STATE OF WASHINGTON

# STATE BUILDING CODE COUNCIL

*1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98504*
*(360) 407-9280 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov*

## SUMMARY COUNCIL MEETING MINUTES

**LOCATION:** DES Building, Presentation Room
1500 Jefferson Street
Olympia, Washington

**MEETING DATE:** October 16, 2015

| Agenda Items | Committee Actions/Discussion |
|---|---|
| 1. Welcome and Introductions | Meeting was called to order at 10:04 a.m.<br>Members in Attendance: Dave Kokot, Council Chair; Steve Simpson, Vice Chair; Dave DeWitte; Paul Duffau (ph); Diane Glenn; Leanne Guier; Duane Jonlin; Doug Orth; Dave Peden; Jim Tinner; Eric Vander Mey; Rep. Tana Senn; Stephen Thornton (L&I)<br>Staff In Attendance: Tim Nogler, Managing Director; Joanne McCaughan; Peggy Bryden<br>Visitors Present: Nikkole Hughes, Dan Steinert, David Baylon, Poppy Storm, Bruce Carter, Jed Scheuermann, Fred Volkers, Gary Nordeen, Tanya Beavers, Steven McCombs, Kraig Stevenson, Tom Young, Michael Barth, Mike Kennedy, Louis Starr, Jessica Ludwig, Elizabeth Willmott, Kathleen Betroe. Chris Van Daalin, Annie O'Rourke, Mike Ferry, Lee Kranz, JJ McCoy, Chuck Murray, Annie Smart. David DeLong, Becky Ernstes, Vic Colman, Jeff Shapiro, Scott DeWees, Todd Cunningham, Jen Tidwell, Jon Napier, Jim Kambeitz, Hank Teran, Tracy Moore, Todd Short, Andrew Klein, Aruia Morris, Jeremy Larson, Susan Gress, Tina Cox, Kelley Martineau, Dr. James MackRay, Dr. Dominic Mecvnon, Cyrstal Oliver, Ruby Wilson, Kevin Oliver, Alex Cooley, Tina Scheeffer, Joel Bratlin, David Burns, Mike Schaatsma, Thomas Husmarin, Justin Wildhaber, James Sinclair, David Pich, Dennis Heller, Ash Miller, Arvin Morris, Blair Harter, Joseph Bowen, Tony Usibelli, Tonia Sorrell-Neal, John Connelly, Chris Ricketts, Lee West, Cory Eckert, Jesse Sandan, Martin Nornplan, Rich Schwartz, Maureen Traxler, Jim Edelson, Jan Rohila, Jeremy Smithson, Bill Stauffacher, Ross Freeman, Patti Southand, Valerie Lonneman, David Broustis, Andrew Lee, Mike Fischer, Ken Guestmann, Reed Hart, Jason Lear, Lisa Rosenow, Elizabeth Willmoff, Steve Madsen |
| 2.Review and Approve the Agen of October 16, 2016 | The agenda was approved as with one change. Senator McCoy would like to address the Council. |
| 3. Public Comment on Items Not on the Agenda | **Kraig Stevenson** addressed the Council regarding a letter discussed at the WABO meeting Wednesday, October 15. The opinions expressed at the meeting had a wide range. The Council doesn't have the authority to follow the advice given in the letter by the Attorney General's office. The codes now are prescriptive codes.<br>**Fred Volkers,** Washington Certified Journeyman Plumber. He has two concerns |

DRAFT

| | |
|---|---|
| | to bring forward today. As a member of the TAG was unable to review minutes of the previous minutes. The plumbing TJAG webpage does not have minutes of meetings of April 15, May 6, May 20, and June 3 of 2015. Why haven't these minutes been posted? All persons wishing to make comment should have had access. What is the reason? Dave Kokot suggested he contact the SBCC Staff. Why is the plumbing at the bottom of the list. He recommends they rotate those at the bottom to move to the top for the next meeting.<br>**Chris Van Daalen** with Northwest Ecobuilding Guild. He runs the program called the code innovations database. He is also concerned regarding the letter from the Attorney General's office. Alternative methods are very important to those that are driving technology forward.<br>**Jason Lear** We need to do all that is in our power to make sure that alternative compliance paths are written into code if possible |
| 4.Review and Approve Minutes of September 11, 2015 | The minutes were posted on the website. These minutes were approved as written. |
| 4a. Senator Comments | Senator John McCoy with 38 District, speaking on the Building Code. Recently installed three electric vehicle chargers in three different homes and now getting ready and now going to install solar. It would be great if in the future all new construction would take into consideration of better placement of the necessary electrical connections for installation of electric and solar. |
| 5. PUBLIC TESTIMONY<br>Marijuana Issues | Chairman Kokot went over the rules of public testimony for those who wish to participate.<br>**Alex Coolie**, Co-Founder of Solstice Cannabis Cultivation and processing company based out of Seattle. Also the vice-chair of NW Producers/Processors and Retailers Association. His company built the first every fully permitted cannabis cultivation facility in the state of Washington three years ago. Appreciates Council's concern for persons around this industry. Confused and shocked that proposals have been put forward with a one size fits all approach. Making greenhouses F-1 is absurd to say the least. ICC is clear that agricultural buildings of all types including greenhouses are a U designation. There is a great difference between an F-1 and a U designation. The costs associated would be crippling to a cannabis business. The voters are clear that they are for this type of industry in Washington Cannabis is a flower the same as a tulip and it is unheard of to make a tulip greenhouse an F-1. The processing of plants could be F-1, but not cultivation as a whole. He feels Council should start again with industry input. This is a slippery slope.<br>**Linda Schafer** of Vashon Island Organics. She supports Alex's comments. Most of this regulation is very unnecessary and is crippling to the industry. She grows plants with no toxic and no hazard what so ever; it is safer than her house. There may be a need for regulation in the extraction industry . Lumping all together will shut businesses down - Huge economic impact on entire community. We |

DRAFT

need regulation applied with common sense.

**Chris Van Daalen,** with Northwest Ecobuilding Guild. He runs the program called the code innovations database. He is also concerned regarding the letter from the Attorney General's office. Alternative methods are very important to those that are driving technology forward.

