



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

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STATE BUILDING CODE COUNCIL SUMMARY MEETING MINUTES

LOCATION: DES Presentation Center
1500 Jefferson Street SE
Olympia, WA 98501

MEETING DATE: Friday, September 27, 2019

Members in Attendance: Doug Orth, Chair; Diane Glenn, Vice-Chair; Traci Harvey; Kjell Anderson; Andrew Klein; Eric Vander Mey; Micah Chappell; Steve Simpson; Kevin Shutty; Todd Beyreuther

Members Absent: Robert Graper, Phillip Lemley, Barry Long, Leanne Guier, Al French

Staff in Attendance: Richard Brown, Managing Director; Brian Faller, AAG; Krista Braaksma; Carrie Toebbe

Visitors Present: Rep. Beth Doglio, Brian Thompson, Scott Moore, Edward Hosack, Ryann Blake, Don Pierce, Aric Bogsch, Chad Eberhart, Renny Andrews, Tom Schneider, Doug Quinn, Zak Parpia, Paul Woodmancee, Deborah Hannig, Steven Tate, Pat Braddock, Cory DuPuy, Jim Adams, Eric Wallace, George Rebar, Daniel Hammer, Daryl Loone, Damon White, Scott Ongley, Nick O'Neil, Gregg Achman, Carolyn Logue, KP Rumens, Colleen Kittridge, John Watersraat, William Nirk, Ryan Carroll, Tim Reed, Rick Lucas, Amy Wheeless, Brad Winstead, Graham Wright, Wayne Senter, Hank Teran, Jonathan Burke, Sean Barnes, Joe Herr, Jeff Leclair, Michael Mudge, Chance Bremer, Troy Olsen, Bruce Bassett, Nancy Tosta, Marcus Kennedy, Cory Iversen, Kathleen Petrie, Poppy Storm, David Baylon, Al Audette, Judson Willis, Tom Allen, Jason Atkin, Tony Usibelli, Nicolas Garch, Shilpa Surana, Dan Keaton, Rany Foster, Chuck Murray, Jon Chapman, Carmen DeMartin, Joe Hass, Dennis Demarton, Suane Jonlin, Stephen Spletzor, William Koffee, Chris Forth, Melissa Olson Frause, Ruben Grijalva, Todd Short, Jeff Shapiro, Tracy Moore, Suzanne Mayr, Deborah Hannig, Misato Kogure, Charlie McCrudden, Louis Starr, Kinley Deller, Gary Heikkinen, Ken Brouillette, Lee Krantz, Mike Kennedy, Sue Coffman, David Reddy, Christine Riegler, Katie Kennedy, David Mow, Jessica Olson, John Fifield, Jeanette McKague, Tom Young, Kevin Scott, Brad Wiseman, Clark Mclsaac, Erin Connor, Jenifer Gilliland, Kim Barker, Lou Ann Caldwell, Mike Kennedy, Roussi Roussev, Jim Tidwell, Leah Mohney

Agenda Items	Council Actions/Discussion
1. Welcome and	Meeting called to order at 10:00 am by Chair, Doug Orth. Everyone was welcomed and introductions were made.

Introductions	
2. Review & Approve Agenda	The agenda was approved. A motion was made to take a break at noon. Motion Carried.
3. Public Comments not on the Agenda	<u>Brian Thompson:</u> I am asking that when Technical Advisory Group Members are appointed into a position that is a professionally licensed position in the State of Washington that those Technical Advisory Group Appointees be legally licensed in the State of Washington. <i>Doug Orth: You're not suggesting that everyone on a TAG be professionally licensed. You're just saying those that are be licensed within the State?</i> <u>Brian Thompson:</u> For example, on the Building Code TAG, there is a position for a Fire Protection Engineer. That position should be held by a licensed fire protection engineer in the State of Washington.
4. Review & Approve September 13, 2019 Minutes	The minutes were approved as written.
5(a). Public Testimony	No public testimony was provided on policies and procedures for consideration of statewide and local amendments to the state building codes.
5(b). Public Testimony on IBC [WSR 19-16-158 August 7, 2019]	<u>Brian Thompson:</u> I served on the 2009 Fire TAG, served on the 2015 Building Code TAG. I currently serve L&I as an engineer representative on the elevator safety advisory committee and I am here today to express my extreme opposition to the proposed amendment to IBC section 909.6.3. It's indicated that this is errata, which is limited by WAC 420 part 4 to code correlation, errors, language clarification and updated section references. That is a mis-clarification. The proposal that came through in the Group 1 hearing was limited and said that no smoke control provision should apply to a stair pressurization system in a building that is using the additional provision for a story of wood frame construction. The proposed amendment today imposes certain [inaudible] provisions which is a vast deviation from the requirements that were originally proposed. It's not simply just a clarification. Further the proposed requirements are arbitrary. One of the items listed is manual controls for fire fighters. So in the event that there is a carbon monoxide alarm, fire fighters would be unable to activate the system, in the event that the system shuts down due to smoke detection which perhaps is actually due to simply dust. In fact ours would actually be unable to reenergize the system. Therefore, for those reasons and many others outlined in the written testimony I provided I would encourage not approving the proposed items 909.6.3. Thank you.
5(c). Public Testimony on IFC [WSR 19-16-157 August 7, 2019]	<u>Brian Thompson:</u> I am here to testify in extreme opposition to IFC 909.6.3. It states that this is merely errata however errata is to code amendments that were proposed in Group 1. No amendment to IFC

	<p>909.6.3 was proposed in Group 1 therefore in accordance with WAC 5104.20 it is inappropriate to be hearing that code change with Group 2. Regardless in addition to the concern with regard to rulemaking, the arbitrary and substantiated references to 909, exclusions to 909 I believe are also a violation of the RCW that this council is meant to uphold by statute which is 1927.07.4. The proposed amendment reduces accepted standards [inaudible] safety. The proposed amendment deviates from national standards. The proposed amendment creates conflicts and unnecessary regulation requirements that [inaudible] increase construction costs. The proposed amendment affects buildings that are using the 5 over 1 or tach 5 construction, which is combustible wood framed construction over podium. When we see high rise buildings those are a minimum 75 feet often [inaudible] stories. It is not uncommon to 5 over 1 building be 5 stories of wood frame or 2 story podium. Perhaps a [inaudible] parking garage which is a 7 or 8 story building. Therefore to take away the level of protection that is provided for occupants in a non-combustible structure is extremely inappropriate for occupants who are in a combustible structure.</p>
<p>5(d). Public Testimony on WSEC-R</p>	<p><u>Representative Beth Doglio:</u> Thank you so much for taking all of this time to delve into this very important topic. I know that it is challenging and technical and takes a lot of time so I appreciate you doing that on behalf of the citizens of Washington State. I represent the 22nd Legislative District. Olympia, Lacey, Tumwater, North Thurston County. I also sit on the Environment and Energy Committee in the house as well as the Capital Committee. I also sit on Transportation but those other two we definitely deal with buildings. So as you are well aware the legislature did set the goal years ago in buildings needing to be 70 percent more efficient by 2031 then they were in 2006. That is effectively net zero by energy ready and has left the implementation to you. More recently many of our young people have raised the sense of urgency around climate change in the future that they are fearful about. They have called on our generation to create the kind of transformational change that is needed if we are to address our catastrophic climate change. Now I don't think that very many of them demand, at the State of Washington, and ask for stronger building codes but this decision making body has the power to make progress toward those youngsters calls for action. Today my comments will focus on gas, education and affordability as it relates to the work that you are doing. So I wanted to thank you for including the proposal changes around increasing efficiency in gas appliances and also for including future forward measures. I strongly support that and hope that you will include those in the final product. There are two bills that passed this session I believe per legislative direction on these two issues. The first is the Clean Buildings Bill HB 1257 that really clearly said that being efficient with gas is super important and said that gas utilities are required to invest in all cost effective efficiency. So I do think that the recommended efficiency measures stuff held well. In addition we passed SB 5116 which moves us to 100 percent clean energy by 2045 in our electric sector. That will move gas out of the electric sector by 2045 so ensuring</p>

that new homes are equipped with the necessary build out to transition to electrical appliances seems smart given that moving gas out of the building sector or all together seems likely. That is definitely something that is starting to move. Of course Berkley is the first jurisdiction to do that and there are many jurisdictions in Washington State that are considering that as well. I think that we need to move rapidly toward eliminating gas in homes all together, new homes. This is something that I hope that the Building Code Council will consider as it's moving forward. I recognize that's not in the code but I think that it is super important to manage for this transition as fast as we can because there will be consequences to that. Peoples jobs are relying on that and it is important that the legislature work and think about how we helped make that transition as seamless and as helpful to those who will be impacted economically as possible, which is really our entire state. There is no question about that. So I do think in general you are looking at some very significant changes and I appreciate that. One of the things that I am working on is trying to help find some money to help educate the building sector about the changes that you're making. We aren't really investing a lot of money right now. There is some money that is invested in education in the building sector, on building codes, but these are significant changes and I think that we need a little bit more dollars into that so that we can help builders and those in the building community really take these codes and move them into action as quickly as possible. Finally I want to address affordability. In this I beckon back to the youngsters calling, maybe it was more like demanding us to address a transformational change. That is something I think that we need to do is invest. It is true that homes that are more efficient at this stage in the game are probably going to cost a little bit more. That is a challenging thing when we are faced with such an enormous housing crisis. We are really out of time here and I think that the more we are moving in this direction a little more quickly the cost of those more efficient appliances and building techniques will come down. So the long term affordability in the home is also something that we can think about. We want to keep people in their homes and when they are in their homes having less utility costs is very hopeful for low and mid income families so that we can make sure they stay in a home. Houses are also more comfortable and durable and they are going to be around hopefully for a very long time. So making those investments now seems really important for our future and for our future generations. So as a member of these committees, I understand the challenges that we face. I always look forward to having those hard stakeholder conversations and bringing people together in rooms and having heart to heart conversations but I think that we need to move pretty quickly here so I do encourage you to move forward with the strongest energy code possible for our new residential buildings. Thank you for taking the time to hear me out.

Doug Orth: How do you think the proposed carbon factor in the current code proposal at 0.7 will effect gas efficiency overall? Do you think it will effect it?

Representative Beth Doglio: Well I think that if you look at the largest percentage of greenhouse gases coming from our building sector its

certainly from the gas sector so I think that it will hopefully impact it in a positive way in terms of bringing down the use of gas in our homes and reducing greenhouse gas emissions within our homes. I strongly support that. I didn't mention that but I certainly think that is the direction that we should be moving. I appreciate the work in that space as well.

Edward Hosack: We manufacture many gas appliances. One of the appliances that we are talking in particular, the efficiency is less than 65 percent. In fact it is almost 0. In that particular model we have about 1,000 SKU's. That is a 1,000 different types of fireplaces that we build here in Mukilteo. We at Travis Industries employ about 525 employees. As mentioned we manufacture our product and sell to specialty hearth stores abroad which then sell to the public. These are small businesses also supporting these families, just like our factory does. We oppose this regulation for many reasons but the main reason is the huge economic impacts this will have on our jobs and families. In Washington State this will impact the company that we represent approximately 6 million dollars. We manufacture approximately 1,000 units that would be effected by this regulation. They're has not been a stakeholder process for this regulation at all. If there is then we've be a part of it. Thank you for your time.

Ryann Blake: I own a specialty hearth retail store in Greys Harbor County, I employ 8 employees. I sell and install a lot of the hearth appliances that Edward was just discussing. As well as some of the other manufacturers you're going to hear from today. I oppose the proposed regulation just because of the exponential impact it will have on my company and the families that I employ. Thank you.

Don Pierce: We employ about 35 employees here in the State of Washington we service about 650 hearth accounts in the state of Washington. This would be a very negative impact on those fireplace shops in the state of Washington. Approximately 95 percent of the hearth fireplaces that we supply to fireplace products would not meet this proposed legislation. I suggest that this group look at the British Columbia example where they actually considered this topic for a year or two. Had industry stakeholders involved and they passed some more logical legislation. Again, I strongly oppose this. Thank you.

Aric Bogsch: We have about thirty employees in Washington. This would affect like Don said about 95 percent of our fireplaces that we have currently to sell in Washington. So I am against this bill.

Chad Eberhart: We employ about ten employees. Pretty much this is going to affect every single one of them on their paycheck because this is going to go down. We sell quite a few decorative appliances that are not used on a regular basis. They are used for ambiance on Christmas, Thanksgiving, Birthdays. Evenings just for a fire things like that. To look at this it's just not a very good idea but yeah I strictly oppose it.

Doug Orth: Are there decorative appliances in the marketplace that meet these efficiency standards or would it eliminate all wholesale fireplaces?

Chad Eberhart: That is a good question. I think someone ahead of me

will be a bit better to answer than me. Some of these manufacturers will be able to answer that question. Strongly oppose it. Thank you.

Marcus Kennedy: Collectively DR Horton is leading new home residential builder in the state of Washington building over 2,000 new homes in the state and in four different markets. I am here to testify in regards to the effects of proposal CR-102. Pacific Ridge and DR Horton as mentioned, are one of the leading builders in the state of Washington. We are one of the few builders that focuses on supplying homes to the first time buyers' market. To do this we build multi-family homes. A large amount of our product is under 2,000 square feet. These homes provide new home buyers with a unique opportunity because new homes come with home warranties and a cash revenue home buyer, doesn't have a lot of money. Is able to take advantage of those warranties. What this rule will do, an example I will give is a 1,600 square foot plan. The cost of building this plan will go up to over \$16,000. Meaning a \$20,000 sales price increase at a minimum builder market. What this will do and this is backed up by data by the Federal Reserve Bank of NY City is the price approximately of 20-30 percent of new home buyers out of the market. If those buyers don't buy a new home one of the major risks is either they buy a new home in further out areas where they will be driving more which is a major carbon risk or not buying new homes all together. The major risk of that is that it is proven that after a financial crisis that home ownership is one of the leading wealth generators for special low income families and minority families. Keeping going the homes that we build today are 30 percent more energy efficient than, this is according to the US Department of Energy than any existing home out there built more than ten years ago. So it's not that the homes that we are building today are energy inefficient as they currently sit. The townhomes that we build in Snohomish County are all currently built recertified by Snohomish PUD meaning that they already exceed current code by 20 percent. Another unintended effect of this legislation would be pushing most new homes into a heat pump style HVAC system. Today, I would say, close to 90 percent of the homes in Washington are built without air-conditioning. Due to the mild climate as many of you know we just don't need it. By putting heat pumps into homes we are now needing to put air-conditioning into every new home which unintendedly would increase electrical usage throughout the state. Another example of our townhome product is responsible land use by building townhomes in areas which are, we have a town home product going right now which is less than two blocks away from the proposed Lynnwood light rail station. By being able to put townhome products into that marketplace we are actually reducing the amount of cars for the roads. If this legislation were to pass our townhome product would come to new homebuyers 10-15 thousand dollars more expensive to purchase. Meaning that those buyers, either as we said before push out to outlining areas or not buy new homes altogether. These townhomes as I mentioned are already performing 20 percent better than our current codes. So again, I ask this council, honestly as a builder we are very concerned with the environment and do build environment efficient new homes but also take into account the unintended effects of new home

buyers and also the unintended effects on the environment by these new codes.

Steve Simpson asked a question: Is it the entire residential code that you're against or the energy code? All of them.

Marcus Kennedy: It is specific to the proposed new rules to the energy code.

Diane Glenn asked a question: Just off the top of your head, how many houses do you suppose you will build next year?

Marcus Kennedy: Collectively in the Washington market we propose to build 1,300 homes.

Diane Glenn asked a question: Ok so it would have a big impact on your company.

Marcus Kennedy: Absolutely.

Todd Breyreuther asked a question: I had a similar question as Mr. Simpson. When you sighted a first cost I believe of \$16,000 and later \$14,000 can you please again isolate what you are referencing that will effect this.

Marcus Kennedy: Absolutely. The new energy code at 1,500 square feet and below requires 4.5 energy credits. The assumed costs of increasing to those energy credits, depending on product which would be 10-12 thousand dollars.

Todd Breyreuther asked a question: Follow-up question then. In your study, the numbers that you are siting can you also provide us any guidance on as these are new homes and first costs, presumably financed. Can you help us understand the decreased cost of energy for the infuser rather than the increase in the city mortgage?

Marcus Kennedy: I can't give you exacts but I would say that those possibly would be in the 20-30 dollar a month range. I can say that as a Pacific Ridge, DR Horton home owner myself my energy cost average in about 60 dollars a month to begin with in a newly constructed home so they are not going to go back to zero.

Kjell Anderson: So you suggested that the homes that are built are already 20 percent better than code.

Marcus Kennedy: That is verified by Snohomish PUD.

Kjell Anderson: I think that the residential code is 18 percent better so you should already be there which should cost nothing if your already 20 percent beyond code.

Marcus Kennedy: No because certain amounts of the requirements in terms of meeting the energy credits aren't currently built into our homes. Because we don't have software to simulate a performance method we cannot prove that out in the energy credits through the energy code.

Doug Orth: So are there big buckets; is it envelope? Is it heating appliance? Where's the 15-20 thousand dollars coming from?

Marcus Kennedy: The chief cost is coming from sealing of the homes.

To seal a home to the two air changes an hour would require significant changes to the building envelope, number one. Seasoned use building paper and started to use a house wrap product. Building paper is the “inaudible” 34:16 to the product this market is not capable of making that two change an hour air standard.

Doug Quinn: We do work up and down the Pacific Sound Region. Part of our business is new construction. We do it out of our retail division but about 70 percent of our work is the construction division. I believe, I am opposed to any increased cost to the builder/customers. When we are talking about believe it or not the heating and air-conditioning business so the co-council could decide we could put heat pumps in you would think I would be licking my chops to be applied. There is another \$5-7,000 increase on our sales which we’re going to install about 4,000 new construction homes this year. So pretty significant. I don’t have a prepared statement so I am just talking through the heart here today. When you’re walking the streets these days or driving the highways, we’ve got a huge housing problem right now. Huge. We need to get working right now trying to figure out how we are going to reduce costs, not increase costs. So I believe that’s where the focus needs to be. We’ve got a severe housing problem. We’ve got people on the streets no place to live all over the place today. I live in Snohomish and it’s becoming a problem in my home town Snohomish. Any increased cost right now for the builders it’s just not good timing folks. It is not. I am opposed to this and any changes to the state Energy Code that is going to increase the costs to our building community. Thank you.

