the Standards is, is to improve the efficiency of the buildings, and what's happening is people are deciding not to do it because it's too expensive. So it's the opposite of what you would like to happen. And so if we're a little more realistic about some of those assumptions, or at least have an open discussion about it and bring in the Nonres guys, then I think it would be more productive and we'd have more impact.

MR. LOYER: We'd like to have that meeting.

MR. HODGSON: Okay, thank you.

MR. LOYER: So we've got Jon, he's got his hand up there.

MR. MCHUGH: So I just would like to support Mike's comment about the RESNET base case, so I actually think that's highly desirable to have a common base case so that, you know, California's housing is actually quite efficient and we'd certainly like to make sure that when someone moves from another state they actually have some kind of idea of the relative efficiency of the housing stock. So I think it's highly desirable to look at something other than the 2008, looking at the RESNET base case with the understanding that TDV, you know, we have a much more advanced building simulation model, it's not going to exactly match RESNET, but it would certainly true things up more closely and I think, you know, hopefully act as a marketing tool for builders saying, you know, even our minimally compliant homes are quite energy efficient as compared to maybe where you move from. So I'd just like to say that, I think, is highly desirable, thanks.

MS. BROOK: So the other thing I guess that we're looking for is, is there something

equivalent on the Nonres side? So is it appropriate to consider some sort of a national baseline year instead of a 2008 baseline year for the Nonres rating calculations? We don't really know of any and, you know, the problem with the ASHRAE proposal to stick it to one year and move from there is that their Climate Zones are just not a good match.

MR. MCHUGH: And not that many states use ASHRAE, so, I mean, I think there's probably a broader discussion. I don't know, Cathy, if you want to talk about Portfolio Manager or the EPA system of rating buildings of commercial buildings. I'm not sure if that's really --

MS. BROOK: They don't have a baseline like that either that we know of.

MR. MCHUGH: I know.

MS. BROOK: Okay, so as long as we're not missing something, that's all. I just wanted to check.

MR. MCHUGH: I'm not aware of that. I have one more comment about comments made by Mr. Raymer, which is at the very beginning of this, in his initial comments, he had stated that your desire to have a Tier II and a Tier III, a ZNE

Tier, that that somehow was incompatible with policy and direction by HCD and the Building Standards Commission. And since both these folks are in the room, I'd like to better understand, maybe I misunderstood your comments, Bob, but I'd certainly like to actually have that discussion.

MR. LOYER: I think that's a discussion we can possibly have with CBSC and HCD and the Energy Commission to make sure that policy-wise, we're all on the same page. I don't think we need to workshop that. If it turns out that there is a policy issue, we'll fix it.

MR. MCHUGH: Okay.

MR. LOYER: But that's not something -- I don't think we need to go into too much depth here. So shall we?

MR. DESMOND: I don't know quite the procedures, I just came in the room. My name is Jerry Desmond, Jr. and I represent Plumbing Manufacturers International, or PMI. And I'm a little out of breath because, until I heard the presentation and then we didn't know we were part of this proceeding, but we are comforted --

MR. LOYER: And I do note, Jerry, you're on line, as well.

MR. DESMOND: Yeah. Well, my hand is raised, I think, at the moment. And maybe just a couple of comments, and please to be here in many ways. PMI represents the Plumbing Manufacturers that probably manufacture about 75 percent of the toilets, faucets, showerheads sold in California and nationwide, and it's an international association of 35 companies. And we do support efforts towards water efficiency strongly, and we played a role in the development of current standards, Federal and State, including the AB 715, SB 407, we have been participating in Energy Commission proceedings pre-regulatory workshops on appliance efficiency and have been having meetings with the IOUs which we participate to look at steps that could be taken. And I would endorse the comments that both Bob and Tom raised for CBIA, among others, that some of the Standards I saw on the proposed slides by the IOU raises some significant issues that we've identified in that proceeding, and as we've worked with both the BSC and HCD on CALGreen, in terms of how do you move towards more water efficiencies and take into consideration the fact that if you move precipitously you raised