**Jason Lear** We need to do all that is in our power to make sure that alternative compliance paths are written into code if possible

**Lee Kranz**, chair of WABO Technical Code Development Committee. We are the original proponent of the marijuana occupancy classification code amendment. We intend to submit a revision in a comments letter to Council. There was an ad-hoc committee of building officials from the east side of the state as well as the west. We met yesterday at WABO quarterly meeting in Pasco where there were more than 50 members in attendance and we gained consensus on this issue. He thinks this will be welcome news to those that are here. We think that we should treat marijuana plants the same as any other plant growing operation, but the processing of it is a higher risk and should be classified as an F classification. We intend to submit a revision that for the F-1 category that says marijuana processing and for the group U category we are going to strike marijuana growing of 15 or fewer plants and add on to the item that says greenhouses that greenhouses and other structures used for cultivation, protection and maintenance of plants. The added language was taken from a new definition of greenhouses which will be in the 2018 code. It identifies the use of a greenhouse as being a structure or thermally isolated area of a building that maintains a specialized sun light environment used for the essential use of cultivation, protection and maintenance of plants. We feel we are in agreement with most of the people in the room. We do feel there are risks and hazards related to the processing and extraction of the product and at that point it should become an F-1 due to those risks. **Duane Jonlin**, do you represent the original proponents of the proposal? Yes he does. What you are suggesting is resolving the main concern of the growers right now. Mr. Kranz points out that on the east side of the state there tends to be grow only occupancies and on the west side we tend to have mixed occupancies. This is where you have grow operations in the same building with the processing and extraction, etc. The code does provide a remedy for this that if it is a small enough building that can be a non-separated use building/ If it gets to be a larger building there can be a fire barrier or a fire wall placed between the two occupancies to reduce the area which would possibly eliminate the need for sprinklers. **Diane Glenn**, in regard to processing and classification, did you break that down any further. She understands we are capturing things in processing that are not like extraction. Should that should be further defined. Lee said his understanding is the LCB has definitions for processing and production. The production limits you to packaging into 15 pound packages or greater. We would consider that part of the grow operation classified as a U. For processing it is essentially refining it into something, such as edibles and that would be F-1 category. This is consistent with other uses for

DRAFT

F-1 occupancies. Diane asks regarding greenhouses are a permanent structure? Lee stated he doesn't belief it is identified as such, although it could be. **Doug Orth**, the issue of processing seems unclear to what I am hearing. There is a very distinct and market difference between extraction and drying, clipping and bagging. If we say processing is an F-1 we are going to be sitting in this room again wasting our time listening to folks plead their issue, He thinks the proponent hasn't gone far enough in the modification. **Lee** said the processing would be up to the building official to decode. In the ad-hoc committee a gentleman read the LCB definition, which I don't have with me. It is refining the plant into something else. The list of F-1 occupancies includes things like bakeries, manufacture of hemp products, tobacco, distillation and those sorts of things. Building officials will have to make those decisions about occupancy classification on a daily basis. To us those classifications would depend how the production is set up. If they get into doing things that modifies the plant into something else, or is putting it into different form then the building official would most likely consider it an F-1. **James Tinner,** the proposed 2018 IBC definition for agricultural building, does that still contain the current definition that indicates am agricultural building will not be a place of employment? **Lee** said there have been no changes in the 2018 to that definition.

**Joel Brattin** owner of OG Farms in Shelton, Washington. It is 100% greenhouse operation. He has had many indoor production facilities prior to the current greenhouse project that can produce the same quality of product with a fraction of the cost and a fraction of the footprint. Treat cannabis as any other fruit.

**David Burns** representing Starcrisp Farms, LLC. He is a Tier 1 marijuana producer and processor with a 5 acre parcel and a 575 sq. ft. building with a footprint of 400 sq.ft. outside of Sequim He does no extraction, only dried flower. Prior to this he was a local government land use planner for 36 years. Worked with Jon Neff. Now his simple barns are called a factory. **Duane Jonlin**, you wanted to ensure that drying was not considered processing. Yes/

**Mike Scaatsma,** his farm is Flying Dutchman Farms. Agrees with the testimony put forward. A lot of small family farmers have been doing this for over a year with no paycheck. With our processing we not only dry and bag flour, but we also make topicals for people and we don't do an extraction we do a cooking process which is an infusion of oil done with a turkey fryer. **Dave DeWitte,** does this processing take place in the same space as the growing? **Mike** said it does not. It is in a separate building.

**Thomas Hussman**, Bigfoot Extractors. We help small farms. We provide infrastructure for cold packing, cold processing, retain marketing and we help small farms get their products on the market without the outlay that is typically expected. The turkey fryer that would be allowed outdoors under a canopy where there is no risk for explosion or fire. His information has been submitted by email. The new rules would not allow the outdoor exception. The new rules will create an unsafe environment for machinery operators. Enforcement officials don't have the experience to deal with this. IFC, NFPA have addressed

DRAFT

this industry with safe working guidelines. **Dave DeWitte**, your business is not a growing business, but a processor? **Thomas,** we provide equipment to processors. Dave what type of equipment? **Thomas** closed loop extraction equipment. **Dave,** do you manufacture the equipment? **Thomas**, Yes we have engineered it designed it and there are several approved that are in 502 facilities. We will be able to do demonstrations.

**Justin Wildhaber**, a tier 3 producer processor with Green Freedom. We are in the process of building out a extraction facility that meets the current guidelines established through Emergency Rules 5154A.0105 and 3800. We have addressed through that emergency rule the requirements and occupancy related to the hazardous materials used in processing. With that in mind, he is a member of the International Code Council. As we look at developing new codes that are specific it does take away the local building official's ability to situationally address what is happening in their jurisdictions. To him that is a problem. There is a need for relevant stake holders to be in those conversations.

**Kelly Martineau. T**here are people that still do not understanding processing. When we turn in our business plan to the LCB we have to be approved if we want to do extraction or if we want to have a kitchen and do edibles. If we are not approved, we cannot do that. There is no difference in me taking a plant and package it in a 15 lb. bag or in a 1 lb. bag. It is the same process. I still dry the plant and I still put it in a bag. She doesn't see the difference. She does the same process on her 65 acre farm where she grows rosemary, basil, and other herbs. She dries them and puts them in packages. She recommends splitting these two types of processes up. A lot of them are not doing extraction and we do not have edible kitchens. We are simply using clippers to cut a plant down, let it dry, and putting it in packages. **Jim Tinner**, currently if I grow tomatoes and I put them in a green plastic basket to ship to the store; that is an F-1 occupancy; so do you do that same sort of activity with your other herbs? Is that an F-1? It is not an F-1 occupancy.

**Susan Gress** representing Mari-grow Productions. This is a small cannabis farm. Thanks to the Council. Want to discuss the difference between processing and packaging. As a grower the LCB licenses them as a producer, which allows us to grow, but if you want to sell the product you have to be a processor. By law in King County we are only allowed to do packaging under the processing license. The packaging and extraction should not be lumped together. Those building officials that are against marijuana will make her business impossible**. Doug Orth,** there are three types of licenses. There is producer/processer, and retailer under the LCB. For you to dry clip and bag that is a processing license. Most zoning areas have very strict regulations if you are doing extraction. The county jurisdiction is what prevents us from extracting.