Doug Orth asked: Is there anything specific in the proposed energy code, residential energy code that you’ve identified as being a particular breaches or a more costly measure?

Doug Quinn: Yes, the energy credits. The energy credits are going to be the challenge for the majority of our customers and looking at that and those costs is something that is going to be very difficult to overcome.

Zak Parpia: I have been building in this state for 45 years, started in 1975. I still am president of the Spokane Home Builders, Master Builders Association and the State Association in 1986. The biggest feather in my cap is that I served for two terms on this council, with the first energy code draft. I appreciate what you are doing. [Inaudible] That come from different industries and [inaudible] with the government when you took the oath of serving on this council that you represent the state and not our industry. You are required to work for the citizens of the state and I think that you do it. I’ll be short because I know that we are short on time. This code change is probably the most chelonian I’ve seen it is a two pronged attack. One is that it is magnified for smaller houses. The same features are required, the gentleman said before me that a 1,500 square foot house and I have an apartment that builds 2,200 square foot, 2,700 square foot homes. It is a huge difference and the cost is the same so the impact on a smaller house is magnified. The smaller house is used by first time home buyers. As I have said this at nauseam is that if you don’t have a first time home buyer you don’t have

a second time home buyer. You have got to get in on the ground floor of the home buying treadmill. Otherwise you will never get passed it. The people that need the most help are people that you have to get into the door for the first time. Then they can sell and move up. The new codes that we have been looking at they have construction practices that are not yet approved. I am talking from a liability perspective I know we have an attorney here who would know. Who is responsible for the liability of flaws in this design? You've got siding that goes over failing with a little insulation in between. How do you manage to keep that, I have a master's degree in Civil Engineering from instructions at Washington State University but I know that that bending moment is so difficult to manage. You could have [inaudible] that could turn that pressure. You are going to, you've got the integrity of that house, somebody said that these things need to last longer than houses that were built in 1975 in Spokane I am proud are still standing. To me that is a long time for 45 years for a house. I think these houses need to last. Fortunately for us, today, in 1982 when we had the code that came in we had insulation that fell off of the ceiling because of the visqueen that we put up there. The state skipped it's liability but it paid the builder to try some items. Today the liability ward is different. I think that government has a liability. If these things don't last I think that one needs to think about construction practices because you've been warned. You've been told that some of these materials aren't even available today with new values that are so stringent. Liability for failure when you mandate something is something that you have to think about carefully. That is what happens when you have drywall on the ceiling and you have visqueen on the ceilings and that weight became ten times what it was. They fell off of the ceiling so the entire ceiling fell off in my units in Spokane, houses rebuilt. Visqueen became a liability so the state paid for it and they paid \$5,000 per home for us to build that way and promptly changed the code to paint that had moisture controls. SO my question is this is a dramatic increase. Who will pay and who benefits? [inaudible] I firmly believe that you've got to do something but these codes that we are trying to the area footprint, the carbon footprint that you are trying to reduce. Let me know if I am running out of time. I will send this to you but I think the long division in the return is what we have come such a long way in meeting these standards that we have passed ages ago. We are now in the 95th percentile. To go from 95 to 96 you have a 90 percent increase in construction costs. That does not make any sense unless the law revision return pays off. I am not saying that we should go to having them burn open fires but this carbon problem is not Washington it's all over America it's a dual problem. It needs to be solved in the most cost efficient method that we can find. And certainly not like the first time when we first involved the home buyer. Thank you for your time.

Paul Woodmancie: I own BYK Construction. We have 36-38 employees. We build up in Skagit/Snohomish County. I am on the Sipa Board and that is up in Snohomish County a builders association member of the MBA as well. I know I am front line of the affordable housing issues and the crisis that we have in our state. The issue that

we have and our area is not different from areas in Washington state. We are in crisis level in terms of affordable housing and there is just a few reasons for that. The one is that there is a general lack of housing units available. We are not building houses like we used to. We are not even near the numbers that we used to build and it's made an affordability issue due to the availability of housing. Building costs have sky rocketed over the last years too. Labor, land, material, developing costs have all risen to irregular highs over the last few years. I understand the need to be more efficient energy wise and I understand that we need to move more forward with climate control measures. However the cost to this proposed change is way too significant and detrimental to our current affordability issues. The changes will further affect the ability for middle and lower income people to be able to purchase a home. The increasing costs are forcing these lower income people to rent for a larger portion of their life and taking their home away as a financial asset. This will further create an income and wealth discrepancy that builds to this day. Every single day. Your decision here with the energy code have a real cost associated with them. I actually took one of my houses at 2200 square foot two story home, and I met with all of my subs and I chose which credits I would use for that house to meet the energy code. I came up with a 15 percent increase on that house cost. That number was much higher than the DR Horton number. My costs came up to \$35,000 per unit. This equates to about \$16 a square foot on a house and to answer the question on mortgage to increase a first time home buyer's mortgage by \$165 per month. The reality of energy savings per month would not even come close to that change. That is at a mortgage rate of 3.92 percent. So at mortgage rates go up that discrepancy just gets worse and worse. I am very against the energy code increase, not just because of the way that it is being increased but the increase in credits at the same time as taking credits that we use away is very difficult. At this point I basically feel like the way that I build a home will be radically changed. When I was looking at the building envelope issues I don't even know what to do to be honest. We have been working pretty hard on it. I think we will do a continued insulation, two inches on the outside of the house. How we attach my siding is a huge question. I don't know if the siding company will warranty that. I don't know how my water barrier will stay intact, they're just a lot of things to deal with. The reality is that the construction industry as a whole doesn't quickly change. We're still dealing with the changes that we had several years ago. Building officials, cities, councils, cities and counties they don't even deal with the last change as much as saying ok well let's just be very aggressive with the next change. So it is a major impact. My company will be fine. We will adapt. We will change what we do. We will build differently. My biggest concern is with the lower income families. I really believe that housing affordability is a major issue in our state and in our country and it is going to continue to get worse until we make some changes. Please do not support this energy code update. Thank you.

Diane Glenn asked: Do you feel like there is room, obviously moving forward and still being reasonable or are you just saying no altogether?

Do you really feel like there is room to move within those?

Paul Woodmancie: I think that there is room to do certain aspects to think this proposal is way too aggressive. Right now there is a huge labor shortage in our industry and so they actually changed how we build homes. It is a huge impact. It's not like we can just plug new people in to change how we are building a house. Like I said it is difficult to retrain and redesign how we build homes. My biggest issues are definitely directed towards the on look changes. Those are major problems for us in this industry. Obviously to deal with in the industry.

Kjell Anderson asked/stated: So there is a builders line at WSU that is stat and can answer any questions about construction practices. It sounds like you have some questions about that. Earlier Representative Doglio stated that she was going to be looking for money for training. For you and for anybody else that is mismatched on there cost of something it would be great if you could submit how you got there because the TAG used math and generally agreed upon it.

Paul Woodmancie: When I heard that I was very happy about that. Costs are different throughout the states for sure. I can't argue with anybody on what they're costs are. I can tell you that I literally brought every one of my subcontractors into my office personally and spent two days trying to figure out what these costs were and those were the costs that we came up with. Now is there a different way that I could do it and be cheaper I don't know yet. I am still trying to figure that out with how I chose those energy credits that is the cost that I came up to. I have submitted. I submitted it on Wednesday and it has my plan I showed and it also has what energy credits I chose. I actually gave you a cost break down of dollars that I was told by my subs that would increase my costs.

Deborah Hanning: I would actually like to commit my time to Cory Iversen with energy fireplaces.

Cory Iversen: I represent a company called Pacific Energy out of British Columbia and we went through a very similar situation with BC Government that I was personally involved in. They spent some time in our factory so I would just like to give my part of what happened in that situation. You may find some points. Before I start I would like to say that the largest concentration of gas fireplaces anywhere in North America is the Pacific Northwest. There is several manufacturers here. The decorative category is a very large percentage of those businesses. Several years ago we went through this as I said. The goal was to eliminate low efficiency gas products and it was with the best of intentions. They did proceed but they exempted the decorative category and I will explain why. There were a couple of misconceptions. Number one, if high efficiency low efficiency in decorative products are the same market, and they're not. Consumers purchase decorative products based on price or lack of knowledge. That is not true and removing that product would result in consumer buying higher efficiency product and that is not true. I will explain why very quickly. High efficiency and low efficiency decorative products in the same market. Low efficiency gas

fireplaces as designed provide heat but does low efficiency. Decorative product is designed for not efficiency but is purposeful in appearance, large flames and cool glass are considerations. Very few of these have anything to do with efficiency and certainly are a purchasing factor. Number two. The consumer purchases decorative products based on price or lack of knowledge again not true. It is almost as accidentally close as buying a truck instead of a car. The look of the flame is completely different. Price is typically several times higher with a decorative fireplace and not to mention that the retail industry does a really good job at getting the product in the right place. Lastly, probably most importantly removing decorative products will likely result in consumers buying a higher efficiency alternative. We manufacture a line of decorative fireplaces for the simple reason that it was observed in a new home, paid \$1,500-\$20,000 for a new fireplace and then put a gas lodge set up. This had nothing to do with efficiency and it had nothing to do with price at that level. What it did have to do with was the look that they were willing to pay for. So what we did is we basically came up with a direct version of that. Increased the overall efficiency significantly from 0-35 percent rate. I think that the theory that this type of consumer would just buy a high efficiency product to remove these is wrong. What people will do is they will move right back to where they found them and installing gas log subs into open fireplaces that type of thing. Lastly the idea is that we are talking about the same consumer that is going to be making a choice. I think that we need to remember that these people are putting in a decorative fireplace for the same reason that they are putting in a pool, vaulted ceilings or there sub-zero fridges. It is what they want and that is what they will get one way or the other. So what the BCW did is they implement a low efficiency bench mark which did take some low efficiency products off the market but they exempted the decorative category but they made us represent the efficiency at retail on all products. I think that it was very wise and had the intended consequence.

Steven Tate: I work in sales and operations for Fireside Home Solutions out of Auburn and Seattle area. I have been in the fireplace industry for over thirty years working in the builder and retail sector as well as the manufacturing sector and in our industry association. I have worked with Fireside for the last eight years along with over 190 other people. All of whom would be drastically negatively impacted by this proposed change. So I am opposed to this proposed change to the Washington State proposed Energy Code having to do with fireplace efficiency. The energy code council is not the correct place to decide our industry appliance standards and it assumes that we are not constantly working to improve our products to keep up with the needs of health and safety of our fireplace owners. Our industry the members of the Hearth, Patio and BBQ Association are constantly working within membership and with our local and national government to improve every aspect of our offering. Within recent years we've led the charge to reduce standing pilot systems and improve the safety of our gas products with secondary barriers. We've worked to reduce solid wood burning emissions and have helped many home owners across the

county to convert wood stoves to clean energy burning alternatives through stove change out programs. We are very responsible and we are proactive organization. This proposal is based on information from a study where the sample size of 222 homes. That does not come close to representing the use of fireplaces in homes in Washington state. Fireside, installs that many fireplaces in the greater Seattle area alone in less than a week. If the sweeping industry appliance change is going to remain it takes cooperation with home builders that you've heard from today and appliance dealers and manufacturers to plan the R & B, manufacturing and the distribution of changes to not have a devastating impact on Fireside and the other stakeholders here today. To do this responsibly it takes several years to implement but it is worth it. We are very open to having a conversation but the change that should be through proper legislation and cooperation with all stakeholders. None of us feel like we have been a part of this so far. Thank you for your time.

Doug Orth asked: British Columbia entered a minimum efficiency standard. Did I hear you correct?

Steven Tate: Someone said that. 50 percent on heating appliances.

Doug Orth asked: What about decorative.

Steven Tate: They exempted.

Doug Orth asked: How would they distinguish between decorative and heating?

Steven Tate: They're actually tested to completely different standards. So you could look at their test standard to determine which one they are.

Doug Orth stated/asked: I understand that part but what I would like to hear from you is how does a consumer tell the technical difference between a decorative and heating? Would it be labeled differently?

Steven Tate: We have two ways to look at it. In some cases an appliance that won't meet and this is a rare case, an appliance that won't meet a heater rating standard is going to get an energy rated standard. That is not on purpose and most of the time I am going to say that's a little more old school. We're a little sharper now. Things are going to be much more frivolous. When we look at decorative appliances today and this is market driven it's not an appliance or manufacturing driven we have smart clients deciding to buy very efficiency homes and have very efficient HVAC systems with high insulation and they want to be comfortable in their homes. So they choose an appliance that they can enjoy at the level of enjoyment that they want which might be some beautiful 6 foot wide linear fireplace but they want to have heat managed systems. So if it's not too cold out they don't want to turn on their AC system to have to fight the heat being put out by that beautiful fireplace and they don't like the idea of having to turn it off when they spent \$20,000 to put it in. So it is a decorative appliance.

Doug Orth stated/asked: So are there decorative appliances that meet

this proposed efficiency standard?

Steven Tate: My understanding is that it's about 1 percent.

Kjell Anderson asked: So would you be ok then if Washington socially adopted the BC Standards?

Steven Tate: If you're trying to eliminate any further discussion on yes.

Todd Beyreuther asked/stated: My question is because you mentioned R & D perhaps as a burden to the industry but I would also be curious if you or others could provide the opportunist side of R & D by praetorian action. As a staff of [inaudible] such as automotive, aerospace and building sector if we are a mecca of manufacturing and of course the technology as we are talking about here what would the impacts of the state be?

Steven Tate: I guess I didn't understand your question.

Todd Beyreuther: Just as an automotive regulatory actions are taken, there is an opportunistic side to R & D and manufacturing by being in the lead on that. That would give a competitive advantage to the state. So I would be curious if we could also hear more about that.

Steven Tate: I am sure that some of my investors would love to talk about that but from my experience we love R & D so we don't think of it as a burden. We like to innovate.

Doug Orth stated/asked: What is the approximate split between a heating appliance and a decorative appliance as part of what is being sold in the marketplace?

Steven Tate: I am going to let the manufacturing representative answer. I can tell you from my perspective as the sales guy manufacturing is. I don't think that I will be able to answer that question.

Pat Braddock: I am with Kirkland Fireplace out of Kirkland Washington. We are a four year old business selling and installing fireplaces. I am a northwest homeowner and contractor for over four years obviously. I oppose the gas efficiency bill as my predecessors speaking for the same reasons of how it would not only effect an economic effect to our business and to my employees but their jobs as well too. There are things that they wouldn't be able to install and do which would be a negative effect for what we do. The building code is not the appropriate location for the complexity surrounding regulations of these appliances and how they function. The rule also takes away building for my consumers to be able to make a choice whether they want a decorative appliance. Whether they want a heating appliance or what type of appliance they would like to get. I don't want to take those choices away from them as it also takes away work and jobs. As said before by other folks the products of British Columbia they developed efficiency standards through a regulation. We should follow what they have done and create something similar process here in the state that would ensure manufacturers and stakeholders in this to make the right decision as to what needs to be done.

Cory DuPuy: I am with Fireside Home Solutions. I have been a

[inaudible] for about 25 years and about part of the world for about 45. I am deeply passionate about them both, the earth and my industry. I absolutely agree with the intent of this proposal but I oppose the proposals execution of that intent because it misses the opportunity to create more meaningful regulations that would have far reaching effects on energy efficiency. Legislation offers an opportunity for the hearth industry and government to partner in craft in comprehensive regulations to spur and sell in a competitive market to not only meet but exceed the efficiency standards goals. As it stands this building code change would create an undesirable and unintended increase to energy consumption because it overlooks key factors on how hearth products are used. Thank you.

Jim Adams: I am a territory sales manager for Associated Energy Systems. We are a fireplace wholesale distributor here based out of Kent Washington. My colleague Don mentioned earlier that we do employ about 35 people here in the local area but as we do service approximately 650 hearth dealers throughout the state of Washington. Given what you have heard today from some different dealers who employ anywhere from 2-50 employees I think that we can average about 10 employees per distributor which is about 6,000 jobs across the state of Washington are a part of this industry. Just locally throughout the state our company does about 10 million dollars in the state of Washington. So between the numbers of manufacturers and hearth dealers we are not a small industry but we do support a lot of families and a lot of people. Under the current proposal R402.402.1 what we would be looking at doing in our warehouse is we carry approximately 15 different models of gas vented gas fireplaces. Under the current proposal all of the fireplaces that are currently listed in Z21.50 they are decorative appliances and we would like to put 0. We think that you were asking that question earlier on how the appliances percentage. So we are looking at a 100 percent reduction and what we currently offer is a decorative appliance. What that effectively does is also under Z21.88 for a heater rated appliance because some of them under p4 are, you know they come out to their efficiency listing at about 64.5 percent as there published efficiency coming right in underneath the wire as the proposed regulation being those also coming off the table would effectively leave us with 6 models of gas fireplaces and of those 6 they are most expensive models ranging anywhere from \$3,000-9,000 at the retail level for appliance. In the dialogue for this proposal one of the things that they are saying is the cost savings to the consumer are approximately at \$147 a year. If we were looking at those numbers \$3,000-6,000 more for a gas appliance that \$147 is going to work out anywhere from 13 to 20 years from now to recoup the cost. Not exactly a really good cost savings that is the only thing that we are looking at. I think that is really about all I was going to mention.

Diane Glenn stated/asked: You say you have 15 models and you go to a lot of different dealers. I am curious what would happen to the inventory July 1st what you are going to do with all of that inventory.