significant issues of public safety, health, consumer acceptance, and others, things like drain line carry, and what really works out in the marketplace once these are installed. And we think it's significant when we talk about those lower standards. I think I saw 1.0 to 2.0 gallons per flush, and I thought I saw some on the faucets, too, that go below what is considered at the current time to be a real feasible step towards water efficiency. And if we look at ways to focus efforts going forward, especially if there's a workshop or a more elaborate stakeholder process on those kinds of proposals, it's to look at the legacy infrastructure that's in the State of California. And when we look at the amount of savings that could be generated by taking the Standards that are there in CALGreen and in Water Sense, and trying to drive those that have these legacy products out there in their homes today, how could we get them and facilitate their transition to these new products, a very significant savings could be generated and we could provide some great reports and details on how we've identified those kinds of savings, and there have been some

voluntary take back programs. So we're encouraged to know that it's an IOU proposal and not right now an Energy Commission proposal, and would perhaps draw to the attention of this Commission staff, the staff who has prepared a recommendation in the other appliance efficiency proceeding, pre-rulemaking process, and in that the staff recommendations are consistent with the position -- reflect the input that we've gotten in that proceeding.

So I think it is Harinder Singh and Tuan Ngo have developed a staff recommendation that I think acknowledges and provides great depth of the thought behind the comments that I've just raised today, and we would encourage, of course, our work with the BSE, HCD, together with the energy Utilities, IOUs, to try to drive water efficiencies going forward. So I appreciate the chance to come quickly today. Thank you.

MR. LOYER: Very good. Jon, you have a rebuttal?

MR. MCHUGH: It's not a rebuttal, it's just a comment. So exactly what Jerry was pointing out is that, and what Heidi was pointing out earlier is we've been in a two-year process

around Title 20 and there are certain requirements for Title 20 which defines what is the water and energy efficiency of all appliances that you buy, that regardless of what their application is, the proposal that Heidi is talking about, and of course we're going to be talking more with HCD and the Building Standards Commission rather than this group, but nonetheless I think it's useful, is that in that process with Title 20, the comments that came up from Mr. Desmond, PMI, a variety of different groups, was some of these ideas are good, but they just won't work in existing buildings, you know, that the piping is old, decayed, maybe pitch is not right, you know, all the various things in existing buildings. And so the issue for the proposal that was shown is, okay, we're essentially looking at the Title 20 requirements for retrofits and commercial buildings, but for new residences with new piping systems, that potentially more stringent water efficiency requirements makes sense in those new situations. So that's really the crux of the issue and, of course, we'll be having a much larger discussion in the CALGreen discussions at the Building

Standards Commission and HCD. Thank you.

MR. LOYER: And I think with that, we need to also recognize that these are comments that were made by the Case Team and the IOUs, and we really don't want to bring other proceedings into our workshop here. I'm quite familiar with Tuan Ngo's work, he's a buddy of mine upstairs, and yeah, I think this is something that we wanted to discuss with HCD and CBSC if it's going to make it into CALGreen.

MR. RAYMER: Yeah, Bob Raymer with California Building Industry Association. Two follow-up comments. Just to clarify, I am in no way -- CBIA is in no way suggesting that either the Department of Housing or Building Standards Commission is taking issue at all with the Zero Net Energy goals of the state, that's not the case. My concern related solely to the Code nerd issue, and that is technical coordination of provisions from one State agency with those of two or three other agencies, and the formatting that has to take place when it actually gets published. Those are two very big issues that sort of happen during the triennial adoption process, it can be very time consuming for the

State agency personnel, and what we see emerging here is, over the past two iterations of the California Green Building Code, HCD and BSE have endeavored to do what they could to ballpark, you know, for waste management purpose, resource management purpose, water conservation, they looked at certain incremental goals. By and large, when we first started this off we were looking at a 15 and a 30 for Tier I and Tier II, and that doesn't mean that the Energy Commission by any means is held to that, but that by moving away from that it will create some interesting technical issues that need to be resolved. And what we don't want to do is wait until the Code Advisory Committee Meetings of the Triennial and try to resolve them at that, because then everybody freaks out. So, you know, if we start working on that now, everything will work out just fine.