**Mark Kulaas** wants to clarify, just as one rule does not fit all, neither does the extraction rule fit the same for all 281 cities and 39 counties in this state. King County may regulate in one way, Spokane relates it another. Another jurisdiction regulates it entirely different and does allow extraction everywhere except in

DRAFT

residential zones. One size does not fit all.

**Tina Cox,** representing the Lower Columbia Cannabis Association. She is the secretary. She has an unamend license for the processing where she can make hash, thc, which are extractions done just from the flour. Hash is done with ice. A lot of the fill plant extraction for her edibles came from a crock pot and coconut oil. School kitchens are regulated by the federal government and inspected by the health department, and are definitely not F-1. **Dave DeWitte,** you said not all processes are dangerous, but some are. What processes are potentially dangerous? It is no dangerous than someone with a barbeque with a propane tan and barbequing their food with a leaking propane tank.

**Steve McCombs,** he has been an employer in Washington since 1982. He is a tier 2 application for producers and processers with LCB. He agrees with all the comments made by others to this point. He thinks that industry input is critical to the process.

**Dr. James MacCrad**. He is resident of Washington, a long standing member the Farm Bureau, and he owns a small vineyard. He is not applicant for a production or a processing license. There is an inconsistency in the code to allow a maximum of 1500 parts per 1,000,000 of carbon dioxide in these growths. It is inconsistent with OSHA, L&I, and numerous other standards. In reviewing the IBC which you should be following and make appropriate for this state specifically states that Group U shall include agricultural buildings, barns, fences more than six feet and greenhouses. The likely to apply to 502 facilities that would be under your jurisdiction. He takes exception with WABO making changes to the proposal at the end of the process and no opportunity for public input. They should make a new proposal for next year.

**Dr. Dominic McKeven**, the key question is there a machine. We need to be very specific about what types of processing; i.e. solvent safe industrial mediums that would apply for outdoors. It is not satisfactory for an F-1 category.

**Crystal Oliver,** she is a tier 3 producer/processor. Glad that building officials have determined that marijuana is a plant and shouldn't be treated any differently than other plants. **Kokot** too much repetitions.

**Ruby Wilson,** owner and operator of Wild Weed. In listening to this the differentiation between the different processing techniques and actions used are clear to the Council. She believes any short of decision without a very clear definition of the practices we use in the smaller growing operations compared to those that produce hydro-carbon wax and use generators, etc. There is a great difference. Three minutes is not enough time to give you all the information of what we do. For you to make those decisions there needs to be clarification on the Council's part so they can make an informed decision.

**Kevin Oliver**, presenting Federal of Marijuana, who have written 17 pages of written testimony. He agrees with James McCrae. He would like to point out as for the recommended revision of the primary proponent. The packaging only that a producer only does to provide the harvest is no difference than someone

DRAFT

with a processing license does to dry their product. The difference is that the LCB requires a processing license for the sale of marijuana. The surrounding infrastructure, the technique and the equipment are the same for producers and limited processors or dry flower.

**Mike Devlin,** part owner of DB 3. Tier 2 producer and processer. We make extractions and edible products. We probably the processer that others have been talking about. We are food manufacturer. We seem to be making regulations that don't equal the level of the hazards. Marijuana is just a plant. We don't need a set of ordinances for this. He will submit written testimony for his concerns. **Dave DeWitte,** please describe what your facility is like. **Mike**, we are in Seattle, we have 25,000 sq. ft. and employ 30 people we pay above market wages, benefits are offered. We operate as if we are inspected even though we are not. We have a small grow operation, then we have an extraction, and then we have what looks like foot manufacturing.

**Jeremy Larson** representing the Washington Marijuana Association**.** His company is Genius I. Currently occupy a cold steel framed, glass greenhouse for the growing of marijuana. The marijuana plant is like any other plant.

**Rebuttal Testimony**

**Jim McCrae**, Rebuttal for Lee Kranz, he made a statement in his testimony that with the redefinition at the 11th hour of the cannabis plant as a plant they were going to back off on new rules. However he said they were going to keep going with the processing. That is obviously from the subsequent testimony, inconsistent with the bulk of the testimony which wishes you to differentiate different types of processing.

The second rebuttal is against James Tinner a council member and the SBCC representative of the primary applicant in question, WABO. He mentioned the comment about the Ag buildings requiring employment and some reference to the 2018 code which does not yet exist. McCrae looked at the 2002 version and sees no reference. It would probably be useful for someone on the Council who is interested to have him specify what he was talking about.

**Lee Kranz,** comments in rebuttal. He would like to point out the laundry list uses in Section 306.2 for Group F-1 includes a lot of different manufacturing industrial uses that are not necessarily considered risky or hazardous. They include things such as metals, optical goods, manufacturing of business machines. There are other considerations that need to be applied for example means of egress requirements, the type of construction, limitations for property loss reduction, accessibility for the disabled community, structural design, etc. For the different uses in the F-1 processing the different goods is not defined for any other type of industry use. He would caution the Council if they get into very specific processes for marijuana production

**Doug Orth.** You said that manufacturing of business machine is the same as growing marijuana. Lee meant there are many industrial uses in the list of different types of factory uses that don't necessarily involve the use of butane

DRAFT

| | |
|---|---|
| | and propane. There are other things to consider when identifying occupancy classifications. After the code is in effect, an interpretation letter may be helpful.<br>**Stephen Thornton, L&I.** Clarification on the term emergency power. It fits in the National Electrical Code a couple of different places. There was some clarification as to whether it was in Article 700 or 701. One is required and one is not. The terms need to be adjusted to fit whichever category it was intended by the term emergency power.<br>**Tina Cox.** There are essential oils she buys at the health store and they use the same extraction process as discussed here and none of these oils are an F-1 category<br>**Tom Hussman,** Bigfoot Extractors. Comment about tomatoes requiring F-1 classification. In any commercial kitchen that is classified under A or B, that activity can occur. If they have a catering, a restaurant, any kind of kitchen where they are serving the public, they can also process under the USDA regulations in that facility and to distribute up to a certain volume without requiring an F-1 classification. There are other ways to approach it.<br>**SusanGuess.** Regarding Mr. Tinner's about tomatoes being put in a basket requiring an F-1. I'm sure if you are doing 10,000 an hour that will be applied. |
| 2015Washington State Energy Code Testimony | **Jonathan Heller**, with Ecotope. He submitted the proposal for Dedicated Outdoor Air Systems (DOAS). The proposal is to avoid some of the most common causes of excessive energy use in modern commercial buildings, excessive fan energy, uncontrolled ventilation and simultaneous heating and cooling. There is no new technology that is not already is widespread use. It seeks to see how those systems are put together and how they are controlled. The key feature of the proposal is the separation of the ventilation air from the heating and cooling system. The proposal passed by the TAG gave significant input that we had received before we wrote the proposal from the people in the industry. Since the passage of the TAG recommendations he continues to receive comments from people throughout the industry. Most of the comments have been supportive and constructive and aimed at how to make the proposal better. In response to those comments he has presented written testimony that has been sent to SBCC website. These updates are to make the proposal more clear, to simplify and make it more flexible and easier to enforce. He proposes moving the DOAS requirement from the mandatory section of the code to a new prescriptive section so that if a designer can come up with a system that is more energy efficient, but does not meet the requirements of the DOAS proposal they could do that through the C407 section of the code. Mr. Heller also proposes that we remove some of the restrictions on heating and cooling of ventilation air that would allow for certain technologies that would otherwise be more difficult to implement. **Duane Jonlin**, Tell us about your short list of revisions requested. **Mr. Heller,** the list is out of my hands and is in the Council's hands. There is new comment coming in |