Jim Adams: Well should we talk landfill issues? Some of the different

manufacturers have already been in and when we end up with a proposal like this particularly that hasn't been done through, you know typically when we start discussing these types of regulations they usually are done at a regulatory level whether we are dealing with NRCan, British Columbia, State of California is currently working on some regulatory proposals and they are all in the same discussion together looking at the same issue. When you have that type of discussion that involves manufacturers, it involves retail dealers, it involves wholesale distributors like ourselves and you get everybody involved then those kinds of details can be worked out. Where simply coming in and saying that were going to make a change to a building code that is going to implemented at a certain time without having gone through that whole process. You know the interesting thing earlier, the automotive industry and regulations, those types of regulations drop and a change but without having everybody at the table if every jurisdiction came up with their own regulatory standard your automotive manufacturers would basically, the cost for that car would essentially make it only available to the wealthiest individuals. So if we are looking at a fireplace stand point whether the heaters were decorative, if we are not all talking together we are not all looking at the same place. We have different regulations and different jurisdictions that make it impossible for manufacturing and warehouses and distributors to be able to work through these issues. You're essentially only allowing these appliances to be available to the wealthiest individuals in our state and not allowing them even to be available to our low income families.

Doug Orth asked: Do you have a suggestion on how to bring and I am not even sure the energy efficiency is the right measure, but bring in total energy usage on appliances into some form of regulatory structure.

Jim Adams: I think that the model that they have adopted, I know we keep throwing British Columbia out there but I think that because of the time and effort that they went into with manufacturers to discuss these different points they've come up with a very good model to look at and the Canadian uniform standard is to my understanding the only efficiency standard that looks directly at fireplaces to where other efficiency standards for furnaces and water heaters other fuel utilizing appliances aren't always used in the same way a fireplace is used. I think that what they have done up there is a really good model to look at to really make this an effective discussion.

Todd Breyreuther asked/stated: Thank you again for raising the question about innovation so as an outsider to this industry trying to better educate myself. Is it your opinion, if I was to look at an industry let's say as an investor and saw that 95 percent of this use is placed by an action like this that industry is headed for destruction or the technology might not be possible. Do you have an opinion on those two extremes?

Jim Adams: I don't know if I am the right person to answer that question. I am sure somebody will address it during the course of the

day.

Daniel Hammer: I am the president of Sutter Home and Hearth we are a specialty hearth retailer in Seattle that sells and installs gas fireplaces. We have 26 employees and we've been in business in the Ballard and Seattle area for 40 years. Since 2012 we've generated revenue of around a million dollars in the decorative fireplace category just in new sales alone. If you take into account revenues for servicing and supporting this category the number is going to be higher. Each one of these sales was made because the customer was specifically looking for a decorative appliance. These revenues have helped us hire installers, technicians, and sales people. If this category were limited, eliminated we would have to cut back in hiring and eliminating some existing positions. This will do real harm to our business. As most opposed proposed regulation for our products, this one is no different in that it is utterly uniformed in how products work, how they are used in joy and what the economic impact of the regulation will be. Consideration of this proposal clearly had no involvement of the many businesses, workers and consumers that would be adversely effected by this decision. Gas fireplace efficiency proposal does not recognize that they are trying to regulate to different completely categories of products as one. The distinction between a heated rated fireplace and decorative is established and relied upon in other states and jurisdictions as well as nationally. We are going to keep coming back to it but in British Columbia they have recognized the importance of the decorative category as a fundamental difference from the heated rated category. They have set a 50 percent efficiency requirement for heater rated appliances. They have exempted decorative from the efficiency requirement because these products are not designed for nor should they be relied upon for efficiency. This decision was made after stakeholder involvement, meaningful dialogue and then thoughtful action. Ultimately this is not the appropriate forum to decide products can or cannot be installed. A decision like this must be involved in thoughtful policy that is part of a fruitful discussion with stakeholders like Sutter, our manufacturing and distributing partners and the many workers that depend on this category to feed their families. This efficiency standard as considered is not low hanging fruit. It will impact a delicate eco economic system into a far reaching consequences to small businesses like mine and thousands of employees and customers these businesses serve. Because of these facts, I urge, we urge, the State Building Code Council to oppose this regulation. If any meaningful regulation were to be adopted it should first start with robust stakeholder inclusion and discussion to help turn a proper path to help regulate these new onset economically important smart efficiency appliances. Thanks.

Scott Ongley: I am the current president of the NW Hearth Patio and BBQ Association. I am also a supplier for fireplaces we have a family room business that employs 13 employees. Of the decorative appliances it constitutes roughly 20 percent of our gross sales. The impact in a small business at 20 percent is very great. It would impact how many people, employees that we can keep on to service techs and it trickles on down to the installers. It's not just the manufacturers. It's

just not a store. There are techs, there are installers there are service people. They will all be effected by this law. As president of the NWPBA we represent hundreds of employees, manufacturers, distributors, dealers and installers and service techs throughout the state. It's our responsibility as a trade association to state that this code body has not taken into account the full economic impact that this code will have on thousands of individuals throughout the state and hundreds of companies and their livelihood. We would ask you to meet the existing standard which currently exists in Canada. We are willing and always able and have been to sit down and discuss these matters to a beneficial and for all involved. We are engaged in discussions up to this meeting we want to continue those. We want every family in this state to be able to enjoy a fireplace. Thank you.

Nick O'Neil: I am the proponent of this measure. I wouldn't say that I am one of the most popular people in this room. I think that Krista is going to bring up the public comments because I've got a couple of hard copies for everybody to see. I think I would actually like to start by talking about R28 which is in reference to the pilot light provision I did submit a comment on that. I just want to bring that one up because it is separate from fireplace efficiency. That was a clarification and a definition for pilot lights. In conversations with the HPBA, there is a request to have more definition about what a continuous pilot light was. I've worked with them on language and I've submitted a public comment that I believe meets the needs of the industry and further clarifies what that is for code officials to decide what constitutes continuous and what doesn't. Just a quick note on that. On R27 which is the fireplace efficiency metric, so to go back real quickly, as mentioned here. British Columbia has established rulemaking for gas fireplace efficiency. It does set 50 percent FE (fireplace efficiency) threshold for venting heaters. It does exempt all decorative fireplaces. When we talked to the industry about our comments of 65percent for the main opposition that is encouraged is the inclusion of decorative in our proposal. We sat down with the industry and learned a little bit more about the decorative market. How's [inaudible] and then tried to listen to their concerns. So what we proposed here if you scroll down is to actually separate these in the code proposal from decorative and vented heaters. And as you've heard they are two different standards. What we propose to do here is actually keep the 65 percent vented hearth heaters. We believe that there is a good market for that. Then we go back to incentivizing 65 percent FE and above for heaters, that is moving beyond sort of a baseline of 50 percent that British Columbia has used. We are also setting a much lower threshold for decorative that is more in line with what is available in the market. We have proposed that 30 percent and if you scroll down what we did was we looked at the NARCAN list of all the products to find out how many of these products that are decorative fall into this category. I am sorry the one right above this. So that is actually distribution you can see the FE bans in the corner and the lines where we are proposing to draw it and it really eliminates a small percentage of models at the tail end. The majority of models still comply with the FE rating of 30 percent. You can see if we did leave that 65 percent there

still is quite a few models on that list that qualify. We understand that not every distributor tracks those models or the same size of model. We are trying to [inaudible] the industry and try to understand in talking with different manufacturers. [Inaudible] all the manufacturers and FE ratings what that would do if you set it at 30 percent. So you can see there that there is one manufacturer that makes quite a few larger high end products that are very low efficiency. Those would not qualify but the bulk of products would come in above 30 percent. So with that thank you for your support and I will take any questions.

Doug Orth asked: How do you tell other than arbitrary designation between what's a heating appliance versus a decorative appliance?

Nick O'Neil: Just simply you apply the efficiency rating. The ANSI certification on the label. As a consumer I think that you can go into a...

Doug Orth asked: But from an industry perspective, how do they determine, designate one from the other. This one doesn't meet the heating efficiency standards so we follow decorative or is there something more scientific?

Nick O'Neil: There is just a separate ANSI test procedure my understanding is that one of the main differences between them is a vented heaters are thermostat and decorative do not have thermostats. The fact is that they are stamped with the ANSI certification based on that test procedure.

Doug Orth stated: Again, it seems rather circular here.

Micah Chappell asked: Do you feel that your code change proposal addresses each one of those items? Because what we have here is gas fireplaces, natural gas fireplaces, vented gas fireplaces, heaters and vented gas fireplaces and those are all identified in some different standard or different efficiency rating in this code change proposal. Do you feel that is complete and captures all those or does the industry feel that captures all those different types of products?

Nick O'Neil: I will back up and say that that list of products that we found are just for new construction, just zero clearance which are the typical means for installing in new construction appliances. There is a much larger range of inserts and gas logs, free standing, whatnot. But the two main types are decorative and vented heaters. If you look at any fireplace those are the two main distinction between how they are rated. That is what we are trying to delineate between.

Micah Chappell asked: And so with your modified sentence here how does that make it in my opinion read that you have all natural gas fireplaces then you have two categories in a different sentence.

Nick O'Neil: Right. The sentence above looks like the strikeout didn't make it into the emails. It says that the efficiency rating of 65 percent that actually 65 percent should be struck out it and it gets separated in the next two sentences. Gas fireplace heaters which Z20.88 and then gas fireplaces, which you know the term decorative are the [inaudible].

Steve Simpson asked: This is the first time in several hours of testimony

that I've heard 30 percent. Everyone keeps saying 60 and we can't meet 60. Is it solely that we don't have a metric to determine between heating and decorative? Why do we keep hearing that we can't meet the 60 percent?

Nick O'Neil: Right. The original proposal was just 65 percent across the board. As the proponent I am asking to make change. Thank you.

Gregg Achman: I did speak in Spokane. I am willing to defer but it sounds like they're questions and I represent the manufacturer so it may be beneficial.

Doug Orth stated: You've heard several questions today so...

Gregg Achman: I don't know if I have them all in my head so I am sure that you guys will remind me.

Doug Orth asked: Can you tell us the difference between a heating appliance versus a decorative appliance?

Gregg Achman: They are two very distinct test standards. The Z50 has actually got the word decorative in its title. It's not just vented gas fireplaces its vented decorative gas fireplace. But it really does come down to the efficiency. I would say it's not all that different than an automobile. If you want to tow something then you look at horse power and torque. It's kind of the same thing, what are you looking for out of your product? But the other thing that differentiates between heater versus decorative is that heater standards there is a little more rigor around alpha temperatures and things such as that, cycling of a product because it cannot run on a thermostat so there is other safety tests on their design to make sure that there product is safe when people are not attending that product. Because if it has the ability to operate when someone is not in the room. The decorative appliance standard doesn't have some of those rigors because it's basically intended to be an attended appliance.

Doug Orth asked: So if I can re-ask what I am hearing is that it is the intended use?

Gregg Achman: The intended use. It is up to the consumers.

Doug Orth asked: So a consumer could use it in a way that was not intended by the manufacturer. But by the manufacturer opinion [inaudible] and that one could be a heating appliance that not going to apply to a different standard and you are going to essentially going to rely on your dealers to buy that consumer the correct choice. A consumer could still take that decorative appliance with 2 percent efficiency and use it to heat their house.

Gregg Achman: Anybody can do anything they want yes. I don't drive a truck to and from work a hundred miles because I want to tow a boat on the weekend. [inaudible]

Micah Chappell asked: I have heard one person come up and provide a modification and that is Nick. Can you provide a little feedback to his proposed modification because it sounds like hey we want to lower the efficiency standard or provide the correct standard that these have to be

constructed too? Do you have any feedback to that last modification that was just on the screen?

Gregg Achman: It is the first I've seen it so I am not even aware of it at this point and time so I can't speak for all of the industry on it but that is just a new proposal on that is last minute I guess at this point. They're has been no discussion by the industry on any of this prior to this coming into the building code. This was basically out of left field.

Carolyn Logue: That was why I decided not to defer because there was a set of these. First of all on the vented, on the continuous pilot light. We do like that language that has been submitted better because we feel that it will be better guidance for the building code officials to know that it is not just eliminating continuous pilot lights, that there are different types of pilot lights out there and what they can look for. Once again, with the proposal with the efficiency and because of the significant impact on the industry, at this point we are not able to say yes or no to that particular one. We do know because of the work that went into it, what is happening in British Columbia. The manufacturers are turning to that now, they are working on that. The industry is moving in that direction. Therefore that is something that has undergone significant scrutiny by the industry with input and that is what we would go to. That is where you have the 50 percent rating on the heater rated appliances, decorative is exempted but there are restrictions and things that you need to do in terms of labeling and customer education etc. So you can get to, and let that customer know that this is not intended to heat this is supposed to be used in this way. There can be some discussions if you want something that heats, this is what you can put in your place and this is what that will heat for your house. So giving more of that consumer education out there and at this point it's part of our problem with this. It's not that we can't get to a solution, it is that this is not the process. This is not the process for a solution. If this would be done under one of the other state agencies, we would have had stakeholder input. We would have done something under the EPA called negotiated rule making. We could have done a number of other things to get to a really good discussion of where the industry has been involved and where you can truly look at the economic impact and that the small economic impact statements would by law mitigate the impact on the affected small BFF businesses that could actually be done. Because of the way that this has been done. Because it's been done this whole energy code effecting the building that has not happened in this case.

Andrew Klein asked: Was your industry involved in the TAG discussions in the developments on this?

Carolyn Logue: The TAG discussion on this was one meeting with about thirty minutes of discussion on this.

Andrew Klein asked: But were you involved?

Carolyn Logue: We were there yes.

Micah Chappell asked: What I just heard you say is that the 30 percent

wouldn't be acceptable either?

Carolyn Logue: We can't accept that at this point because that's a question about what the industry can do.

Micah Chappell stated: That is what I heard.

Carolyn Logue: It would also make our manufacturers have different standards in different areas as well. That is important to think about and with the cost.

Diane Glenn asked: On decorative fireplaces, when we are talking efficiency and we just want a decorative fireplace do we want the efficiency because the efficiency would go into the heating?

Carolyn Logue: On that part a little bit of the retailers and the manufacturers talked about that. We are going to have a lot of retailers you can ask that question too about what are the customers looking for. What are the discussions that occur? I know that they are very much experts on that and I am not going to take that away from them.

Kjell Anderson asked: About how many fireplaces are installed in the state in a given year? Do you have an estimate?

Carolyn Logue: I do not have that information I am sorry. That is part of the problem. I think that there is some time that it takes for regulatory discussion where you can start to get that kind of information.

Micah Chappell asked: [Inaudible] The industry sounds like it is working on that language. Is it accepting somewhat of that language and are they tooling up to meet the standards of that language. What I haven't seen and obviously as a board we haven't seen in trying to make a vote and a decision on what to put into the code whether we move forward with that is proposed currently or make a modification. I would assume that if the industry is accepting to the British Columbia language that they would have submitted that language as an alternate proposal for us to consider. So if we start trying to do that, if that is what the industry would like to see. We could see that by the end of the day in my understanding from Richard. That could be part of the comment for the State Building Code Council to consider if that is what the industry keeps coming up with and saying this is what they got let's see about following it. I encourage that level of comment so that we could review that as a council and possibly consider that in our vote.

Carolyn Logue: I can say possibly right now that we would officially put that forward as one of the alternatives that you could deal with British Columbia's it's pretty easy to find its 50 percent with the exemption to the decorative. But at this point we are also saying that this was not the right place to do this, if we are going to do these in Washington State. I have actually talked to the legislatures as well and Representative Mike Tackett said that I could use him by name that we are [inaudible] in the discussions we need to make sure that this is done in a forum if there is any regulation on this in the future. Any future discussion happens in a forum that is appropriate.

Micah Chappell asked/stated: In addition to that if you did want to go

with that British Columbia language or submit that to us I would encourage maybe if we are not there with products and your concerned with products being on the shelf then maybe we could look at a delayed implementation date for that standard as well.

Doug Orth stated: Follow-up Micah. We suggested the potential for submitting that BC standard a couple of weeks ago as well.

Todd Beyreuther stated: I just wanted to restate and this maybe for other stakeholders but in Spokane I asked the question if efficiency was really the right measure for the decorative sector and I haven't heard any feedback from my question.

Carolyn Logue: I think we have some experts. I think we will have to talk about that but once again that is something that would require a heck of a lot more discussion than what we have here.

Kip Rumens: It is great to be able to sit here with my daughter today. She is new to this business. I've been doing this business for about 37 years. I am a local manufacturer, Travis Industries right up in the City of Mukilteo and we make a lot of high efficiency heating gas fireplaces but we also make some decorative fireplaces that would be completely eliminated in this standard. Whether it is 30 percent or 15 percent we make them for commercial applications and extremely high end applications. They are called safe touch glass so you can touch the glass while the unit is burning but they are designed for an application where they are fire art. They are a place to gather around. We just put one in the Alaska lounge out of N gate they've got a big fireplace out there that people can sit around, kids could lean against. It is no liability, it is safe it's an enjoyable environment. We would completely eliminate that category for us in the state of Washington and for all of our retailers that sell it and install it and all of those installers, all of those people at the factory that actually build it. So at that mark, it would just eliminate that category. There are more manufacturers that make decorative products that don't meet the heater rule that right now as proposed 99 percent of those would not meet the 65 percent number. They just all would not meet the category. So the work that has been done and that you have referenced. We've referenced, you've referenced it, the work that was done in British Columbia to get to the language where manufacturers have something to work towards to, adapt to, and manufacture to that's the language that would make sense. Because it is what we're already working to since the last couple of years that it took to get to that level in eliminating and coming up with a new language for the pilot lights that make sense. We are all working toward going to some form of not having the standing pilot in our shelves and eliminating that standard pilot. There is lots of technology out there that's available that manufacturers are working towards to make the products more efficient. You had a question on the manufacturing side earlier?

Diane Glenn stated: About the efficiency? When you were talking efficiency. Decorative and you're talking about a fireplace that you can just stand up next to would that be efficient as far as heating?

Kip Rumens: No. They are just a decorative fireplace. They are sealed

combustion. They don't interact with the room. They are not like open fireplaces where they are completely sealed type combustion, air tight combustion where they are designed with double panes of glass but they are designed to go into an application where they are safe.

Diane Glenn stated: But you wouldn't want those to be heating efficient?