On another issue that Tom Enslow brought up, actually that Martha raised, and this isn't for Martha's edification, it's probably for the Case Study Reps, California Statute has about 40 plus more years effectively said that the State of California will base its California Plumbing

Code on IAPMO's Uniform Plumbing Code, so while there is ASHRAE has got a good work out there and a host of other agencies, whether it's ICC or IAPMO, the bottom line here is, when it comes to a plumbing provision that appears in either the Energy Commission's Part 6 or, more importantly, Part 11, does it interact well or does it create conflict or potential duplication, or whatever, of the provisions that are in California's Part 5; namely, does it mess around with what's in the Uniform Plumbing Code? It can, but there are certain things that have to happen. And more importantly, Tom mentioned, and of course IAPMO has the newer document, the IAPMO Green Building and Mechanical Code, while indeed HCD and BSE don't reference that, I can tell you that a lot of very useful provisions that first showed up in that Green Plumbing and Mechanical Code have now been incorporated into IAPMO's base document, the Uniform Plumbing Code. And so that seems to be a natural transition where a lot of things that show up in the Green Building, you know, they work the bugs out and then they move it into the body of the Uniform Plumbing Code -- very helpful. And so we look forward to probably

having another meeting to discuss all this. Thank you.

MR. LOYER: Before we go too much further, I'd like to give George Nesbitt online, the only other person who raised his hand online.

MR. NESBITT: Forgive me if I run over there, I'm only 80 miles away. George Nesbitt, HERS Rater. I'd like to give a little context. If we have a goal of Net Zero Energy or Zero Net Energy by 2020 for Residential, that means that needs to be part of the 2019 Code, which is then implemented, of course, in 2020, whether it's the Base Code or the Reach Code. So we're talking about the 2016 Code which is implemented in 2017, only three years before that goal. If we are not including the HERS Rating System three years before we're essentially going to require it, we're really losing out. Nationally what's happened is I think in 2013 there were -- I forget if it was 100,000 homes, or 200,000 homes were rated, which has been a large increase in the past couple years. Builder after builder, both national, regional, local builders have been committing to having 100 percent of their homes rated. Multiple Listing Systems have been

putting the HERS score into their systems. And local and State jurisdictions have been adopting the HERS Rating System as a requirement, often with a score of less than 100 because 100 is based on the 2006 Code. And the HERS Rating System has been recognized in the 2015 IGCC, I think it is, if I'm right, one of the Codes as a means of showing compliance. Yet in California, I was trained in 2001 and in anticipation of us having a HERS Rating System of our own. I was re-trained in 2008 in anticipation of the HERS Rating System we did adopt at the end of 2008. I had to get retrained a third time because of the implosion of the old scores. And here we are almost six years later and we don't have the stinkin' thing off the ground. I certified the first Net Zero Energy home in California. I'm working on 80 Multi-Family Affordable Units down in Paso Robles that we're wrapping up, that will hopefully hit ZNE, Zero on the California scale. We have to get the HERS Rating System in name in the Reach Code in 2016, otherwise forget it. I don't care if it's California's rating system, I don't care if it's the national, although, you know, there's probably enough differences, I

don't care if we look at TDV for Code, and then we use a national HERS scale for consistency, as a marketing method, whatever. If it's not there, we've missed the boat. And I also want to remind you that a HERS rating is not just "I looked at the plans and ran computer software," that's what we do with Title 24. And I can tell you, just because someone says they met Code on paper, or met above Code, whether it's a green rating or a California Tax Credit Allocation Committee requirement, or some other program, just because they said they met Code or above Code doesn't mean they did it on paper. And as a HERS Rater we go out every day and we find problems. So ultimately a HERS rating means not only the design phase, the energy modeling, but a level of verification in the field to give it any credibility. Anything less is not a HERS rating, yet what we're calling currently in the Reach Code 2013 and what you're proposing for 2016, it is a HERS rating. You're not calling it, it's still the same thing. So we need to get beyond this and get it in the field. Thank you.