DRAFT

as a result of the TAG's input. Moving it to a prescriptive is a great idea. It will add flexibility. **Eric Vander Mey**, what do you think the anticipated energy savings would be in a couple of different building types as mandated. Why is this so important? **Jonathon**, we haven't tried to mandate this or make it prescriptive in all building types. We have selected offices, education, retail, fire stations and libraries. These buildings have relatively manageable internal loads and not a lot of process air requirements. When you look at a typical commercial building it is designed around one large fan that has been sized for peak cooling that is trying to supply all day the ventilation air, the heating air and the cooling air to the building. That leads to very big fans that are way oversized most of the time. By separating the ventilation fan from that you reduce the size of the ducts required, the size of the fan required, the amount of air you are pushing to just what is required to maintain indoor air quality. That allows for cycling your heating and cooling system only when there is a call in the zone. Typically new buildings have EUI's in the range of 60-70 with the system he is proposing he is expecting EUI's in the range of 30-40.

**Eric Vander Mey** what do you think the impact would be on the energy savings we could claim as a state? Would it be significant or not? **Heller**, Moving it to an economizer exemption would allow some very good systems to be designed that are not currently allowable. Specifically for small office, small retail, you could use a ductless heat pump and an energy recovery ventilator. That is a great system. There is a lot of inertia in the way that we have always been doing things. There may not be much savings if it is only an option.

**Kathleen Petrie,** representing the Regional Code Collaboration, speaking on the new Appendix D for renewables. Speaking on a modification that has been submitted. It modifies the exception. The code official can approve an alternative approach to the onsite renewable requirements; however, there are currently no metrics. We feel this modification now provides guidance, clarity to both the design professional and code official stating that the design must demonstrate that the calculated net annual energy savings exceeds the calculated annual energy production of either 70 watts or the 240 KBTU's of annual solar, water, heating energy production. That is the modification. The advantages to the proposal as a whole. This is a non-mandatory appendix that jurisdictions can adopt by choice as it suits their needs. It is a good introduction for jurisdictions in communities wishing to explore renewable energy technologies. This is in alignment with the goals of the 2012 Washington State energy strategy developed by the Dept. of Commerce.

**James Sinclair**, president of Air Commodities doing business as ACI Mechanical and HVAC sales. He is concerned is about the last proposal read was there was a maximum 5 degree Delta-T off of the set point which would allow the DOAS to only be set down to 70 degrees. In heating and cooling there are sensible loads and there are latent loads. Latent loads are essentially are humidity loads. Five degree Delta-T does not allow enough air to take care of the humidity that comes from the exhalation of people breathing in the space. It says that it wants to have

DRAFT

chilled beams, radiant panels and other things, but those require larger Delta-Ts. He would hope that the change would be made. The basis of this design was DOAs with VRF, which puts the VRF into all the spaces. Basically doing supplemental heating and cooling. Refrigerant is not conducive to health. We are going to put these in spaces where people sleep. These systems are put in dorm, hotels, fire stations, etc. We in the HVAC industry want to be a part of doing what we can to achieve energy savings. **Duane Jonlin**, The change would only allow VRF systems? **James**, no it is just the basis. With the 5 degree Delta-T the latent load is taken care of in the cassette because there is actually a coil and there is a drain that takes the excess moisture out of that the space and it drains it to the outside. That is how it takes care of the latent load. All the alternative systems require the latent load to be taken care at the air handler. **Eric Vander Mey**, if the proposal was revised to be less restrictive on how you control the ventilation unit, you think favorable because it would be more flexible to all DOAS types? Correct.

**David Pich**, Director of HVAC Technologies for Titus and JCI. We are a large air distribution manufacturer. We also produce VRF. As he reads the changes it leads VRF systems as a simple and prescriptive path for this system to meet your code. From the studies he has been involved with, with ASHRAE and AHRI, the realized energy savings that are prescribed to VRF don't happen. You get energy savings. It is a good system. I train a lot of people and when he trains he always says every system has its best fit. But you are writing the code to where it will be the only system without a good deal of work and a good deal of cost for the design community to utilize. He feels this is a mistake. He thinks there has not been enough time or money, or research on this to make the change. **Doug Orth**, you reiterate the point saying this change would limit us to VRF? **David**, if you read all the different code pieces, there is quite a bit in it. The dedicated outside air system and the control of the temperature of the air system; if you look at that, now you are going to start shutting off ventilation air. If you shut off any air for cooling and heating, that kills chilled beams and that kills VAF. **Orth**, what about VAT? That would kill the vent too. The system has a good fit and that is not all commercial buildings. The VRF system had noise problems and maintenance concerns. To keep clean they would need maintenance every three months.

**Dennis Heller**, Consultant with In-Control, Inc. With the DOAS system allowing the movement from 30% to 40% glazing, certainly the goal is to make our buildings more efficient by code. If this is allowed without much further study we could end up going the wrong direction in many buildings. He thinks it still say if the DOAS is used the architect is allowed to go 40% glazing. We might get utility companies involved if it was prescriptive. **Duane Jonlin**, you are generally in favor of this, but your concern is that by going to 40% glazing we'd throw away some of the savings? **Dennis,** it would definitely.