Kip Rumens: Nobody would want those to be a heating appliance.

Eric Vander Mey asked/stated: So this change is proposed for the residential energy code which applies to single family homes, duplex, townhouses, up to three stories of residence. So how many of the decorative safe touch fireplaces go into that market versus the commercial buildings? How many safe touch?

Kip Rumens: As a manufacturer that category is going to go into the custom homes. So in the custom homes side of it, in that category, if all of my competitors would leave the room I could give you some numbers but yes they do go into residential homes as well. High end residential homes. They are not going to go into multifamily. It could go into a multifamily amenity spaces where they have a pool table and a welcome area. Things like that, we've put a lot of them into an area like that. Again, because of the application of the safe touch glass.

Eric Vander Mey asked/stated: Ok, so are those products typically more expensive?

Kip Rumens: In our category yes and the other manufacturers it's going to be less expensive on the decorative side. Decorative can't be defined as inexpensive or expensive it can be both.

Eric Vander Mey asked/stated: But the safe touch type technology is more expensive?

Kip Rumens: Yes. Everything now a days have to have a safe touch screen on them if it's got glass that is over 175 degrees. If you have a screen in front of it, safe touch units you can have double glass and don't have to have that. That's all.

Colleen Kittridge: We are all a team for the NW. I've been in this industry officially for two years since I graduated college but unofficially I have been running around at fairs and sales with my dad thinking I was helping since I was a little kid. I am opposed to this proposed code because I think that there are some changes that need to be made. A lot of research needs to be done to evaluate the economic impact because we work with several stores. Just in Washington State alone we have about 40 accounts that we work with all from a 2 person shop to a 50 employee use. All of those people will be affected in some way. Whether how drastically we don't know that and that is part of the discussion that needs to happen be we need to figure out how this is going to affect those families. Then we also need to make sure that we talk to individual industries like we do now but given the opportunity to talk more with the industry and members of the industry and we've got all retailers and manufacturers and everybody. I think that we need more time for discussion on that for sure. We don't just want to continue throwing regulations out seeing what works and seeing what doesn't

work. Having to repeal things and change things so it's just a matter of making sure that what we are going to do is the most effective and the most efficient way of completing the task that we want to accomplish. Again that is looking at that British Columbia type of adoption and going through that type of adoption process and legislative process.

John Waterstraat: We are a family owned operative fireplace installing distributor and installer here in Washington. 70 percent of our business is supplying the new construction market installing fireplaces for homebuilders here all the way from Bellingham down to Olympia. With the remaining 30 percent of our fireplaces going to the retail and retail client. In 30 years we have grown from 5 employees which my father in law started in 1985. We currently employ 190 people at our place. I am here today on behalf of Fireside Home Solutions to testify in opposition of this code amendment on behalf of fireplace efficiency. The proposal to amend the building code has not reviewed the economic impact it will have on businesses on mine and others like mine in Washington. Fireside alone is at the risk of losing more than 65 percent of their products that we currently sell in the new construction market. The result for this change in the code will have jobs at risk and drastically effect our revenue which we put back about 42 million dollars into this economy. Again I am here on behalf of our fireplace industry and saying that we definitely want to have a discussion and open this up to discussion but not having us stakeholders involved in that discussion and what it does for our building or for our employees and our businesses is very disturbing. I just wanted to end with a little story. I have had the honor and privilege to work and lead Fireside Home Solutions for the last 21 years. In those 21 years I've learned and grown exponentially as a business leader. I wake up every day reminded about the last recession that we had. The emotional roller coaster and the many tears laying off people that I consider family was devastating and something that I never want to repeat. We have survived that recession and had the opportunity to rebuild this tremendous company. One of our core values is that people are the source of our strength. People at Fireside our source of our strength and success and most importantly part of our family here in Washington. I am here to fight for my business and the hundreds of employees and families at Fireside and their jobs. I urge the council to oppose this code amendment. The economic impact would be catastrophic for our business and could result in loss of many jobs. I just want to thank everyone for listening on this important matter.

Ryan Carroll: I am going to forgo the prepared comments here, I can say more on the stakeholder input the organization needs for our industry. The parts that are manufactured and I have a bunch of these in the US or Canada are sold universally across the border so harmonization is important to us and the need to consider the economic impact. Not only on the homeowner but also the small businesses that comprise this industry. I think that the comments that you've heard today speak to the fact that there is an opportunity if not a need for additional discourse on this and we welcome that opportunity. I want to think back to some of the questions that have been going around hopefully I can

answer at least one or a handful of those. Mam, I think you asked the question about the fireplace heating efficiency, the right metric for measuring the efficiency of a decorative appliances. So the best standard that we have in the industry right now is p.4.1. The Canadian standard with 50 percent fireplace efficiency minimum that BC and NARCAN have adopted. It is not perfect but it is far better than how this all started back in 2008-2009 when the US Department of Energy was seeking to impose a minimum efficiency using AFUE on our appliances. That's very much a central heating furnace cycling standard that isn't really applicable to an appliance that is used for a 2-4 hour period a few times a year. You're not worried about the annual lives, fuel utilization. So p.4 was in existence and it's a far better metric but when you talk about a decorative appliance especially a decorated vented gas fireplace you know maybe the right metric is how much enjoyment you get out of it, how many lumens you get out of it. It could be any number of things but they are not purchased if you have heard manufacturers and dealers they are not purchased as primary heating appliances so just because you make an electrical appliance a primary heater it doesn't make that a better decorative appliance. P4 is hands down the best that we have right now it's annual in nature still. Your required to cycle a decorative appliance when you test for fireplace efficiency and as you've heard from one of our manufacturers or someone up here might of mentioned is one of the key distinctions is the decorative appliance cannot have a thermostat so now your testing that appliance with cycling as if it were operated on a thermostat. So it has it's rewards but it is the best that we have right now. It has been around for a long time and I think that it is really think that it has increased consumer appreciation with the different types of products. Our dealers have done a great job in explaining to perspective customers, you're going to get a pretty good heater is that what your after here. Or if you're more on the market for a decorative product let's see what we can get you into there. That is a stab at answering one of the questions. I don't have anything else prepared but I can try to answer any other questions that you guys have.

Doug Orth asked: Do you think that the industry is already starting to pivot towards designing and manufacturing product that complies with the BC standard?

Ryan Carroll: It came into effect of January 1st of 2019. Yes, I am fairly certain.

Tim Reed: I work for Fireside Home Solutions you've heard a number of our team members speak and you just got to listen to John talk about his thoughts with it and this is a really big deal. I work on the sales team, I work in marketing as well and one of the things that I want to stress with is for me personally I am really sensitive to the topic of climate change. I think that it is something that we need to be thinking deeply about so that the heart that is behind this initiative is something that is really important. The problem and the reason that I oppose it is for really three things and number one is that the economic impact clearly has not been thought about. As you hear from all of the stakeholders,

manufacturer, retailers and distributors and you know this is something that a 30 minute meeting is going to be the only stakeholder involvement there is no way to account for the economic impact with that. I think that the comments today have shown that there are some drastic measures that may have to be taken by these companies. Number two is going to be that this feels like it is being pushed through the wrong channel and something like this needs to go through a much more robust process of legislation that involves a lot of stakeholder input. You keep talking about the Vancouver and BC initiative and California is working on things to and the reason why those have gone very well is that the industry is being involved and it's something that is being worked on together. Number three though and the reason why I oppose this is because of the time frame. So this is extremely hasty implementation. This was first drafted back in May, give or take, and to do something like this it takes time and I want to speak for our industry. I guess I also want to mention that I am on the National Board for the Hearth, Patio and Barbeque Association. Speaking on behalf of our industry, we want to be a part of the conversation. The issues that we are talking about are extremely important but it seems like there is a fundamental misunderstanding between decorative and heating appliances and that is something that we want to come to the table with we want to be part of the discussion and we want to be part of the solution for it. Our industry has felt like that hasn't been acknowledged. Thankful to be here speaking today and I am speaking against this.

Rick Lucas: We are a hearth distribution company and been in the state of Washington for 40 years. I want to say thank you to all of my friends in the hearth and patio barbeque business that are here taking their time off work. They are not there operating there businesses today and our first speaker today brought up that she has been speaking with young people with their concerns about climate change and she said it twice. I want to let you know that we in the hearth business we care about the climate change too. We care about our environment just like everyone else does. So we are here basically fighting for our business trying to get everyone to understand what it is we do. One of the things that we do is we sell highly efficient appliances that heat. We sell decorative appliances that bring beautiful fire into people's homes. That is basically what we do for a living and we are very proud of it. I am going to encourage you to take a good look at that Canadian standard. We've all seen it and it seems to be a good fit. Thank you for your time.

Traci Harvey asked/stated: Everyone has been saying that you're against the standard. I've talked to some people personally and said that you have to give the council to go off of. Being against something at this stage of the game just makes it a little difficult. Is there a distinguishment to the code, everybody refers to this Canadian standard. Is it the heating efficiency? Is it the decorative?

Rick Lucas: Yes it is definitely the decorative appliance you are applying a heating efficiency to an appliance that is not designed to have a heating efficiency. It is not built for that it never was designed that way. It is just decorative. It is just supposed to be pretty fire you put it in your

house.

Traci Harvey asked: There is a BTU thing that doesn't meet the needs of exempting it.

Rick Lucas: 9,000 BTUs is about four candles. You got to equate what that actually means. The average heating appliance in your home would probably be around 35,000 BTUs would be pretty close to an average.

Traci Harvey stated/asked: I know that Doug has asked multiple times and it seems that this might actually help. Is there some way to definitely define decorative to provide an exception?

Rick Lucas: Decorative fireplaces aren't designed to heat a home. There is nothing about them that says they are going to bring heat into your home. They bring a fire into your home for a beautiful presentation. They are to be enjoyed. The largest difference that I see is one is designed to heat and the other is not designed to heat. They purposely get rid of the heat so that you don't run air conditioning to cool the house back down. Does that make sense?

Traci Harvey asked/stated: It makes sense. We've got a lot of smart people in here it sounds like. Does anybody have any thoughts put your heads together at lunch whatever to come up with maybe a decorative exception that would actually make sense? At least give us something other to think about than...

Rick Lucas: You have struggled with this and you have asked this question repeatedly and every time we explain it you seem to want put some kind of a BTU to it or a gas usage to what is a decorative fireplace and what is not. Is that correct?

Doug Orth stated: No. I think simply it is just that we want to define what it is. So we could put into writing that one is designed to heat a home and the other is designed to give you a pretty fire in the house.

Steve Simpson asked: The proponent came up with a 30 percent.

Rick Lucas: 30 percent would actually not work for my company and many of the companies just because they are not designed for efficiency at all. I would say just from my point of view, no.

Micah Chappell stated: This is in the energy code, not the building code, energy codes. I guess the overall issue is the energy use or energy waste of decorative fireplaces. Yes they are not heating but they are using an energy resource and more or less is it going up and out the flue or not and out into the atmosphere and being wasted some way shape or form. How do you address that in this proposal and maybe this energy efficiency is not the direction to go but again speaking to Traci as well, we are just hearing you opposed to something but we are not hearing how to get either in the middle, go backwards, something else. You are just saying that we want to eliminate decorative but you're still wasting energy in a decorative appliance and how do we recoup that or mitigate that issue.

Rick Lucas: So one interesting way to look at it is that a decorative fireplace how many hours a day does it run compared to a heating

appliance or heating appliance. It's going to be very minimal. You're going to sit in front of that fireplace. You're going to have a glass of wine for an hour or two, you're going to turn it off and you're going to go into another room. You do not leave it on. It doesn't run. You're not wasting a whole bunch, yes it's not heating the house when it's running we get that but they are also not designed to run as a heating appliance for hours and hours and hours. They actually have very short limited use. If you're looking at a way to save energy I would say a decorative appliance is probably not a good target because nobody is running them as long as you think. It's not like you turn it on and you think for it to warm up a room and then you leave it on when you go to bed. It is just like turning the TV on, when you are sitting in front of it you're enjoying it.

Todd Beyreuther asked: I will state that I am asking to help better understand what the impact is and that is probably that it is the use. If decorative is best defined by heating efficiency and we establish heating efficiency as energy efficiency is based off of some sort of impact ultimately right? I am asking to better understand how we would get down to something that is an occasional use for entertainment as it's been defined. So I think it really is important if it is going to be classified as something else we understand the impact.

Rick Lucas: I think that best way to look at that is why Canada exempt them. They went through this exact process that we're having. Maybe we think that we are smarter than Canadians I don't know I am probably not but I just think that you could go round and round about this and you're going to say wow now we understand why Canada exempt this particular appliance.

Andrew Klein asked: We did hear about two different UL standards to which fireplaces are tested. One specific to decorative. If we exempt fireplaces tested to the decorative standard would that satisfy industry?

Rick Lucas: *I think that is actually the largest issue. You just hit the nail on the head. That is why everyone has referred to that Canadian standard that exempts the decorative fireplace.*

Amy Wheelless: I appreciate everyone taking the time to talk about energy codes today. No one in my house will talk about it with me. I am the public interest representative on the Energy Code TAG and I also work with the NW Energy Coalition. I work at the Energy Coalition and we have seen significant positive impact that energy efficiency has had in our region since the late 1970's. We have implemented programs, codes and standards to avoid the electricity use of about five Seattle's. The Washington Energy Code has been a big part of that and we have more to go. We are in support of the strongest energy code this council can advance. It will keep us on a path of Rep Doglio talked about this morning towards our clean energy goals and it also helps keep our energy rates down. We are particularly in support of the changes to the option table. It adds options. It clarifies and makes them structural changes and yes it is going to require some more efficiency in our new homes. We absolutely agree that affordable housing is important. It is

essential but meeting the energy code is only a small part of the cost of a home. Utility bills are a big part of living in a home. I think of my own home which is about 1500 square feet. I could sell it and buy a new one under this same proposed code in my same neighborhood and just because of the demand for housing they are going to cost about the same but I am going to save hundreds of dollars on utility bills by living in this new home. This week the national association of home builders testified in front of Congress that we need to do more about efficiency in homes and I totally agree. They were talking about efficiency of existing homes, not new homes and I still totally agree but it is very quickly that a new home becomes an existing home so let's build them as efficiently as we can now so that we can avoid expensive retrofits down the road. Thank you.

The Council took a ten minute break.

Graham Wright: In case there are commenters here that the proposal went too far and too fast you could count me on the other side. I support these proposed changes. In my personal opinion all new construction out to be net zero starting right now. That does raise the question of what's the right mix of measures between envelope and equipment efficiency, onsite renewables, offsite renewables. My day job is mostly about getting that right in my program and I think that we mostly got that right and Passive is the right basis for net zero. I am the proponent of the Passive House alternative appliance path if you have questions about that. The idea there with Passive House is that for like an extra ten bucks a square foot up front, yes, you get rid of most of the heating bill and save something like 60 percent on the energy overall every year and you can turn that ten dollars a square foot first cost per unit into zero, by just making the units a little smaller. It's not like your choice is between passive house and building another house. If you give up building a passive house maybe you can give up building ten percent of another house. New construction is really the best opportunity to use conservation measures and let's save the new wind power for running the existing buildings and charging the electric trucks.

Jonathan Borke: We are a privately owned fireplace manufacturer with locations in Langley, British Columbia and Ferndale, Washington. Our business employs approximately 150 employees between both locations. We've been manufacturing beautiful, safe and reliable fireplaces for both the residential and the commercial markets to longstanding customers throughout America since 1972. We currently offer our products for sale in all 50 states and 10 Canadian provinces to over 300 independently owned dealers. Our unionized Ferndale, Washington operation has been in operation for over 20 years and employs over 50 full time staff over half of whom have been employed by us for over 15 years. Here in Washington State which we consider our home market in the past 3 ½ years we have sold over 16 million dollars' worth of product and it represents over 10% of our business. Of those sales, over 90% would not have happened were it for this rule. We are opposed to this rule as it stands and our opposition is, I'm not going to get into the details of the opposition. Many of the preceding

speakers have gotten into the details of the opposition. Fundamentally we were involved in the British Columbia process. We are involved in now the Natural Resources Canada which is a nationwide process. We are also involved with the California Energy Commission on very similar objectives. We want the objective here which is to reduce greenhouse gas emissions especially on today's day given what my children and many other people's children are probably doing at the moment is opposed to being in class. We feel that there needs to be a good consultation process. This process has not been consulted. It has basically here it is and deal with it. The industry is not prepared. We're not prepared. We were able to prepare for British Columbia because for over 18 months we consulted with government on this and we prepared our operation accordingly. We were ready on January 1, 2019 to deliver the products that the market required. We are doing the same thing with California now and we did the same thing with the government of Canada. It was mentioned earlier, does industry innovate? Is this spur innovation? I would say that the market is typically the genesis of innovation in an industry. When government is the genesis of an innovation in an industry it typically results in mortality. I would argue that the consumers are asking for certain products. Let's work together to find out what those products are and in a consultative environment working to achieve something that satisfies all the stakeholders. Thank you.

Todd Beyreuther asked/stated: If 65 on the heating efficiency are the technologies above that about 65 mature or would you define them as emerging. In my mind the difference is they have room for innovation. Emerging technology has a lot of room for innovation and cost reduction where a mature one might not have enough room beyond scaling.

Jonathan Borke: I would argue, I can't speak on behalf of the whole industry I am one company. I can say that we are constantly innovating. We spend over a million and a half dollars a year on research and development for new products. As it relates to efficiency standards, we can make very high efficiency products but is it something that the consumers want? Many of the products that we sell here in the State of Washington as mentioned are decorative units for intermittent use. People use them for, if you look at a 365 day year they might use them for 20 hours, 30 hours in total because they are meant for that purpose to be a decorative appliance in their home where they are gathering around. They are not turning them on like in a ski resort where you might have an appliance that is just intended for heating and all you want to do is turn it on to take the edge off and warm the place up, leave it on for maybe 6-8 hours a day. Our decorative units are not intended for that use so I think that the discussion that needs to happen between our industry and ourselves is what is the intended use of these units and can we achieve the objective which of course as I mentioned we all support, but by different means of the code changes that are contemplated currently.