MS. BROOK: George, this is Martha. Is it okay if I take this one, Joe?

MR. LOYER: Sure.

MS. BROOK: So we talked about this and I think we ended up, at least I think our proposal ended up in a good spot, and so we had to try and balance the fact that the rating that we're proposing is going into a Code, and therefore it needs to be consistent with how we do Code compliance in the State, and also everything you said about it's not real until you verify it. So the vocabulary we're trying to use, as consistent with the HERS Technical Manual and our HERS Regulations, and it's that Rating Based on Plans vocabulary, and that's what would be required to meet the Code, but then builders could voluntarily take the next step to verify that rating, and then they could generate a HERS Certificate and do everything according to our HERS Regulations for the actual rating if they wanted to publicize that. So that's kind of where we're proposing to land, is what we think is appropriate for Code Compliance, but enable that next step to happen by the market to verify the HERS Rating.

MR. NESBITT: So I think the problem with that, though, is you already did that in 2013

essentially. You design rate -- you're not really doing anything different than a design rating. The only thing different is you might come up with a score. So come 2017, we're still at a Design rating, oh, if someone really wanted to do a HERS rating, they could if they wanted, but they wouldn't know it. Come 2020, or 2019-2020, effectively, we'd be requiring it. There's been no traction, no building of the market. So it would be "a requirement," whether it will still be a requirement on paper or not, you know, but there are local jurisdictions that are currently requiring a HERS Rating, although I think it's mostly sort of a design phase educational for additions and remodels, Marin County is the one I know of most that does do that. So I just think unless we actually call it a HERS Rating, even if we keep it at the design stage, as far as the Reach Code, you know, if we don't call it and we don't use the system we have, and we'll probably have some changes coming to it in the near future, if we don't do it, we're missing the boat.

MS. BROOK: Okay. Yeah, thanks George. I think we are going to do everything we need to

in both the administrative section and in Part 6 to make it clear that we are being consistent with our HERS Regulations, and so hopefully once you take a look at that you'll feel better about it, but we understand your concerns.

MR. NESBITT: Well, my problem is actually that if we're being consistent, we're actually violating it. Take Build it Green and their Green Point Rating, their software is exactly the HERS Rating software, but they call it a Green Point Rating Score. It's the same, it comes up with the same HERS scores, it uses the same input, using the same software with the same values. It's a total violation of the HERS Regulations, but they don't call it a HERS Rating, so it's okay. And we can't -- I mean, you know, the Energy Commission has a Regulation, it has a Standard, and then it's not using it.

MS. BROOK: Okay, well, so we just are going to agree to disagree on this one, George, because we think we are using it, and I think it will be more clear when we have it in draft language, so let's wait until then and you can review it at that point. Thanks.

MR. LOYER: Okay, looking quickly for

other people with their hands raised online, seeing none, are there any other comments in the room? None? Very good, we will go ahead and close this workshop. Thank you all for attending and for the great comments. Thank you very much.

(Whereupon, at 11:36 a.m., the workshop was adjourned.)

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**REPORTER'S CERTIFICATE**

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

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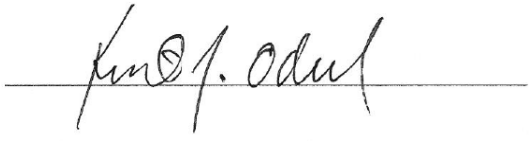

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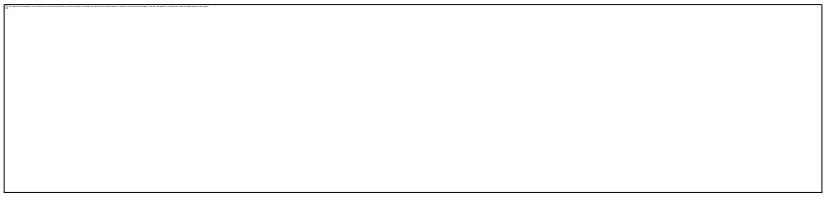

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