**Ash Miller**, with Puget Sound School Coalition. The coalition is 10 school districts is the greater Puget Sound area and he works with the districts on code

DRAFT

matters. Appreciates work of staff and TAGs with districts over time. Speak to Air Barrier Testing. We understand that the existing code on its face requires testing, but it practice this requirement have not been uniformly applied. The 2015 revisions would eliminate some existing language that has been applied to school portable class rooms. This language has been applied to properly install portable classrooms and render them compliant with the air barrier testing requirement, if they need certain factory tests and installation requirements. This is important because requiring all portable classrooms to conduct air testing would impose potentially significant additional costs on districts as well as complicating the siting process. This process often needs to move on an expedited basis very near to the beginning of the school year. We understand that testing a single portable can cost approximately $2,000. There can be reduced costs if multiple portables are sited together. This increased financial burden would be greater on smaller districts, which means that those that can least afford it would face an unfunded mandate. This inspection would add another step in the siting timeline. This usually happens on an expedited basis to meet increased enrollment which happens at the end of the summer and beginning of the school year. Some districts need site up to 15 or more portables in one summer. This delays the schools opening on time. The coalition requests the Council consider a very narrowly tailored provision which would allow properly installed portables that have passed their factory tests to be deemed in compliance with the testing requirement if they would have otherwise have required testing. He has draft text to submit.

**Arvia Morris**. A biologist in the biotechnology field representing herself and her family. Want to speak in support of 15-E029 increasing the R value for the concrete cylinder blocks. Right now they are an R value of 3 and the new code would increase that number substantially. AS a consumer who had insulation put into an older home we saw an immediate improvement in the comfort in the house and the payback for that upgrade was very quick within two years. We also support 15-E114. The LED lighting. We put this lighting in our home and it is good quality, she doesn't have to change light bulbs. I'm sure on a larger scale this saves maintenance costs as well.

**JJ McCoy**, with the NW Energy Coalition. We include over 100 member groups in Idaho, Montana, Washington, and Oregon. This includes electrical utilities, consumer advocates, environmental organizations and we pride ourselves as being the voice for energy efficiency in the northwest. We support for the package of energy code changes you are considering today. We support E-009 the ductless heat pumps, E-012 the extra efficiency credits, E029 the concrete masonry wall units, E-066, E-69 and E-70 the DOAS systems, the LED lighting and the additional energy options. As mentioned we are under the mandate to reduce our energy by 2031, which saves consumers money and lowers our carbon footprint. The consumers will enjoy the savings on these measures for years to come.

**Blair Harder,** NW operations manager for Baselite Concrete products, we are a

DRAFT

manufacturer of concrete blocks, dry mix materials based out of DuPont, Washington. Changing the current mass wall energy code provisions would have a detrimental impact on his business and he opposes change proposal E-029 and E-36. There are two parts of the mass wall provisions in the state energy code; one is the exception for integral insulated block walls for certain building types and wall grouting percentages. As you are aware this provision is important to the masonry industry and to building owners seeking to use the many inherent benefits of concrete masonry walls exposed on the building interior. These benefits include durability, sustainability, ascetics, acoustics, low maintenance cost and improved fire resistance. Through energy modeling of a retail warehouse and a high school gymnasium in this climate we have demonstrated that this is not cost effective to require additional insulation on the outside surface of a concrete block wall. The second bard of the mass wall provision is the maximum U factor requirement of .104. This value is reduced by 33% in the last code cycle change and should remain unchanged. This corresponds to the ASHRAE 90.1 requirement for this area. The energy code TAG is currently supporting a change to metal building wall insulation which will harmonize the WSCC with ASHRAE 90.1 to accommodate common wall insulation options. The same consideration should be given to concrete masonry buildings. Changing the code would be harmful to the masonry industry in Washington state. Masonry materials will be replaced with less durable construction materials, mostly coming from outside the state. This is not a good sustainable design practice. Concrete walls are multi-functional allowing less construction materials to be used. Block walls can serve as structural support, building enclosure, interior, exterior finish and fire rated assemblies. There are extremely durable which are long lasting which are key components to good sustainable design. He respectfully asks the Council to not force building owners to sacrifice the concreate masonry benefits they desire for little to no energy savings in return. Sufficient documentation to support these proposed changes has been provided by the proponents. On the contrary much information has been presented to the Council supporting the current mass wall provisions.

**Joseph Bowen**, chairman of Mutual Materials and also chairman of the National Concrete Masonry Association. Mutual Materials is a 115 year old private company headquartered in Bellevue. We currently have fifth generation shareholders working in the company. We manufacture concrete products and distribute them throughout the northwest. We have manufacturing facilities in Kent, Lakewood, Lacey and Olympia. We currently employ 400 people with family wage jobs, both union and non-union. He is also opposed to the proposed changes to the mass wall energy code provisions and asks the Council to maintain the current requirements. Recent studies by PNNL for the National Concrete Masonry Association confirm that the concrete masonry walls do work well in our northwest climate. Given the specific mass wall information we have presented in our testimony with new information to come the current mass wall requirements should be maintained at this time. **Diane Glenn**, The new testing coming up, is that going to be in the near future? **Bowen, t**he additional work

DRAFT

will start very soon and we should have the results in about a year or so.

**Tom Young,** NW Concrete Masonry Association. His group is very involved in process since the beginning. He wanted to share the top 12 reasons they are opposed to the mass wall provisions. They will provide documentation in writing.

**Tony Usibelli,** with the Dept. of Commerce. They worked to have the savings produced by efficiency. He distributed a hand-out. He urges the Council to support the proposal.

**Chuck Murray** with Dept. of Commerce-Energy supporting the process by encouraging others to participate. Collaboration with Ecotope in preparing proposal E-012 options path for residential energy. They produced a life cycle cost analysis and it was revised after the TAG modifications. Please see the secondary analysis for review.

**Tonia Sorrell-Neal,** with Masonry Institute. They are in charge of doing research and development and keep on top of the new things coming up. In 2012 we were to go back and look at how we were doing things and make sure that what we were suggesting was the best thing for Washington, and they did that. For example we reviewed the high R and Perma Star options to see if these were feasible for Washington. No it is not cost effective. They also reviewed the PNNL referenced earlier. We have also introduced legislation in 2015 that looked at the building envelope. We continue with this process. We also created a stakeholders group and asked them what we can do to provide out product more efficiency. What can we do to make this a system that benefits you. Their recommendations are now a northwest edition of the NW Masonry Systems Guide. We will now produce a system, not just a product. A new block that collects carbon after it has been constructed. It is called carbon cure. **Dave** DeWitte**,** you have used the term cost effective numerous times and you said the proposals are not cost effective. What do you mean by that? **Tonia**, That means for us to produce that kind of system you need to put another product on the outside of the CMU blocks. In order to do that the owners aren't going to utilize that system because there will be cheaper ways to go about providing that option. If you increase the R values the system won't be utilized anymore because it doesn't cash out for the owners. So they will use a different system losing durability and the maintenance these products offer.