Joe Herr: I am currently the plans and permit manager for Terrene Homes. We are a luxury and spec home builder in King County. I've

been in this industry for over 45 years. I am currently the chair of Master Builders King and Snohomish County, on the Residential Builders Council and I also served as the builder rep on the Residential TAG for the last two code cycles. I would like to start by noting that currently Washington State has the most restrictive energy code in the nation. Far exceeding the national code and far exceeding states that have more severe weather than we do. A little history because I have been in this since the beginning. The first time the energy code was introduced the push to natural gas was unprecedented and here were the reasons. We have no capacity for more electrical usage. We aren't building more electrical dams or nuclear plants. We have an abundance of natural gas. The energy code was written to provide incentives to use natural gas and to move away from electricity. In fact if you used electricity you were penalized. Now this energy code is going the completely opposite direction pushing electricity as an energy source while our governor is wanting to tear down electric producing dams. So where does this new electrical demand come from electric resistant heat is inefficient. I've seen this industry change many times, but this time I am afraid that it is going to be a change in a way that it might not recover from. When the first energy code was introduced, elders, we grumbled, we made it work. Housing prices went up to accommodate the change. We tightened the houses so much. Remember the first time we wrapped the inside of the house so much in plastic we grew mold in our houses. Then we decided that we needed more ventilation so we started window pours, cutting holes in the walls. The customer and the consumer was confused. They wondered why we tightened up the houses only to introduce outside air. Then we decided that we needed to incorporate that outside air into the furnaces, people complained. Why is my furnace running and blowing cold air? My furnace must be broken. No we explained that is because we made the houses so tight that we have to bring fresh air back in. So this idea that we're going to have air changes per hour in our house ceiling all the while running a furnace and introducing cold air throughout the house. Wrap your head around that it doesn't make sense. The second revision to the energy code once again raised housing prices the industry coped, the consumer paid more for housing. This time I think that we are pushing too far. This mandate to provide for people to switch over to electrical appliances, water heaters, ranges by providing we require space for electrical supplies adds additional cost. If you choose to use a gas or propane water heater and we are talking about the most efficient ones, tank less. We have to provide an interior space, 3 feet, by 3 feet, by 7 feet tall, located within 3 feet of the proposed water heater and electrical. Space that may never be used. Basic costs upward to \$120 a square foot. Keep in mind that every \$1,000 added to a new homes prices almost 3,000 people out of the new home market. So this code is further putting affordable housing beyond the means of more people. The comment that, I am not sure how you pronounce your name, KJ, but you said that the energy code TAG said a \$1,000 was going to be there proposed of what this was going to cost. Those alone are going to cost over a \$1,000 as we go to triple pane windows. I mean a \$1,000 to \$2,000 was there quote that this energy code? I'd really like to see their

numbers. I defer to the other people that are in the room who talked about the \$30,000 and the \$40,000 costs.

Kjell Anderson stated: I think that the numbers are available.

Joe Herr: It would be interesting to see because you can't even wrap the exterior of the house in a sheet of two in Styrofoam for a \$1,000. Then this brings me to I am looking at water heater options in 5.4, 5.5 & 5.6. If you look on the NEA website for tier one and two approved water heaters, there are no tier two water heaters. I have the list. The insulation requirements means using framing members that could be far larger than required for structural needs. This at a time that forest trees are at a premium. The economic impact will then reverberate through this entire building industry as our builders are no longer able to sell more expensive products all the downline manufacturers, supplies start to feel the same impact. Jobs lost, companies collapsed. The other proposal, vertical [inaudible] trusses. Very detrimental in many jurisdictions because we have height restrictions. You add 14 inches to the outside of a house and suddenly in many jurisdictions where 25 feet is the height limit, we can't build a house. You can't build a two story house and you can't build a one story house efficiently on the size of the lots that we now deal with. The window requirements are now going to be triple paned glazing. That adds approximately about 50% more to the cost of the window. Not only that but it reduces the size of the window because of the weight restrictions with the vinyl framed windows which we are now mandated to use because of the previous energy codes. The increased exterior of the addition of the exterior type of foam insulation increases costs related to shear issues and definitely complicates window flashing details which Diane can attest too. The new point systems did not only increase the required amounts but because you took points away, it actually increased the amount of points that nobody is really talking about. So it is my opinion that this new proposal is one that we don't need. The energy code that we build with is great. We have managed to make it work. We build the most energy efficient houses in the entire country. When I attend builder shows, I meet other builders from across the country. They are amazed that we pay more in associated taxes fees, access code requirements than they sell completed houses for. In fact, people in this area pay more for their cable bill than they pay for their gas bill. This housing crisis is only going to get worse, not better. The cost of the housing goes up the small amount of energy in cost savings never is going to equal a repay the cost associated with providing them. In closing, I think that the TAG for the Energy Code did a disservice to the citizens of the state by proposing these rule changes. Thank you.

Jeff LeClaire: Micah and Todd you had questions in regards to decorative appliances and there use and how to measure there use or how do you measure whether that's a right choice for a home and you justify it in an environment where were trying to reduce energy use. This is a question that we deal with the hearth industry has been around a long time and people come to us looking for a fire. It is a desired attribute to a home. Can you agree that is something, especially in our

state that we've grown up with? Maybe you didn't. I certainly did. That continues every day. People come and ask us for a fire. Overtime, people have asked, we started with wood, back when I started that is all there was a house with wood burning stoves. Right about that time they started to get cleaner so that there would be less emissions etc. over time and now we have got to the point where we've got the cleanest fuel available to us from an emissions standpoint, natural gas, and methane to produce the very smallest carbon footprint in order to make a fire. So we've been encouraged by not only our clients but even regulation to move people into that realm of having a fire using natural gas, the cleanest burning fuel. It feels like now that is even not acceptable, that you can't enjoy a fire. When I say fire enjoyment that is what I mean. I mean just enjoying a fire. You walk into any restaurant or as someone mentioned the airport and you see the fire you don't have to go over there and put your hands next to it and feel the heat to enjoy it. It's enjoyable just to be around. If we take away a decorative appliance which is one in most cases when I say sealed combustion decorative appliances. They are attached to the outside. They draw air from the outside so they are not utilizing conditioned air in the home for air and then lost up the flue like a wood burning fireplace would be even with a set of gas logs. Your normal decorative gas appliance is going to have somewhere between 20 and 60,000 BTUs depending on its size, you know which is going to be purpose based or home sized based. That's different from even burning an 18 inch gas log set which is 65,000 BTUs the average is a 4 inch gas log set which is 90,000 BTUs. Not only is all of that heat going out the flue but it is using a huge flue to suck all of the conditioned heat out of the house. We feel that a decorative appliance that is going to be the most efficiency use of gas to create that desired fire and then lowering its efficiencies so that your air condition system isn't running is actually a more efficient use of energy to enjoy that fire than trying to put this high efficiency appliance in their home and then they are trying to run their mini split to try and cool the space to make it comfortable to be in. That is how we view putting the right appliance in the right space, for the right purpose. That is where decorative fits.

Andrew Klein stated: I don't want to speak for anyone else. The overall issue, I think what Micah was asking is what type of exception language can we put in there. It is a code official that has to enforce it. So if you just have an exception for decorative fireplaces, the code official will be confused, how do we know what is decorative and what is not? If there is specific language that can go in there and if not then, there is not but if there is that's what we need to know.

Jeff LeClaire: From an industry stand point, the only thing that we have available to us is what's provided to us and that is ANSI standards from the testing. That is all we have. It's ANSI z21.50 appliance.

Andrew Klein stated: I would suggest that you guys submit that exact language that you want there as the exception.

Micah Chappell asked: Is that on the label that is on the appliance?

Jeff LeClaire: Yes, it is part of the requirement of the installation manual itself that the code that it is tested to is in there.

Micah Chappell stated: I agree with Andrew, as long as there is some language that steers the code official to that I am fine with it.

Richard Brown stated: I just want to remind the council and those in the room that the deadline for submitting testimony is midnight. So this request to submit something is midnight. E-mail is actually preferred.

Andrew Klein asked: It doesn't have to be formal does it? Someone can type it up as a single sentence right now and forward it out to you.

Chance Bremer: I am an operation manager at Chimney Techniques in Aberdeen Washington. I think that we have established why we are all here so I will not hit that over the head again. I do find it a little funny that we are getting lectured by the government about conservation, seeing how our national government has a 23 trillion dollar hole. Our state has billions of dollars of holes and the private sector usually comes and helps everybody out. So I would like to start there. I think that I have a unique perspective on this being a millennial and also going to college for political science and economics. The first thing that I learned in economics was if you have one dollar it is probably not a good idea to spend two dollars. The way that we try to fix these problems are noble but the road to hell is paved with good intentions. When we regulate, when we try to tell people this is what you should choose and if you're not willing to do that we are going to have a government mandate to push you that way. That's a violation of the fifth and first amendments so that's more of a legal question than anything. After that, we have to look at history. When we tried to intervene in the 70's with price controls and wage controls it created a short boom. Right after that we had a recession of 81 and 87. Our answer to that was to print more money and put more regulation on the books. Neither one solved anything. We hit the dot com boom where the same problems have happened. I had the luxury of growing up during the great recession of 08. We are following the same trends that we have done for all of these major conflicts, economic conflicts that our nation and our state have faced. If we want to avoid these things, we have to come together with the idea that they're are regulations that are needed, but we also need to look at a lot of where these regulations are going for the name of low and middle income of Americans are hurting middle and low income Americans. The blue collar person, the secretary at the desk, these people that get up every single morning in a field that is getting regularly attacked by people who quite frankly have little or no idea what's going on. So I believe an understanding of your community and the idea that these people rely on these jobs. In our country we have a million jobs in the labor field that are being unused because it starts up top to where this idea of working in the industry is blue collar, it's not that you need to go to college. These emissions all of this is hurting the economy and hurting global warming. The science on global warming is being argued. It was being argued long before I was born and long after I will die but what I do know is when these things are pushed through without a big consent of the people that you guys

govern that is where industries fail. That is where economic downturns happen and that is where divisions among citizens occur. Thank you.

Troy Olsen: We manufacture three different types of fireplaces for sale currently in Washington. I oppose the energy council code ruling. Earlier I heard somebody ask the question about the revenue impact in terms of fireplaces. I will tell you that about three years ago I saw a number that was provided by the industry, again you have to take this with a grain of salt because it is reported by manufacturers. The number for the state of Washington was 29 million dollars. This proposal would eliminate over 85% of that 29 million dollars as it is written today. That is just product. That is not labor. That is not the support that goes into the installing these products. In effect you are decimating an entire industry with the sweep of a pen. The other thing that I heard this morning that I would like to speak to is earlier we heard a few builders come in and talk about the current housing crisis that we have. What I don't think that has been considered within this proposal is the impact on the amenities in the homes specifically the fireplace. Recently a company called Kaufman New York, a market research firm based out of Wisconsin did a survey on the amenities in homes and the importance of those amenities, emotionally to the people that are purchasing these homes. 91% of the respondents, which was a nationwide survey, responded that they, in terms of purchasing intent needed a fireplace within the home. Again, under the current proposal we are going to eliminate over 85% of those fireplaces. If we start looking at desire and then trust me as a parent or somebody that has raised three children in the state of Washington, some of the best memories that I have with my children are not sitting and watching a television in our family room. It is the time and the exchange that we had as a family in and around the fireplace. It was a focal point in the room. It is a focal point in the design element of the home that we are talking about eliminating without an active shareholder, stakeholder discussion. I think that is important for us to consider in this and again I represent not only the manufacturer but over 800 HVAC contractors that use fireplaces as a portion of their revenue base. Not just specialty stores, even though some of these specialty stores and many of the people in here I consider friends. I have done this for 24 years and this is a great industry with great people. I have been active in assisting our industry to work with other agencies over the time and I don't believe that's really happening or happened in this case. We have proven in working with the EPA that in working with the Department of Energy that we do actively try to improve our products but as we talked about efficiencies and as it relates to this; a, the decorative category is a really, really important category not just to the high end but to that entry level customer and to those young families that want to create those same memories around their household. We are talking about completely eliminating that from a new home at this point. Thank you.

Todd Beyreuther asked: Thank you for separating out that there is going to be some impact to product and it would be great to have some of those references but also to better understand that it wouldn't eliminate necessarily 85% of the product but it would be a transformation and a

certain adaption. This is what I am asking and would appreciate any help in further understanding where the impacts would be assuming some sort of...

Troy Olsen: I think that you have to look overall at the cost being able to do that and when you start talking about a decorative appliance versus a heater rated appliance and I am not talking about the cool touch glass product. We make that too. I am talking about the entry level product. The product that keeps a home affordable. That is really where the impact of this proposal hits home. In that you look at something that has the cost of goods of under a \$1,000 that can be put into a home that is 1500 square feet that is going to sell for a quarter of a million dollars. When you start looking at the reality of it, the building community tends to take those amenities out when they are trying to make these homes affordable. What this study proved was that the consumers didn't like it. The consumers want these amenities in their homes. This is what helps them purchase homes, helps them make the decision to purchase homes. We see it both in the specialty realm and in the heating and air conditioning realm where they come in after the fact in a home that wasn't built with a fireplace. They could have probably recovered their cost in a relative short period of time. To come in and retrofit a fireplace to that home to add that amenity back into it now that bill becomes \$5,000. So we have quintupled the amount, the cost of adding a fireplace to the home that we could have started with in that same residence. Energy usage I understand and we are not necessarily opposing that the standing pilot versus the continuing pilot issue. We can prove that we can save a little bit of energy by doing that but everything that we do, everything that we do every day requires some type of energy for a benefit. That is what we are talking about here. To be able to turn the fireplace on two hours a night and sit and enjoy a book if it's just me or sit and talk to my wife or have my kids over. Those are things that you cannot put a number on. Health and wellbeing is as important in our society today as energy conservation and it is something that we largely ignore.

The council decided to limit comments to three minutes in order to have all people who signed-up, testify.

Bruce Bassett: I am a current council member and past mayor for the City of Mercer Island. Mercer Island is a member of the King County cities climate collaboration or k4c. The coalition of local governments, King County, 16 cities and the Port of Seattle representing nearly 1.6 million residents. Our cities seek overall greenhouse gas reductions of at least 50% by 2030 and 80% by 2050. The built environment is roughly responsible for a quarter of the greenhouse gas emissions in King County. We are working to improve efficiency in our commercial and multifamily buildings in our jurisdictions but need stronger residential energy codes enacted at the state level in order to meet the k4c's carbon reduction targets and to support the energy transition spelled out in the state clean energy transformation act senate bill 5116. I support the code revision proposals currently before you. In particular I would call out support for the following; proposals 23 & 31 requiring

additional energy credits. These proposals preserve flexibility for homebuilders while moving towards more efficient construction and it is needed to meet both regional and state emission goals. Please support these proposals. Proposal 43, requiring electric readiness for appliances. As a homeowner who recently endured the expense and disruption of retrofitting my home to add an electric car charging outlet, I dearly wish that wiring had been added when the walls were open. Please give future homeowners the option and easily switching to electric appliances. Finally for proposal 36. Which switches carbon emissions accounting alignment with the commercial energy code. Our environmental problems associate from carbon emissions, not from energy usage. The transition to carbon accounting resolves this mismatch from an existing code and environmental reality. Thanks for your service to our state and for your time today especially in this marathon session.

Nancy Tosta: I am in the 6th year of serving as a council member in the City of Burien a community of approximately 60,000 people. I appreciate the opportunity to be here today with the added benefit of learning more about decorative fireplaces then I realized I ever needed to know. I am speaking in support of the proposed energy code amendments currently before you. Burien is also a member of k4c, the King County city climate collaborative as described to you by council member Bassett. We are not a wealthy city but we are considering ways that we can meet the k4c goals to ensure sustainability and resiliency in our community. As council member Bassett said a quarter of a million of the carbon emissions in King County are due to the built environment. We have approximately 20 thousand units in the City of Burien. Half are owner occupied and the majority of those were built more than 50 years ago. We are on the border of Seattle facing gentrification and redevelopment. We know that one of our highest needs is affordable housing but we also know that we need housing that is not only affordable to build but to live in and does not degrade the environment. We need strong residential energy codes to help us at the local level to permit homes that will reduce and change our energy use. Reduce carbon emissions and ensure the homes that we build will have clean indoor air and our affordable to live in. Homes built today in another fifty years will hopefully reflect our commitment to ensuring a sustainable future that our children and our grandchildren are asking us to take action on. I appreciate the comments from builders that we heard earlier today about the challenges and making changes quickly and I personally would testify in support of Representative Doglio's intent to fund training. I would also encourage you to consider her suggestion and to think about regulating appliances that are dependent on fossil fuels. From a local government perspective I support the specific proposals identified by council member Bassett and would add to those the passive house compliance the proposal 32 which gives more flexibility in meeting energy code requirements and the optional reach code appendixes, proposal 35. Flexibility is important to us in trying to figure out housing that is affordable but has less impact on our environment. Thank you for listening to me and for your service.

Kathleen Petrie: I am representing King County today. Thank you very much for the opportunity to speak. King County is a massive proponent to carbon reduction. What I am going to focus on today is the proposals R23 and R31 and we respectfully request that you approve those. King County represents 30% of Washington state as council members Bassett and Tosta have spoken with respect to the k4c. They did a wonderful job laying out all of the issues that we have concerns about and where we would like to see strength. K4c represents 80% of King County so I just want to put those numbers out there. The primary building type in unincorporated counties is low rise residential. We have no ability to modify that particular portion of the code. The only way that we can ask people to go above and beyond code is through incentives. But unless you are the City of Seattle, you have very little to give away. We can kind of track certifications done across the state. We have approximated that only 9% in certifications both in NEA and LEAN all of these great programs has been done outside of Seattle. Again it is because we have nothing to trade for. I just want to lay that out as well. We rely on the state code. We want to achieve these carbon reductions to support our equity in the affordable housing messages. So anyways I am just going to keep it short and beat every body's time so far. We do request the approval of R23 and R31. I want to throw this one in there. If the state has a goal to achieve of 14% reduction or efficiency in this, without these two proposals what efficiency would you get? Thank you.

Poppy Storm: I am with 250 Institute and today I am speaking on behalf of Shift Zero. I am the chair of the code road map task force for Shift Zero. Also I am involved in energy resource and policy analysis. I have done residential building stock assessments, energy base lines, code evaluation etc. and I have done a lot of work evaluating the impacts of the Washington State Residential Energy Code and studying heat pump technologies including ductless heat pumps and heat pump water heaters. I am here to confirm general support for the overall package in the residential proposal. I particularly want to exercise support for the additional credits and for the shift two carbon accounting. What I would really like to talk about mostly is the costs. Shift Zero and I are personally committed to ensuring that this transition to net zero energy ready homes by 2031 by meeting the mandate that, that is successful and that we recognize the market transformation and market adaptation that's required for that. But what we are really looking at there and I want to kind of bring everybody to refocus on is what we are talking about delivering by 2031. We are talking about homes that are significantly different than they have been built in the past but it is a really positive vision. We are talking about homes that use net zero ready levels of energy so potentially, virtually eliminating energy costs for residents of those homes or getting close to it. That is a really positive vision that we are talking about having a very highly insulated homes. I would just like to say and maybe some other people would like to talk about costs but the costs are really not as high as they have been presented and we are really talking about incremental costs. The one last thing that I would like to say is that when you look at the lifecycle

costs even if you take the lowest estimate which is about \$2,000 of overall net value that you are getting and you multiply that by maybe 10,000 units in the state of Washington one a year. Over the lifetime of the home that is 20 million dollars. So the next year you build another ten thousand units that is another 20 million dollars. The next year another ten thousand. We have to understand the level of value that we are actually not experiencing by not supporting the code. So it is not just about the first costs.

David Baylon: I have been on the energy TAG for ever and I am part of the team that developed the option tables and the option table proposals and the carbon proposal. So to the extent that anyone wants to ask me any questions about that I am certainly prepared to answer them. That said, this is a step that was mandated by the legislature to meet a 70% reduction in the total energy use in any of these buildings in this case houses by 2031. That was 2009 and it was a tall or in 2009, we are maybe halfway there and this is a fairly big step. The second part of it is the governor says you need to go faster on carbon and that is what we did we added another point. And then there is a third point that is in the two cycle code in each cycle you probably can't make a three year cycle. Everything that we have been doing has been to meet the goals of the 2031 in three year cycles but were not going to get three year cycles. We all know that right? We all know that we are not going to start a 2021 code as soon as we get the ink dry on this one. No that's not going to happen. We've done that all of the way along. The option tables are a way of providing flexibility to the builders. Flexibility to the homeowners and providing ways because we are doing all of energy we actually have a lot of different options that we can change appliances, we can change the efficiency of the water heating system, we can change the heating system, we can change insulation, we can add better ventilation. All of those things are possible under the ventilation table and you can read them. It's true if you add up all of the costs from all of the options that are there which you don't have to do but you could do that, you'll get \$35,000 I agree with that you're just not going to do that. We are only asking for 6 points.

Todd Beyreuther asked: Under a scientific standpoint a 70% reduction if you draw a system boundary around a house, there is no such thing as an exemption so from a policy mandate is there such thing as an exemption to anything in terms of energy use? Specifically, are there exceptions for decorative so forth? That is what I am trying to understand.

David Baylon: The way that this analysis is done is that it uses the typical energy use of houses that we get from various studies that have been done over the decades. There is decorative things in there for sure and there is about a 4,000 watt equivalent that is a hard nut in the middle that we don't expect to change because of that exact reason. The computers, the televisions the decorative fireplaces whatever they are its total energy that we are talking about here. That means that a whole bunch of other load goes into the parts of the things that we think of typically, heating and hot water and so on. That makes it fairly

challenging this one isn't to challenging this time. It will get more challenging.

Judson Willis: I am actually a managing partner of Lexar Homes, it's a franchise to ownership. We used to say affordable but that is no longer the case. It is an energy efficient home builder in Tacoma we are franchised out all throughout the state some in Oregon as well as Idaho. I wanted to talk efficiency that is really what we believe in as a builder and the code is the code. We are ok with it, we are going to build to it and we are going to move on from that. The problem is the affordability factor and I've heard many folks in the room mention affordability. I am actually also a Washington state a licensed loan originator who specializes in construction loans. So I really want to touch on costs here really fast. The average income here in Thurston County is \$62,000. Average. So we are all over the spectrum on this. The average existing home price here in Thurston County is \$349,000 so which in turn comes out after principal taxes and insurance \$2,245 a month. It's pretty fair based on a 4% average a 5% down conventional loan when you are discussing the costs it's about a \$100 a square foot generally of older style homes. Current code right now we are at \$440,000 to build and put together a construction project and I've got data in everything if you folks would like to and for anybody in the room to be able to look at this. Which equates out to \$2018 a month mortgage. That is a massive cost just from talking existing retail to new construction to build here in Thurston County. To meet the new proposed energy codes, I technically oppose as a whole, on a level of affordability you're asking to put about \$14,000 for Lexar Homes to meet that new energy code requirement. When we are talking that way scenarios and strategy, compliance strategies here you're asking framers to go to advanced framing. 24 inches on center. No framers build like that right now. The majority of framers build 16 on center. So were not actually just for you to increase the energy code we're asking everyone to change the way that they are used to doing work. Now just three or four years ago our well drillers were at \$32 a linear foot to drill a well. Today they are \$45. Septic systems were about \$10-12,000 to install and right now they are \$16,000 minimum going up to \$30,000. When we are talking cost affordability here as a builder, someone who is a loan officer who does construction loans and sees this stuff everyday really what this does is it just increases costs more. Several folks in the room have said that when we talk about every \$1,000 which knocks people out of the category, just because I have 30 seconds left here, what we are talking about is from the existing housing market we are just going to scrap that. Through current code cost to build right now is about \$16,000 more a year of what you need to make to purchase an existing home. Bump this new code into effect, based on all of these scenarios that we've ran many, many times over it is actually \$4,000 more what you are asking people to make a year just to be able to afford a home under this code.

Diane Glenn: asked: Do you find that it will be a bigger impact in Eastern Washington?

Judson Willis: I do and primarily based on the temperatures that they

have over there, well they obviously don't have the, well they do have the snow and the colder temperatures that we don't have on this side of the mountain. So they are actually trying to figure out how to make ductless systems work because many ductless systems are not geared and built to go down below a certain temperature. Everybody is trying to figure out how to meet this energy code by not doing that. Putting in these other things together and mind you the other appliance package credit .5 is great because I can tell you right now from a building standpoint everybody is going to be chasing that. It calls for a vent less dryer which is great we are not putting another pipe through the house and making it more Swiss cheese, the problem is the costs and I've spoken with many and it is actually over a \$1,000 for a vent less dryer. So when we are talking affordability it just all stacks up per line item on this code.

Louis Starr: It's interesting. I grew up in a little town in Oklahoma. We used to heat our house with a little Benjamin Franklin heater. The thing about that is that it's more efficient than a lot of the hearths that are in the market right now. A couple of things. There's a kind of a question, I hear a lot of code questions coming up. I'd like to refer to the 2015 Fuel Gas Code, which is what you have right now. Section 604.1, which is decorative appliances, require that you test to ANSI Z21.50. If that sounds familiar, that's the requirement [inaudible] running efficiency. So the confusion over whether you can find this, this is already listed on the appliance, and there's the same fuel section for the vented fireplace, Section 605.1. Nick has looked at over 400 fireplaces in his research and he found a rating for each one in the installation manual. So it's not hard to find the efficiency of these products. So the question of enforceability, to my mind, is not a question, or is not a problem. The other thing, I know—I guess maybe Krista can pull it up—but I'd like to point out that there's a hundred decorative items that Nick found. He basically found every decorative appliance that he could. And what it ends up doing, at a setting at a 30 percent level, it eliminates six of those. So the question for you is do you want to have an appliance that you cannot touch with your hand, or which you can touch with your hand and it will eliminate that product. It will eliminate six of the hundred by setting the efficiency at like 30 percent. So to me, it's kind of...I sort of think about it like we're trying to drive to efficiency—we're not asking a huge lift, we're eliminating potentially six percent of the market. That is to my mind maybe not something we should be doing. To me, that's kind of the issue I have. I certainly would like to entertain questions on that. The last thing I'd like to talk about is R406. I think Chuck's going to speak a little bit more about this, but I've heard some really high cost. We spent a lot of time looking at cost using some data from NEEA, going out through contractors and things. And what we generally find is somewhere between a buck and a buck fifty in implementing these point systems. So if you go through Chuck's testimony, he has a whole table where it's detailed costs of all the various prototypes. I can't step through all those numbers, but some of the others—maybe Chuck can or someone else. But I would just suggest that the costs are not as dire as they sound. They're in the \$2000-\$3000 range depending on the size of

the house. So anyway, that's all I have. Questions about hearths, though, I would just like to say we did reach out as far as trying to reach 20 percent, but they weren't really receptive to that one. But after looking at the market characterization, we chose 30 percent and that's what Nick suggested as his number. And I think that's a very fair number.

Doug Orth asked: Do you think that your current proposal with 30 on the decorative will impact jobs?

Louis Starr: I don't think it is. I think that, you know, if she's able to pull that up, those are done by manufacturer. I took the name of the manufacturers off, but if you go from left to right those are different manufacturers on there. There is one particular one that sells a lot of this no touch—or ones that you can touch when it's hot, and you won't be able to site those appliances, but they have other products that are not cool touch or whatever.

Todd Beyreuther asked: When NEEA does other analyses on energy efficiency for appliances, if this example is correct, that 30 percent would eliminate ten percent of the current product on the marketplace, how do other electrical appliances fare?

Louis Starr: Typically for Energy Star we chose the top 25 percent in that product. But normally we would try to go to eliminate at least the bottom quarter of that market. You know, part of the reason we chose the number where we did was I thought we need something...you know the other aspect of this is as a consumer, if you want to go out and choose like, perhaps you want a zero touch thing, but what if you want something that's more efficient? How does that price signal that you want to choose a more efficient hearth? If you can't really get in there and see what those values are. So to me, a little bit of this is starting to get things to where they're easily listed and you can make a decision as a consumer to choose a more efficient product. So it's less about eliminating stuff out of the market and more about putting choice out there. And yes, I will say that ultimately we probably will drive to higher efficiency numbers. I think that's one of the things to get to our 2030 goals. That's kind of one of the ways we're going. And we are, I guess, an electric efficiency so we're trying to drive efficiency on both sides of the fuel divide.

A question was inaudibly asked by an audience member.

Louis Starr: His question is that a sales way to think? My point would be that I think we just hear what the price is, it is \$10,000. It's cool to the touch. It's one you don't burn your hand on.

Doug Orth: No, I think that is a mischaracterization.

Chuck Murray: Washington State Department of Commerce the State Energy Office. I am an energy policy specialist who specializes in energy efficiency for 28 years or so here in the state of Washington. I've asked Krista if she could pull up my most recent email to the council simply to toss a graph up on the board. As a policy person I first want to remind folks of the policy obligations that are embedded into your statute. The first criteria listed for the State Energy Code a development

statute is to create a zero fossil fuel greenhouse gas emission homes and buildings by the year 2031. Further in the statute it says you need to do that incrementally over time. Once again the I am going to bring us back to the statement that Representative Doglio made earlier in the year that we have changed the criteria for consideration and the cost effectiveness is no longer your leading criteria it is achieving those specific goals. This year the energy code changes that we are proposing for the first time directly going with greenhouse gas emissions rather than simply improving efficiency. We did that in the commercial code and we've done it here again in the residential code. The reason is that were still significantly increasing the carbon emissions contribution buildings make to our total emissions here in the state of Washington. I wanted to bring your attention here to this graph and the attached policy statement from the governor's office which I have included in this email. I'm am primarily going to comment on the R406 changes, why are the points what they are. Why the credits, but first there is a catch up on small homes. It sounds like we are asking for a big detrimental change, and we are and that is because we left it behind last time when they didn't adopt all of the credits that were specified. The second feature of course is the application of carbon emissions factors which more directly address the total energy use of the product. Then finally the required incremental savings specified to meet the target. This does not blow the target out of the water. It is on the high end of the targets but it's not excessive. Finally I do want to comment I sent in a two part email that has two different reports attached. One recommended technical changes to the credits. This actually increases the number of the value of credits which will ultimately decrease the amount of expenditures builders will have to put into their buildings. This is based on a more recent technical analysis that was done to prepare the second document that I am going to refer you to which is basically a study of cost, kind of least cost options for meeting the state energy code. It provides the details necessary to see the cost in benefits consistent with the rules that we applied in the energy code TAG.

Doug Orth asked: Expand a little bit on your proposal revised energy credit model. How big of a reduction would that be?

Chuck Murray: For many of the heat pump systems, the credits are greater than they currently are stated which means that the balance of the number of measures that you use, you need to go chasing after would go down. Which means the total cost would be reduces. It is based on a technical analysis of the benefits that will be achieved.

Duane Jonlin: 01:06:32 City of Seattle. I think that I've met some of you before. Oh, you could hear me in regards to the additional energy efficiency credits. We've been hearing a lot about cost today, and I'd like to ask you to think carefully about the origins of those costs between the written opposition to the additional credits and the testimony we've been hearing to date. We've heard estimates anywhere from 2000 to \$36,000 extra per home, and only one of those actually provided a detailed cost accounting of that estimate, which happen to be the one with the \$36,000 extra. The original proposal includes several pages of detailed

costs using primarily the cost that comes straight out of the Power Planning Council's website, and that's available for you to look at. And other costs were taken from actual bids or from discussions with manufacturers. So what you're specifically requiring with this rule of builders is whatever that least cost combination of options is. And then, of course, everybody is free to do more expensive combinations where those have better curb appeal or somehow are more appealing to their buyers. Anybody who's familiar with the difference between bid costs and change order costs understands how easy it is to inflate things. But next year, when the builders and subs get back to competing for business, the miracle of capitalism kicks in. Finally, I'd like to say that that council's part of the executive branch, which makes the governor our ultimate boss and in, uh, in 1404 he's forcefully directed the council to get to the 2031 goals faster. So this is the step we need to take thank you.

Al Audette: Building Industry Association of Washington. And I hopefully be the quickest. The lower homes were left out for a reason the last cycle and it was to try and keep some homes affordable for people in the state. And I don't see any reason why they can't be left behind again. I don't think that we need to triple the lowest and most affordable houses. I think there's other ways to get to the goal. Thank you.

Scott Ongley: President of Northwest Hearth, Patio and Barbecue Association. Also a supplier to contractors and retail market. Going back to where this proposal originated for efficiencies of gas fireplaces. The data sourced originally was from product that does not cannot hardly ever is put in a new construction home. I want to make that clear. Was derived from gas inserts gas inserts go into existing fireplaces, i.e. masonry, i.e. already there metal cans. They did not take data or research the data on zero clearance factory built fireplaces that are put into homes. I want to make that just cleared everyone. That's where data, the high efficiencies are a norm in inserts they build them specifically to hit 75, 80, 85, 90% concerning efficiencies. The builder trade market is very diverse. The double glass units are at a premium price and the smallest amount sold, the highest amount sold are units that are rated decorative. But if you put your hand on that metal, you're gonna burn yourself. So even decorative units do put off heat our industry, you can't wrap your head around in two meetings, three meetings, four meetings to fully understand what it takes to build the products to sell them what they really are and aren't. Car analogies are wonderful because cars have the low end, they have the high end. You have electric cars, you have an electric Tesla that's got the juice you got Priuses that can't compare huge price differences. We could go all day with car analogies that really match up to fireplaces.

Tom Snyder: With the Air Barrier Association of America. I appreciate your guy's patients trying to wrap your head around the energy efficiency of an infinitely inefficient appliance this morning. I'm here to talk about the air tightness standards and the building envelope efficiency standards. As Graham Wright mentioned earlier the Passive

House groups have been doing this for over 12 years. There's 1200 projects that have met these standards. The materials, the information is there to meet these standards. And just like in the seventies and the auto industry, they waited and they waited and they waited. And then somebody else came in and leapfrogged them with better efficiencies and better designs. We have those designs. We have set up a coalition here in the Northwest, the Air Barrier Association of Americans set up a Northwest chapter to set up training with venues and schedules to provide the necessary awareness to the building design professionals and to the applicators that will make it very easy to meet these air tightness standards it's being done all over the country. You're already required to have an air barrier. All what you're requesting is that that air barrier meet its goals, and we have the training, the designs, the interfaces to make that air barrier do what it was originally designed to do. And it's already being paid for. We're not asking. We're not adding anything to the cost. I watched a member of Walsh Construction Company described how they reduced the cost of an affordable multifamily project by 36% of the construction cost. They can either apply that to 36% more units or towards passive house standards and still have enough for 5% more units. That's how we will meet affordability. This endeavor is more important than any individual company, individuals or industry. We're talking about our future. These houses will be around for 50 to 100 years. That savings that we're talking about is exponentially more than anybody is adding up as far as cost to do it for damage to the industry. Thank you.

Gary Heikinen: With Northwest Natural. I've got comments on two proposal. I'll try to make them as briefly as I can. The 1st one is a proposal R33 the electric readiness proposal. This particular proposal only adds costs to construction. And we talked a lot about affordability and results in zero energy savings. So it is, therefore, fails the cost effectiveness path. Water heater requirement is it's clearly written with a heat pump water heater in mind, but fails to consider others considerations like adequate air supply. This same proposal was recently disapproved at the I. D. C. C committee hearings for the 2021 code. And on this particular one, the tag when, when they voted on this was evenly split on the proposal initially, [inaudible] and the chair of the committee had to break the tie. So I would say there was not a strong census to approve on this particular proposed. So I will end my comment on that particular one if there are any questions. Okay, I'll try to do it. The other one is the proposal, R36, the additional credits. The main opposition problem I have with this one is the fuel normalization credits for 6.2. That would apply a full credit to a heat pump that only meets at minimum standards with no requirement that it go beyond those set minimum standards. So I would say that that is just fundamentally and philosophically wrong. If builder has to put in, it wants to put in a heat pump, and it has to be a minimum. We should see that it makes no sense to me that it get a whole point in advance of any additional points. I will end my comments there and again if anyone has any questions. Great. Thank you.