**John Connelly**, third year apprentice with the Western Washington Masonry Trades and works for Johnson Masonry a small independent outfit out of Puyallup, Washington. Here speaking on behalf hundreds of apprentices across the state. His situation specifically is not all that unique. He is back after a mandatory hiatus created by the economic downturn of 2008. Now there is an increased demand for labor which is benefitting a lot of people. Another group benefitting are military people, specifically the helmets to hardhats program. Many of them are coming from across the country and in some cases sleeping in their cars taking a leap of faith. Currently we do have work for them and we want to keep on that path. We desire a real career. We want fair wages and we

DRAFT

have pride in our craftsmanship, which pivots around this CMU wall, which is a major portion of our business. We request that you do not accept the two code changes for the mass wall. The energy savings is provided is in question. What is clear is that if you adopt these changes it will drastically increase the cost of the wall system and price us out of the construction market in many applications; first and foremost pre-job apprentice workers and also people nearing retirement. People who are working 30-35 years and this threatens to kick them out on the street. This is a little of human cost information. There is a persona; cost to this change and until things are cleared up you should consider setting aside these two provisions. **Doug Orth**, Do you have an idea of the percentage of mass wall that is represented by the total workload including brick, CMU all the stone**?** **John,** there are people here that have the numbers to be exact. H said when he worked on the commercial side, it was virtually everything we did. This is synonymous with permanence. Take this into account when you make these decisions.

**Chris Ricketts**, King County Fire Marshal and Building Official. Wanted to provide general information that the county supports many of the energy code changes that have been presented. King County processes thousands of permits each year, we have tried to encourage green building construction, sustainable construction, provide paths for people to reach that energy savings. We are in support of both the state energy goals and the county energy goals. We have had moderate success on this work and moderate participation, but we are not seeing a broad scale of participation that work. The spec builders, it doesn't make sense to them, he thinks. It looks like it is going to be by mandatory rules to make this happen. He is providing a particular list we would support. Just wanted to see the state pushing the energy codes forwards. We can do it. **Jim Tinner**, you said you support most of the changes. Are there any that you don't support? **Chris,** is not aware of any he does not support.

**Lee West**, assistant coordinator and instructor for the Western Washington Masonry Trades, an apprenticeship program. We currently have 160 apprentices now that we train to do the CMU walls we have been talking about. Asking Council not to adopt the two code proposals for the CMU walls. These systems keep water and moisture out and it you eliminate the ability for owners and architects to design the system you will essentially cut jobs and waste the time and money of the apprentices who have recently graduated from our program as well as those that are in the program. We will have to change our curriculum, apply with new standards with the state apprentice council and deal with the ramifications for less work for the apprentices in our program. There are sometimes unintended consequences and he doesn't want the apprentices to be one of them.

**Gary Nordeen**, with WSU-Energy Program also a member of the Energy TAG. He is here to speak in favor of the Energy Code Change Proposals, especially the mini-split, the DOAS system, the increase in points, the commercial lighting reductions and the insulation of masonry walls which we have put off for a

DRAFT

number of code cycles. These changes will keep Washington state on track to meet our 70% reduction in net annual energy consumption in newly constructed buildings by 2031 as required by statute. He wants to say that they have a contract in place to go out and educate the masses including builders, designers, engineers, architects, and especially the code enforcement community on the new code changes coming up. They have been doing this for a number of years. They get funding from NEEA in Portland to do this. Since the 2009 WSEC we have reached almost 7,500 attendees and have provided almost 300 classes. We offer a number of technical services to anybody in the state of Washington, usually for code officials, architects or builders regarding residential energy code provisions. It is a hot line where you reach a live body. There are websites, emails, compliance forms for jurisdictions, videos, webinars, etc. We are ready to go out and help people with the new code changes. **Eric Vander Mey**, you mention the DOAS proposal and I know that you are an Energy TAG member, Can you discuss a little of the impact would be if DOAS exception vs. if it is a prescriptive requirement. **Gary,** he only does residential; Lisa Rosenow does the other training. If it was an option rather than prescriptive for the small set of buildings the TAG came to, people would still go with the standard economizer and you probably wouldn't realize those savings. **Duane Jonlin**, Could you briefly summarize the residential mini-split. **Gary** the studies that we have done and we have several on residential is if you replace your baseboard and you leave them in the bedrooms if you need them you will reduce your energy consumption by 50% in less than 3 years.

**Chris Van Daalen**, with NW Eco-building Guild, which is an alliance of architects, builders. Product suppliers and others who are interested in long term sustainability in our built environment. He is coming to testify in support of the package of energy code amendments you are considering. Specifically Appendix D, to support the modifications to the exception to add matrixes to the renewable energy option path. He thinks this idea of trying to use these various pathways to reduce our overall use in carbon emissions, as we have seen the incremental improvements have been somewhat disappointing. In order to reach those ambitious carbon reduction goals we are going to have to dig in harder and come up with some more requirements and the DOAS seems like a good approach, but to make it an exception it probably won't get uptake by many people. On the residential side the ductless heat pump requirement is a no-brainer in terms of the payback and the cost of the system is dropping quickly and if it becomes a requirement in the code the cost will drop further. He thinks we need to keep the heat on and look at an outcome based code for the future. There is only so much we can do with prescriptive requirements on energy efficiency,

**Corey Eckert,** he owns Alpine Ductless. He installs ductless heat pumps. He is supporting E009. The research that was used in proposal was a study done with a wood subdivision for Habitat for Humanity is doing that and for the record he supplies all the ductless heat pumps. He can tell you that in an area of Thurston, Mason, Pierce and south King County, wince over 2012 we have installed over

DRAFT

1,2000 heat pump. In new construction, he has 10 models that meet the same criteria that that TBU used for this study. He can put in anyone of those, excluding the electrical and the permit he can put them in for $2,400 to $4,500. O depends on what the customer chooses. We survey evert client that will answer the phone after the installation. The biggest drawback is the head on the wall. They don't like the way it looks. After the install they can't believe how comfortable it is, the love that it is quiet. Later these customers talk about the savings. These things make a ton of sense. **Duane Jonlin**, at 2400 to 4500 is quite a range in price. The concern is the cost impact on a small house. Is this cost correlated with the house size? **Chris, no he doesn't believe so**. He doesn't have hard data to support that. They have been done in elevators and he has done them with 8 heads and one big outdoor unit. He can do any house any way you want to do it. They can have zones. Turn one off while others are running. He has only had one system break in his experience. **Doug Orth**, What is the tonnage on these $2500 to $4500 units? **Chris**, these are 12,000 BTI units. The price range is because of the manufacturer and the model.