Tom Young: With the Northwest Concrete Masonry Association. Thank

	<p>you for the opportunity to comment. Mr. Chairman and council members. I have brief comments on two amendments. I did submit written comments, but I want to review them just briefly today. First one deals with table R402.1.1, which is the requirements for our values of the different components in a building. The proposal, as written, removes the mass wall requirements completely, which would leave no prescriptive path option for that wall system. I don't believe that was intended, but that is the result of the cheese as proposed. It really wouldn't allow for any durable, resilient wall system, which is in demand today to be utilized because it would be no code requirements for that system. I don't believe its good code writing, and I would recommend that disapproval is voted on and that the table be left alone in that mass column, max wall column retained. Any questions on that particular one? No. Okay, second is, changes to section 402.2.5. The proposal here is to add mass timber to the code as a mass wall assembly. By definition, I don't believe there's been any data submitted to document this. We don't really know the actual performance of a timber wall unless there was some data just thermal hotbox testing to show that it would behave as a mass wall would from a thermal standpoint. This particular change was submitted to ICC and their code committees disapproved it by a vote of 11 to 0. I would lose the council to do the same thing in Washington state. Any questions there? No. All right.</p> <p><u>A motion was made to extend the meeting until 2:15. Motion Carried. One opposed.</u></p>
<p>5(e). Public Testimony on IRC</p>	<p><u>Micah Chappell:</u> All right everybody pay attention this is going to be pretty quick. Seattle Department of Construction and Inspections. For these comments I'm representing Washington Association of Building Officials. And I have stepped down from the Board [Council] table at this time. So I have about six items I want to cover at this time. First Item 37 on the CR-102 should indicate a singular townhouse unit not a plural townhouse units. Number two regards Items number 81 through 88 in the CR-102 on Tiny Houses Appendix Q. The diagram included in the CR-102 was not intended to be in the CR-102 nor was it approved by the IRC TAG so that needs to be removed. Number three: Townhouse common walls my public comment on this, or WABO's public comment on this is number 26 of the CR-102 deals with the angular space or the space between the end of the common wall and the exterior wall. There was a very long sentence that didn't make a whole lot of sense and there were a whole lot of questions from building officials on what does filled mean so the intention of this in our opinion was that that space be fire blocked so that is the change if you review that in the letter and code change proposal that we submitted. Number four: Is the grade mark on used lumber public comment we would like to move that as well. The proponent is here in the room and they support that also an that is number 67 on the CR-102 that is just that lumber should include the grade mark even if it is used that could be after the fact. Number five: Includes, is about the deck load tables. This is number 53-56 of the CR-102. In those tables there is a lot of information that is not relevant to the state of Washington since we now have a sixty pound live load</p>

requirement. There is a bunch of stuff in there for 30, 40, 50 pound information that is not relevant. In addition to that, we recommend removing Southern Pine species since we don't see that in this area. We have reached out to the WABO members and they said nobody has seen Southern Pine in the state of Washington. So those tables are really it's a modification of several of those tables and eliminates a bunch of information that just does not need to be there for the state of Washington since we are producing our own Washington custom codes. 1:26:30 Number six: Habitable attics. This one is going to probably have some other information or testimony on it and this one is CR-102 number 42. We are making a significant change, I wouldn't say a significant change. It's a change to our own proposal. In the proposal currently it calls habitable attics to be considered a story above grade plane with an exception. We went through and took the original code language and modified that to be mainly kept but we took a lot of information from the ICC level testimony that indicated that the best course would be to leave habitable attics as currently written in some way shape or form but put size limitations on that. So we did that there is a one-third size limitation for non-sprinklered and then one half size limitation for sprinklered. The language that we are proposing for those size limitations is in direct alignment with the mezzanines and the mezzanine language which is currently in the existing in R325.6. In going back I want to speak to a couple of other PCs. One of those is from Brad Wiseman on the Tiny Home Appendix Q. It seems what they were putting forward in their public comment is already allowed in the code under the administrative section which I know we don't adopt but also under IRC R301 under the design criteria that says there is alternative, if you are doing some type of alternative outside the prescriptive path and it's engineered, it required to be engineered. So all those items in their public comments are already allowed by the code. Engineered if it is not in the code will allow it if it's an alternative floor system. And then to Chuck Murray's public comment on the energy standard is that we only support only eliminating the alternative compliance portion of appendix Q which is AQ104.2.

Steven Spletzor: I represent the Chemours Company. I'm speaking in support of the adoption of ASHREA 15 and UL 60335-2-40 3rd edition standard into the code. Chemours is a manufacturer of lower global warming potential solutions including safety class A2L refrigerants. These products are in use globally and are helping to meet regulatory requirements for latent climate change. They're also already in use here in the US in both mobile and stationary air conditioning applications including window air conditioning units that you might find in your home. A2L refrigerants have lower flammability as defined by the ASHREA 34 safety standard. Their properties minimize the risks associated with the use of flammable refrigerants. Especially when compared to products such as natural gas, propane or gasoline that are used in and around the home. They are difficult to ignite and they can have difficulties sustaining a flame once the ignition source is removed. Large leaks are typically required to form flammable concentrations with these products because they are much much lower flammability limits. Leaks of this

size can be seen and heard and are often easily detectable. The ACR industry has worked extensively for over a decade to develop the requirements needed to safely implement A2L refrigerants and equipment. The ASHREA 15 and UL 60335-2-40 standards are some of the end results of this process and include design, installation and listing requirements for equipment using A2Ls including for residential AC applications. I have here with me copies of a bulletin published by UL which provides an update on the status of the 3rd edition of the safety standard UL 60335-2-40. It indicates that the standard has completed the consensus process and is scheduled for publication on November 1 2019. I'm also personally a voting member of the ASHREA SPC 15.2 subcommittee. The subcommittee responsible for the development of the ASHREA 15.2 proposed standard. Let me be clear here, ASHREA 15.2 is not the subject of this proposal. Please don't be confused by people who bring that up. Okay, ASHREA 15 and UL 60335-2-40 are the standards and able the safe use of A2Ls and AC applications including in the home. Hopefully, this explanation helps eliminate some of the confusion regarding the status of these standards. On a personal level, over the last year I have witnessed certain elements of my industry actively blocking forward progress with these solutions. I have seen A2L refrigerants maligned by misinformation and fear mongering. I have also seen the standards development process unfairly mischaracterized. While this is an unfortunate reality, the fact is that these products and standards do enjoy broad industry support and are necessary to protect our environment. As an engineer, I am proud of the work my industry has done and believe we are well prepared for this transition and as such I humbly ask for your support in the adoption of these standards into the code.

Council Member Anderson asked: Did you say the A2L refrigerants are commonly used or are used in our region and what applications are they commonly used and is that the same thing that the code proposal would have them be used for?

Steven Spletzor: So today, A2Ls are used in a variety of applications if you bought a new car recently there is a good chance it has an A2L refrigerant in it. I believe the latest assessments there are over 110 million cars using A2Ls in air conditioning around the world. My understanding is there is also over eighty million units globally using A2L including in the US. And window air conditioning units PTEX and other smaller charge applications. Now these standards do have a broad range of applications that they are covering. So they do expand the usage beyond the applications that I mentioned previously and we will be looking at things like chillers, we will be looking at things like split systems, commercial roof top and other applications.

Council Member Vander Mey asked: So what does it take to ignite these to sustain a flame and what are the conditions in general?

Steven Spletzor: So it's difficult, there are a number of sources of what if you look at what is commonly considered an ignition source in the home things that would ignite natural gas or gasoline, most of those things will not ignite an A2L. It takes a sustained open flame or a strong

electrical energy source. Even when you have an ignition, if that ignition source is removed you need the right conditions for the flame to sustain itself and propagate. There are a variety of factors that come into that including concentration of the refrigerant you have present, which refrigerant you are talking about, the levels of humidity in the air and turbulence. And in many cases you need a confluence of these factors to actually get to sustaining ignition.

Council Chair Orth asked: Correct me if I am wrong but I think I have been told that one of the objections is from the fire protection side is the lack of an odorant in this material. Is that true and if so is that a technical problem that will be overcome or what is the story?

Steven Spletzor: So it is true that there are not odorants in these refrigerants. Odorants are very very difficult to use in air conditioning and refrigeration systems. That's just the fact of the science and the chemistry, okay. There is a research project ongoing to look at that possibility but regardless as I have mentioned earlier you really need large leaks with these refrigerants to form a flammable concentration when you have leaks of that size you can usually hear and see them because of the pressure that is leaving the system and the humidity that is condensing in the air. And they are easily detectable with commonly available detector technology available today. And the new standards have many requirements in them including for systems above minimum charge levels to have on board detection that will sense escaping refrigerant.

William Koffel: I am a fire protection engineer with Koffel Associates and here with you today representing AHRI in support of IFC-17. I will keep my comments brief and expand on some of the prior testimony. Let me just pick up on one of the questions with regard to odorants. I actually have a relatively new engineer on my staff who part of his masters research was to determine the appropriate detector technology for A2L refrigerant equipment. As you have been addressed is part standards this is not a detector that requires respond by the occupant or by emergency response personnel this detector will cause the equipment to shut down. Then I would like to go in to some of the comments that you received. In particular, I would like to focus on a letter you received from Honeywell. I found it interesting that in the beginning of the letter Honeywell indicated this is all about safety and how important safety is to their company. However, the record is very clear that Honeywell is currently distributing A2L equipment outside of the US. I would think that if they felt that this is such a significant safety issue they would not be distributing this equipment in other parts of the country. I think this Honeywell letter also misrepresents what is happening in the ICC process. So let me expand on that a little. First they make the comment that there has been no public comments submitted in support of the committee recommendation. Actually, it is very rarely done in the ICC process. Comments are generally to modify what the committee has done or to overturn or change what the committee has done. Very few people will submit public comments to support a committee recommendation whether it is to work or approval.

Secondly, they mention the opposition and the number of public comments that have been submitted in opposition to this and I will come back to address that in a minute. But let's look at what happened during the committee action hearing. This item was actually part of a proposal to update standards and that is what this issue is really all about. It is updating a standard. It was part of that process. Honeywell proposed a floor modification and not a single committee member was in support of that floor modification. So let me just address the last issue then with all the opposition that you have. I came to the table fairly late in this process. I've talked to some of the same organizations. It's very clear that they do not have a full comprehensive understanding of the issue that they have heard. Specific interest or areas of interest and AHRI actively engaged now with international association of fire chiefs and the national association of state fire marshals and we do have a group that is working with the fire service to address this issue. I encourage you to support IMC 17.

Chris Forth: I'm here representing Johnson Controls we're a leading global provider of heating ventilation and air conditioning equipment building controls, security fire life systems. I've worked in the HVAC industry for 29 years including design testing and specifying residential and commercial equipment so I have designed and tested a lot of residential and commercial equipment that's being impacted by this standard. JCI is opposed to the updated of the current UL standard, the 2019 version that would inadvertently allow the use of flammable refrigerants in residential applications. As an OEM manufacturer that we do all the design and testing. It's critical that all the necessary research and testing be completed prior to any safety or performance standards being published. In this case their remain at least five critical research projects that are in various stages of completion that have yet to have their results incorporated into the safety standard. Out of those five, one of the most critical ones is the one that controls the mitigation strategy as when a leak is detected. While that is in the standard it has not been tested and that's pretty important in the design of equipment. The existing UL and ASHREA safety standards are also not complete. Despite what you may have heard from my predecessor who was up here before and he went to great pains to emphasize the standard 15.2. Well what the update you are proposing would apply exactly to that standard 15.2 that has yet to be developed. We need that information and research to be completed before we go forward with this for residential applications. It's very important. Let me give you an idea to there is also conflicting standards there is an equipment standard that I have to design equipment to as an OEM and there is an application standard. We have conflicts between those two. Here's an example: The new 15.2 says you need to have unique fittings so you can't take one of these new flammable A2Ls and accidentally put them into one of the existing non-flammable systems that may have been out there a long time. So there's still discrepancy. What we want is all of this to be resolved before we go forward with it. JCI is not against A2Ls were against the rapid adoption of this before all the safety standards and testing are complete which they are not. And one of the biggest issues

we have as an OEM is we have to, I can make an exactly perfect piece of equipment but if it is not installed properly because you have an outdoor component and indoor component, right, a furnace that is in there. Those have to be piped and installed together. It's critical that our installers be trained on these new A2Ls and that be done correctly. This is not yet happened and there is not a really definitive plan for that. So we have to make sure that whole chain is ready.

Melissa Olson Frause: I'm vice president of Bob's Heating and Air Conditioning and I'm also president of Washington Air Conditioning Contractor's Association. I'm here today on behalf of Bob' Heating which employs about 300 team members which install service and support HVAC equipment in residences in Washington State. Western Washington specifically. My company opposes the inclusion of items 75, 78 and 79 in the amendments to the International Residential Code that would allow A2L refrigerant in the residential systems. The 2018 and 21 editions of IMC and IFC rejected the addition of A2L flammable refrigerants in direct HVAC systems until all safety concerns are addressed and the research complete. We expect the UMC to do the same. There are no safety provisions related to the A2L refrigerants for direct air conditioning systems proposed for the IRC. We as HVAC contractors do not feel there is available safety knowledge processes or training necessary to include these flammable refrigerants in the code at this point which will jeopardize the safety of our contractors, technicians and consumers. We also agree that the concerns of the national air conditioning contractors association ACCA that the proposed code changes adding A2L flammable refrigerants for use in residential application are premature for the following reasons: untrained safety standards, undeveloped safety training, undeveloped equipment applications, undeveloped field practices, unknown special tool requirements and fear of cross contamination with other refrigerants. These concerns all have undefined varying impacts on the occupant's health and safety, worker health and safety, as well as the ultimate cost to insure a safe infrastructure. According to the Washington Administrative Code proposals submitted to the State Building Code Council should meet the following criteria, a) the amendment is needed to address a critical life and safety need, b) the amendment clarifies the intent or application of the code, c) the amendment is needed for consistency with state or federal regulations, d) the amendment corrects errors or omissions and e) the amendment eliminates an obsolete conflicting duplicating or unnecessary regulation. Since having this refrigerant puts our contractors and residents in danger without proper training in place I believe the proposal violates item a. At this point since there is no requirement to phase out [inaudible] refrigerants in residential structures the proposal does not meet the requirement of item b. Furthermore there is no federal regulation at this point the state legislation that just passed is still in regulatory adoption phase so it does not rise to the level of criteria e. There is no error or omission being corrected so does not meet the requirement in item d. And finally, we are implementing HB1112 this proposal has the possibility of being in conflict with or duplicating

regulations adopted under that legislation proposal. So it definitely violates item e. We urge you to pull this amendment from the IRC code changes and instead discuss it in context with the implementation of HB1112. HR contractors are in favor of energy efficiency and climate friendly products. We really are but it just is important that we implement them safely and responsibly.

A motion was made to extend the meeting until 3:00. Motion Carried.

Ruben Grijalva: I'm representing Tidwell Consulting Corporation today for this meeting. I have submitted comments on line as well. A lot of information about the safety concerns associated with this change but I have some, another letter I would like to submit for my comments today that is more process related. I'm a former State Fire Marshal for the State of California and former director of CalFire and during my time I submitted many code changes including adoptions of Building and Fire Codes to California Building Standards Commission and with that there is a process to make sure every item that is submitted meets certain criteria in state law. Looking at the Washington Administrative Code there is similar criteria for making amendments to the building standards that you adopt. I just want to address a few of them because I don't think that this change actually meets any of those items. On the form submitted by Mr. Andrew Kline, the consultant to Chemours, he claims the amendment is needed for consistency with state and federal regulations specifically HB 1112. He states on the form the change supports HB 1112 concerning green house gas emissions in hydrocarbons which calls for the Building Code Council to adopt rules allowing appropriate substitutions to hydrocarbons, however, HB 1112 does not apply to residential air conditioning systems so this assertion is not accurate. The other proposal by [Ms. Rankee] claims that the code change addresses a critical life safety need and clarifies the intent or application of the code and is needed for consistency with federal regulations. As previously stated, the state regulations really does not apply to residential air conditioning systems. It's difficult to understand how a code change to allow flammable refrigerants in homes which is currently prohibited addresses a critical life safety issue. In fact, during the development of the UL Standard, I raised a concern that the standard was industry driven and there was no fire service participation. As a result of that UL pulled together a fire service work group to work with them to address safety issues and at this point there is not a single fire service organization who believes the standard is safe and ready to be put in place. In fact, I sent electronically to you all a statement on this issue from the International Association of Fire Fighters, the International Association of Fire Chiefs, the National Association of State Fire Marshals, FDNY, Chicago Fire, Boston Fire, and a list of others including California State Fire Fighters Association, and California Fire Fighters Local 20881. So there is not a single fire fighter organization who believes it is safe and only half the industry does because the industry is mixed on this. And so in closing, because the rule for the finding of one of the five criteria for these proposals that you know [end of time notice]. My one sentence is it doesn't really comply

with the standards for adopting a new amendment to the code.

Chair Orth asked: Is this product or standard approved anywhere else in the United States currently?

Ruben Grijalva: Not in fixed residential systems. Fixed residential air conditioning systems I mean.

Chair Orth asked: Where is it approved for? That would imply that there is something where it is approved for.

Ruben Grijalva: Well outside the country it has been approved but there is a whole different standards including, I mean the size of the houses in California or Washington split systems don't really work. So you are talking about a fixed air conditioning system that it is not approved for now. And the standard hasn't even been published yet.

Chair Orth stated and asked: I'm still confused by the answer. You say not in fixed residential systems so is there a residential system where it is approved?

Ruben Grijalva: No, right now it is. First of all the standard we are talking about hasn't been published but the use of, as was talked earlier, you will find them in cars air conditioning systems and in some window units but not in what's being proposed is significant change. Because in these systems not only do they not have a odorant like natural gas does, somebody talked about natural gas. There at 400psi, they are not at low pressure like you find in natural gas.

Chair Orth asked: So to restate it differently, We would be the first state in the country that would allow it for a residential application?

Ruben Grijalva: You would.

Todd Short: I represent the Washington Fire Chiefs and the Washington State Association of Fire Marshals. I want to speak in favor of I believe it is CR-102 42 it's about habitable attics. I am a member of the IRC TAG and we heard two proposals that we unanimously approved and pushed forward to you for consideration. The problem that we are having with habitable attics is it is currently allowed in the code is it these dwellings exceed the scope or constraint of the IRC as they exceed the third story. This provides an increased risk to fire rescuers as well as the occupants of these structures. The IRC is typically constrained to three stories and rescue operations are handled with equipment and ladders found on a typical fire engine or ladder company. The fire engines we have at our stations can perform rescue operations to two stories. The ladder truck has the 35 foot ladder that would reach the third story. As we are considered to exceed that height with this habitable attic with above the third story, many fire departments are going to have to rely on the areal operations and so that areal ladder truck has to be able to be positioned. We have to have time to do that and that exceeds the time, or that increased our time for rescue operations. The IBC recognizes these operational constraints and emergency rescue windows are not required at four stories and above, however, the big difference in these IBC built buildings there required to install residential fire sprinklers. The IRC TAG heard these two

proposals that were approved to move forward for your consideration. The first identified habitable attic as a story and thus the height was constrained by the scope of the IRC which is the three stories. The second utilized the benefit of fire sprinklers and when sprinklers were installed the habitable attic would be allowed above the third story. These concepts both address the real issue here which is that rescue operations above the third story increases risk while decreasing life safety for both occupants and rescuers. We support both of these proposals. WABO's additional concept that has just been provided, our take on that would be if you could remove the 1/3 without sprinklers we would also be amenable to that kind of proposal. We appreciate having the opportunity to provide testimony. We think this is a safety issue that needs to be addressed.

Council Member Glenn asked: So what you are saying is that you would support, if I get this clear, so if there were sprinklers installed, you would support habitable attics up to a certain square footage like 1/3 or 1/2 as long as there were fire sprinklers. Is that what I'm hearing?

Todd Short: Yes. As I understand the proposal that is being proposed by Micah here, they were saying 1/2 of the floor area below if fire sprinklered. We are okay with that but we are not okay with the 1/3 without.

Jeff Shapiro: For a clarification I am a consultant for NFSA but I'm not speaking on their behalf. I'm speaking on my own behalf here as a fire protection engineer and many of you know that I have been around Washington for several years in this process. Speaking to the same item that Todd did, item 42 in the CR the habitable attic issue. Very much in support of the original WABO proposal to not allow habitable attics that aren't considered a story or the Washington Chief's proposal which would require that habitable attics be sprinklered in order to have it above the third floor. That's consistent with the original IRC requirement. The IRC as written requires all residential occupancies to be sprinklered and the habitable attic came into the code the same year that the sprinkler requirement did in 2009. So in theory, when Washington amended out the sprinkler requirement for residential occupancies habitable attics should have gone out with it because they were based on the mode code that had both at the time. So either one of these proposals would get you back to where the IRC originally was and has been ever since which is if you want to have a habitable attic above the third story that fire sprinklers are part of that. I do understand the WABO proposals that would allow partial habitable attic above the third floor with sprinklers to address the requirement for structural integrity, I agree with that but I also point out that I used to work on a truck company and I have thrown a 35 foot ladder along with five other, well four other, people, five total to do that. Think about in the back of a townhouse that is a basement above grade so walk out basement plus three stories plus a habitable attic you are looking at a stack of five windows on the back side of the building. You can't get a areal ladder to the back side of the building unless there is a street back there so you have to hit that with a ground ladder. You are looking at trying to get

aground ladder to the fifth story. You can't do it. You don't have the manpower in the fire service to throw a ladder that high and quite frankly if you look at the town houses. In order to throw that ladder you actually have to be able to lay it flat on the ground to raise it. There may not be enough room in the back yard of a townhouse with the fences and other obstructions to even be able to put that ladder up and that is assuming that you can get it back there because it is a very long straight object that has to navigate a narrow path in some cases all the way around the building. So in summary, I would like to see either the original proposal by WABO approved, the original Chief's proposal approved or the modification that WABO has submitted approved if the non-sprinklered option to go above the third floor is taken out of that.

Misato Kogure: Representing Daikin Industries. I am speaking in support of the IMC 17 with MVE committee modifications that references the ASHRAE standards 34 standard 15 and UL 60335-2-40. In Washington State Building Code. These changes would pave the way for the installation of air conditioning units using group A2L refrigerants. For your reference Daikin is headquartered in Osaka Japan. Daikin is a world wide manufacturer of air conditioning units that use A2L refrigerants. As of today, more than 84 million units using A2L have been installed in more than 70 countries with the majority of units installed in Asia and Europe but also here in the United States. According to the [trespres] report in 2018 alone more than 25 million residential units using R32, a common A2L refrigerant were sold worldwide accounting for more than 25 percent of total residential units sold in that year. This number is expected to increase in 2019. To date, no accidents or incidents with loss of life or limb have been reported since A2L refrigerants were introduced in 2012. These products are governed by international standards that are nearly identical to the safety standards in Building Codes. We would like to see reference in your building codes. What may not be apparent in the discussion over the years of A2L refrigerants is that manufacturers have adequately addressed the safety issues with A2L refrigerants in air conditioning systems and managed to maintain or improve their energy efficiency and reduce greenhouse gas emissions. The current transition to [inaudible] refrigerants is being driven by state's interests in lowering their greenhouse gas emissions. In response to an expanding global environmental crisis, the H-vac industry has been working diligently with the safety code and standard setting bodies to allow for the use of A2L refrigerants. In order to make this transition as smooth as possible for its residents, the State Building Code Council must approve this proposal to reference the latest version of ASHRAE 34, 15 and UL 60335-40. These changes will not compromise safety or comfort. They will send a clear and positive message to manufacturers that the transition to load to [inaudible] refrigerants is real and it'll lead to more investment in research and development, contractor and distributor training so that the state will be ready when it implements the transition to [inaudible] refrigerants. Thank you.

Charlie McCrudden: I am representing Daikin U S Corporation. Daikin manufactures and sells residential and commercial HVAC-r equipment

under the brand names Goodman, Amana Daikin Applied and [AAHT] Cooling Systems USA. I would urge the members of the council to support the IMC 17 with the MVE Committee modifications. I would like to address some of the issues, some of the concerns related to the development of the safety standards and the model codes that implicate HVAC-r equipment. And I also would like to say that our industry has spent countless resources over the last several years preparing for the North American market for the global transition to lower GWP refrigerants, and this effort will continue as the transition evolves. These standards were developed with representatives of the end, of the manufacturers of refrigeration equipment, refrigerants, chemists, engineers for manufacturers, consulting mechanical engineers, fire protection engineers, active firefighters, retired firefighters, nationally recognized testing laboratories, certification agencies, the Consumer Product Safety Commission, standards promulgating agencies and numerous trade associations. A2L refrigerants are currently permitted to be used in the International Residential Code, or IRC. There are currently listed A2L window air conditioners, P-TAX, which are commonly found in hotels and motels, and many splits being installed in residential buildings as permitted by the IRC. In fact, in United States, almost half of window air condition units sold today use an A2L refrigerant. So I hope that answers some of the questions about where these products are being used.

Council Chair Orth asked: Why is there such a gigantic disconnecting testimony?

Charlie McCrudden: Well, I think that these are all small charge products, so they are allowed for window air condition units and P-TAX, which again, those are the unit, you might find it up in a hotel. I'd also like to address some of the questions on concerns raised by some contracting community. As with previous refrigerant transition, there will need to be training for contractors and technicians and installers to ensure proper installation and maintenance. Industry stakeholders convened by AHRI [inaudible] Trade Association are convening stakeholders now, including refrigerant producers, contractor associations and code organizations to develop a thorough training program. This industry had expected that there would be a longer transition to these lower GWP refrigerants, and the idea was that approval would occur and then the training aspects would start. We don't have that luxury of having that sequential. It's now has to be concurrent. And so we understand as an industry that we're moving forward. Thank you. I'd also like to just make one comment to address some issues that have come up. The question of A2L refrigerants giving up more harmful chemicals than A1 refrigerants when they burn. This is not the case. Hydrofluoric acid is produced during the combustion of all fluorocarbon refrigerants, including R-410A, the most commonly used refrigerant today. R-22 to A2L refrigerants. They will all make similar amounts of hydrofluoric acid. Hydrochloric acid is produced during the combustion of older A1 refrigerant such as R-22 but is not produced during combustion of HFCs like R-410A refrigerant like R-32 which do not

contain [inaudible].

Kinley Deller: I am the construction demolition materials diversion specialist for King County, Department of Natural Resources and Parks. I am the proponent of IRC 32 on used sawn lumber. I just want to reiterate that we do agree with Friendly Amendment that was submitted in writing by WABO, but we wanted to clarify something that was said verbally earlier and that the amendment has written, um is that use sawn lumber identified with a great mark should be assumed to meet the requirements of the existing code. 62.1.1 and that lumber without a great mark falls under the proposed new code. 602.1.1.

Chuck Murray: With Department of Commerce. First comment is on the adoption of appendix Q Specifically the energy sections. The proposal references the code that we do not adopt in the State of Washington. It reference an air leakage standard that's different than what's adopted for single family homes in the state of Washington and it tries to implement a code simply by referencing one table or perhaps two tables without the context of all the other charging language code, which makes it extremely incomplete. I'm in favor of a special pathway for tiny homes, but the one you've developed and move forward should not be adopted. Second, on the refrigerants, it is the policy of the state of Washington, too move forward with implementation of low global warming refrigerants. It appears to me that this UL standard when finally adopted, it has gone through the rigor of typical UL standards and it is not unusual for the state of Washington to adopt approved standards as quickly as possible.

Andrew Klein: I'm stepping down from council right now to testify. Andrew Klein representing Chemours. I didn't want to have to testify. This is my code change. But I did hear a lot of misinformation out there, so I wanted to straighten a couple things out. UL 60335-2-40, the newest addition, which is 2019 addition which were adopting. The A2L issue isn't the only issue. It also updates the standard for all equipment, which is out there. So as of now, it has passed in the IRC for the 2021 IRC. So unless it's shot down at the public comment hearing in October and the follow up online governmental vote, it will be part of the 2021 IMC, IRC sorry. Global warming is a safety issue. So it does meet that requirement and UL240 is actually more restrictive than IEC 240. So IEC 240 is the international standard that UL 240 is based on. We use UL 240 here, and we added additional safeguards for A2L refrigerants than the international standard. Research is always ongoing for anything, but as of now we used mitigation techniques that we use for highly flammable refrigerants. So any additional research which is being done is only going to make the standard less stringent, as opposed to more. And Mr. Orth, to answer your question about the disconnect. I can't say definitively one way or the other, but I do know Honeywell has developed a new refrigerant 466A. It's still under getting it certifications from Snap. And as of now, that would be the only A1 replacement for 410A. So if A2Ls are not permitted, they would have a monopoly on the market for 410 A replacements. One last thing. That replacement refrigerant comes in with a global warming potential of 710, many of the

A2Ls are in the 300 [inaudible].

Jim Tidwell: The answer to the previous question about why they're such a disconnect between the testimony that you asked of the Daikin representative is because the statistics that were presented about the number of units that are being installed at their specifically in the United States our window was very, very small charge sizes. The maximum charge size right now, I believe, 900, I think grams, anyway, for far less than [inaudible] grams, very small charge sizes and they're considered to be inherently safe because of the small charge sizes. What the update of the standard will allow is significantly higher charge sizes. I don't remember the number exactly, but it's much more significant from you'll find [inaudible]. So that's a real disconnect that's why your hearing two different things is the increased charge sizes. If you read the executive summary of UL report on their testing, if you read some of the other research reports that are out there and if you look at the research that remains you come to a pretty quick conclusion that there is a lot left to learn about this stuff in regard to anyone else adopted standard. I think we talked about that before I put it in some of my written documentation. That the standard still has not been published. So we don't really know what it's gonna say. We don't know what the words on the page are going to look like until it is published on [inaudible]. We know a lot about it, what is going to be in the standard, but we don't actually know what it's going to say until then. Thank you. Oh, I need to, I'm representing, Honeywell, I'm sorry I forgot to say that.

Julian [Blanco]: With [inaudible] engineering. I'm a consultant for [Daikin] US. I just want to give maybe the committee a little bit of overview on the 2-40 standard. I served on the [inaudible] working group [inaudible] and the UL [inaudible]. I know exactly what is in that standard and I can tell you it is as safe as could be, because that's what we worked at. Let me give you guys a quick overview. All are safety requirements on discharging the entire refrigerant charge in [inaudible]. That's a catastrophic failure. That means you severed a refrigerant. Every three times [inaudible] that happened across this country. That is how safe the standard is. If mitigation requirements for it, we have regulations on [inaudible] size that are more restrictive than ASHREA 15. So when you look at the standard and unfortunately a lot of my fire colleagues haven't looked at it. It's about 285 pages long. I know exactly what it's gonna read, word for word and we'll be printed on November 1st. But all of us committee members have a copy of it already. I just wanted to point out the safety level of that in a [inaudible] unit products] are going to be listed to that are going to be very safe. So I would encourage you accept it and if you have any questions, feel free to ask.

Helen [Walterspony]: From the Air Conditioning, Heating and Refrigeration Institute. A lot of people have spoken before me on this issue but as an industry associate and many of the folks representing the various companies are members of our organization. You are right about a disparity between different points of view on this issue. I would note a couple of things. They're competitive issues at play, and they were noted earlier here, and you heard from two different refrigerant

suppliers from Chemours and Honeywell there as well. We support of the adoption of the [inaudible] Washington building code. We have been working for 10 years. We have spent collectively, along with the California Air Resources Board, the Department of Energy and others, nearly \$7 million in research projects. To that end, with some of the things that we've learned that benefiting the minimum ignition energy is such that an open flame is required or very, very high energy source to ignite an A2L refrigerant. They're approximately the flammability of a B2L like ammonia. As noted earlier, the mitigation for [inaudible]. The first goal is to not have anything leak out of the system and a system in a residential home is likely to be well under 15 pounds charge size, so more like four or five pounds of a charge size. The equivalent of two pounds of dry firewood. It is what it would be the combustion of that resulted from energy perspective [inaudible]. As you noted earlier, our R410A, which is a current refrigerant being used and these next generation, looked [inaudible] refrigerant, are very similar when they burn they have the same combustion products, and that's largely because [inaudible] R410A is 50 percent R 32. Well, one of the one of the A2L refrigerator is 100% R 32 so they're very, very similar in the way that they behave. There was a comment around additional testing. We are continuing and will continue to run research experiments and research a project around A2Ls, just like some of the products that have been out there for 30 years. For example, smoke detectors there continues to be researching developments in upgrades to those systems. Some of the main research that is being done [inaudible] detector systems. I would note that when we [inaudible] what we mean is a control system inside the air conditioning unit. So inside that air conditioning unit if there's any concentration detected a 25% of the [LFL], then that triggers a response which is validation and circulation. So, yes, you're continuing to investigate those things, but largely the work we're doing is in support some of our other smaller members who have not yet had a chance to investigate these things and in fact, some of our members had on display there detective system at IAPMO earlier this week.

Kevin Scott: I represent Johnson Control. I'm a retired Deputy Chief from Frank County California and then I went to work for ICC for a number of years. I'm speaking against the proposed code changed to adopt the 2019 addition of the standard 60335-2-40. This standard will introduce a new risk to the public and that the public is not aware of, that the code officials aren't sure yet how to handle, that the firefighters weren't fully aware of and installs may be unprepared to address. The revised standard contained provisions that will allow flammable refrigerants and high probability, low direct, air conditioned homes in units in the homes where we lived. And yes it's, well, it's already in these home units. It's in the window units a smaller unit, you're gonna have a smaller concentration of smaller potential leak, which results in a smaller lesser hazard. That limitation will be gone. It would be appropriate, really to talk about the technical issues that are contained in the new standard. To discuss them, as Mr. [inaudible] indicated that many technical issues in there, and it's appropriate to discuss that but we can't

	<p>because the standard is not published yet. So it's difficult to understand how we could even have this discussion and anticipate that [inaudible] know, some of the things in there. We do know that they are flammable, we do know that they're gonna go into residential units. We also know that UL test reports has indicated that more testing is needed. The previous testimony indicated we're still doing testing. We will do testing we will continue to do testing. The bottom line is that testing is not finished, and that's the real issue. Without the tests to be completed, we don't know which safeguards what detection, what components are truly necessary to make this safe. Previous testimony compared A2L with natural. We already have natural gas in our house. Oh, my gosh, we have a flammable gas in our house. But there's a difference. Natural gas is odorized, A2L is not. It was also stated we'll detect the leak when it, well when we have a significant leak it'll be noticed and recognized. How will that happen when it's un-odorized and colorless? I want to be clear that Johnson Controls is not out to see these refrigerants band forever but the purposes is just to delay implementation until the testing is completed and the proper safeguards are applied to the product. It's just too early in the process to make this jump.</p>
5(f). Public Testimony on IMC	<p>David Baylon: The microphone was not turned on and the recording is extremely faint. It appears the gist of Mr. Baylon's testimony was that the changes to IRC Section M1507 recommended for approval by the TAG and MVE Standing Committee and approved by the Council were not reflected in the CR-102</p>
6. Opinion (Interpretation) Regarding Residential Energy Credit Table	<p>A motion was made to approve the interpretation as written. Motion Carried</p>
7. Petition for Reconsideration of SBCC Decision on Carbon Emissions	<p>A motion was made to deny the request for reconsideration. Motion Carried.</p>
8. Staff Report	<p>Richard noted that the staff report will be emailed to the Council.</p>
9. Other Business	<p>None offered.</p>
10. Adjourn	<p>The meeting was adjourned at 3:01 p.m.</p>