**Jesse Sandan,** is a bricklayer representative of local 2 Washington. On behalf of the members and the families in the Puget Sound, he is asking the Council to maintain the current mass wall requirements in the Building Codes, and not to accept E029 and E036. These attempt to remove the integral insulated CMU exception for certain building types. Lower the mass wall U factory requirement and by default reducing the CMU energy values. The thermal benefits have held a place in society for thousands of years. These code changes would drastically increase the cost of this wall system and price the system out of the construction market. The system is utilized at specific times meeting very specific market needs. It is perceived or realized that a CMU mass wall must be substituted with other products due to the over costly increase. Then there is an increase and the longevity is compromised. We provide a quality product that can withstand the durability challenges of the building types that have been exempted. These changes directly impact the jobs of his members that depend on buildings where there is a mechanical system working against the requirements, thereby expending more energy than it is saving. The negative impact to the masonry industry if these changes were to be adopted would directly impact the people that he represents. This system that is used statewide provides job opportunities for this industry and as is currently are helping to meet the energy code challenges that works for both the state and the industry. In 2012 we supported the option 2 approach to change the energy code regarding mass walls and we understand the Governor's goals, but we also the Governor would not be okay with eliminating significant jobs in a segment of the industry where there are other options. **Steve Simpson**, how much of the mass wall work do you do, what is the percentage? **Sandon**, he will have to do a follow-up written testimony for exact numbers; but it is a large portion of their work. Guess about 50-60% range. **Rep. Senn** you mention the HVAC system would have to work harder with a different kind of wall. Can you expand on that. **Jesse**, there are other options than going after this mass wall system. From the testimony of others it seems

DRAFT

like they are doing more testing and will have better data on that.

**Jim Edelson,** the director of codes and policies at New Buildings Institute, which is a non-profit organization advancing energy efficiency in commercial buildings nationally, located in Portland, Oregon and in Seattle. In three states, including Washington we are looking at these types of modifications beyond the 2015 ICC to increase the efficiency because of state goals that you have. The Washington Code Energy Roadmap that we were commissioned to develop for Washington because you do have the statutory requirement for 2031 reduction of 70% of energy use in the Energy Code. Because of that we were commissioned to figure out the ways that Washington is going to meet this. There are 10 proposals that you have before you and will be voting on tough issues. We support the DOAS proposal which we support because it is one of those changes that provides a systems approach to the conditioning and ventilation in your building. In many other states are trapped in an archaic and artificial baseline which is based on the worst possible system you can buy by federal law plus the worst possible installation by Building Code, because of that we cannot get at the way that buildings can be built. **Dave DeWitte,** who commissioned you to do this work? **Jim,** NEEA and the cost study for the package on the record. **Eric Vander Mey**, the DOAS proposal was being pulled back to an exception of an economizer, what do you think the impact of that is? We think as a prescriptive package it will have much more impact on the market. **Eric**, you think it is appropriate to change the C407 baseline to DOAS, is that a reasonable expectation by the industry? He has not looked closely enough at the C407 to make an honest appraisal of that. **Eric,** the DOAS portion of C406, Item 5 is not referenced in the tenant spaces portion of C0406.1.1. Should that be mentioned as mandatory by the tenant or not? **Jim,** there has been a series of taking it out of and putting it back it. In should be an option for tenants in the package.

**Jan Rohila**, BIAW. We have discussed the steps to get to 2030. What she would the Council to address is that in the information she can find the final numbers for the 2012 code should reflect 73% not 76/1%. This is based on the Ecotope that was done and adopted by the Council. That tells us we are at a different starting point for this code cycle than we thought we were. We are three points ahead. All of that leads me to say we are looking at is not a need for a 9-12% increase in this code cycle for residential, but more like a 6-7% increase in what is needed to achieve the most aggressive goal. You had the target goal and even the more aggressive goal we are on target to reach with a 6-7% increase. She would like the Council to take that into consideration when it comes to the adoption of proposal E012 which is 2 additional credits to R406. She doesn't believe two additional credits accomplish what you set out to accomplish. It puts you beyond that and it is accepted at this time. **Diane Glenn**, in the last meeting we discussed an option to increase it by a percentage of sq. footage related it that way? **Jan**, that is something that I did support. I would support that before I would support the original. She does think that an across the board 1 credit which is a 6% given that the base code achieved 1 percent; that puts you at a 7%

DRAFT

| | |
|---|---|
| | gain and it does put you on target got the most aggressive target. Given that we assume some of these other things are going to pass. It is hard because you are guessing what is going to pass, but we assume some of these other things it gives you another one to two percent. It definitely puts you on the most aggressive target.<br><br>**Jeremy Smithson,** co-owner of Puget Sound Solar. In Seattle we have installed about 5.5 megawatts of solar since 2001. He is representing Solar Installers of Washington. We would like to register our approval and support of the 2015 WSEC proposals. Solar Installers of Washington is an alliance of more than 40 installation companies, manufacturers, suppliers, and non-profits with a mission of doing what it takes to bring solar to the mainstream of our society. As such here are limited to the proposals that are related to solar energy, but we are generally in favor of any measures that increase building efficiency because that therefore increases the potential for solar fraction of that energy mix. The changes may seem bold to some, but there is a history around the country with solar zoning and building codes. California passed the solar shade control act in 1978 to preserve solar access. In Boulder, Colorado their codes enacted a detailed set of zoning and action codes from 1986 to 93 designed to ensure the sun would do as much and as efficiently as possible for all new buildings. Trade contractors have been known to view code changes in a less than flattering light, but we have already seen the benefit of the renewable energy and solar ready components of the current Seattle energy code. Although the required solar fraction is small, the solar ready roof part of it is huge. Some building owners are going beyond the minimum required energy production. Any solar installer that does projects on commercial roof tops knows how cluttered those spaces can be and establishing some of that space as solar is a big step in the right direction. Likewise codifying what is solar ready is a sensible way to defend its value against imposters; those that say they are solar ready but are now. E021 sizing the renewable energy requirements by building area type seems to have merit, but we don't know how that was calculated. However we are generally in support of matching loads to production and definitely in support of the use of solar water heating on buildings that have big hot water loads. The design of these systems has become easier over the years. Proposal E-154 and E-048 what is not to like about approving winners. These proposals mirror what is already working in Seattle, by gently creating a level playing field for renewable energy in new commercial buildings. We would like the production requirement to be more aggressive, but there is the next code cycle for that. Solar installers are always encouraging builders to respect future use of the sun by designing and building accordingly. The notion of building a solar ready house arose when the cost of including a system was prohibitive, but money could be saved on future installation by doing the rough-in during construction.<br><br>**Bill Stauffacker**, is speaking on behalf of the American Wood Council, which represents a number of businesses here in Washington from milling, manufactured product, businesses, and want to encourage the Council to move |

DRAFT

forward with code changes that create parity and equity among building materials that are used by commercial builders throughout the state. During the last energy code update the masonry industry was given a special consideration that permitted mass wall requirements remain in our view less energy efficient than the mass wall requirements of the IECC. It is our view that you should have some equity as all of us work together toward the 70% reduction in 2030, otherwise we have a price and cost shift and choice shift for building owners to select one set of materials in the jobs that go along with those activities over another. In the end we are in this together and if we continue to shift against one industry over another we are going to have a gap that is going to make it much more difficult for us in the wood products to be able to compete in the commercial marketplace. The truth is a lot of innovation is occurring in the industry driven a lot by market choices, but also by the regulation around carbon reduction in this state. This puts a lot of pressure on the codes that are also under the Council's review. Sequestering wood products with carbon is part of that effort in one area. We need equity in the code, so we encourage you not to provide exemptions for specific industries but rather create that shared challenge to move forward to achieve what state law requires by 2030. We will submit detailed written comments. **Doug Orth**, it seems like you said in effect that the mass wall exemption gives them an unfair competitive edge. He is not aware of a wood frame system that duplicates what a masonry mass wall is doing, is there something missing? **Bill,** we can send you a number of examples with our written comments. You would be surprised what it is now merging.

**Ross Freeman,** is the sustainability manager for the city of Mercer Island. He is here to bring the small city perspective to the discussion on the energy efficiency code. He coordinates the entire spectrum of the city's conservation and sustainability efforts, paying special attention to the carbon footprint of the city and the community as a whole. Outside of transportation the largest source of carbon emissions is building related, so we find a real nexus here for our interest. We started laying the groundwork for a green building program before the recession, but with the decline in permits and in permit fees, staffing was down and all that had to go on hold. Now we are on the other side and business is booming. We'd like to have a mandatory track for commercial that we are working on and an optional track for residential, but if we could see additional progressive code requirements coming to the state level that would really help us accelerate the adoption of these energy conserving construction practices across the island. We would like to endorse proposal E-009, the ductless mini splits for the main living area, and also E-012 with a preference for Option 1. We are particularly interested in the addition of the low-rise multi-family buildings to that rule, which is something we are starting to see on the island.

**Patti Southard**, with King County Green Tools Program, she will speak in regard to the many agencies she represents in King County. In addition to that work, she also co-chairs the regional code collaboration with Kathleen Petrie from the City of Seattle. We want to express our thanks and support for those proposed

DRAFT

changes to the WSEC having the potential to result in significant energy use reduction as required by the state law, directives from the Governor and sustainable priorities set by all of our jurisdictions in King County. System and unit costs have been rapidly dropping. Building owners are see an immediate payback on efficient system investments and the increase in local enforcement for these changes is anticipated to be slim or none. Changes that can be codified at the state level will help to keep all jurisdictions remain competitive while regionally achieving greater carbon reduction. E-009 is of particular interest and the support that she provides to King County Public Health Dept. This is a great opportunity not just for energy savings in the rental market, but this contributes positively to indoor air quality. This combines systems positively for both health and energy efficiency. We the way things are going with rental inspections in small jurisdictions we really need to provide some advocacy to the rental community and this is a great opportunity to do that through this proposal. We are very supportive of the non-mandatory appendix with the solar ready initiative. We see many builders in the greater King County building and doing prewiring for solar and this is an initiative whose time has really come.

**Valerie Lonneman,** planner with the city of Tukwila and also a representative with the King County Cities Climate Collaboration or K4C. She is speaking on behalf of the city. She is here to voice the city's support for the proposed changes to the state residential and commercial code. She strongly supports the adoption of the following energy efficiency proposals: the ductless heating systems, additional residential efficiency measures, elimination of special exceptions for CMU walls, dedicated outdoor air systems, controlled receptacles, reduced lighting power allowance and additional efficiency options requirement. Tukwila and 12 other K4C jurisdictions have set the greenhouse emissions goals including a 50% reduction in carbon emissions by 2030. As one of the region's largest commercial centers, the city of Tukwila stands to achieve vase energy savings from the commercial building proposals. A current analysis of Tukwila's energy use and carbon emissions highlights the importance of improving building energy efficiency in order to meet the city must reduce energy use in existing buildings by 25% below the 2012 levels in the next 15 years. We must achieve carbon neutrality for all new buildings by 2030. It is apparent the city has much to do on this account. The proposed amendments are importance to achieve our climate commitments. Finally, she would like to stress the importance of passing this legislation at the state level as it is difficult for any city smaller than Seattle to adopt energy code amendments.

**David Broustis,** energy manager for King County Government. He is speaking to support for the proposed changes to the state's residential and commercial energy codes that will continue to move the codes and the state on the necessary trajectory to meeting the legislative 70% reduction by 2031. As you have heard from the last few speakers King County and many of the cities with which we closely work have ambitious reduction goals for buildings in our communities. He encourages the Council to advance energy efficiency through the efficiency

DRAFT

proposals that have been presented including those for the residential ductless heat pump, the flexible efficiency options for residential and commercial buildings, eliminating exceptions for CMU walls and the DOAS proposals for commercial buildings. Specific to reduce lighting power allowances, as you are probably aware we are in the midst of a complete transformation of the lighting technology. In King County in recent years we have been retrofitting numerous facilities with LED fixtures of all styles. It is not an exaggeration to state that by the time we finish identifying a potential lighting project, procuring fixtures, we soon become aware of newer LED fixtures that a higher efficacy. You will discover by the next cycle that this proposal allowance proposal did not go far enough for what the marketplace has to offer and what owners and builders demand.

**Mike Ferry**, a building official representing Grays Harbor County. Preface his remarks that over the last year the Grays Harbor Building Division staff has had several discussions with the state building code council staff in an attempt to clarify the intent of the legislative exemption of "temporary growing structures" to the building codes. He would like to thank the Council staff for their patience in discussing those issues with us. Would also like to thank Lisa Rosenow with the NW Energy Efficiency Council for her feedback to my written comments. We were looking for clarification on this structure with relationship to the Energy Code. In looking at the exception noted in Section C101.2, it states in part that the provisions of this code do not apply to temporary growing structures. The use of the term makes it unclear as to the intent of application of the provisions of the WSEC. Is the intent to allow the installation of mechanical systems and/or lighting systems regulated by the WSEC without providing or permitting and inspection of such installation? Or is the intent to restrict the installation of systems regulated by WSEC in temporary growing structures? If the intent of the exception is to restrict the installation of permanently installed mechanical or lighting systems in temporary growing structures, we believe that clarifying the language could be included either as part of the exception language in Section C101.2 or in the proposed definition language of Section C202.20-T for temporary growing structures. If included as part of the exception to Section C101.2 the following language or a derivative there of is suggested. The last sentence in that section: "The installation of either listed portable mechanical equipment or lighting fixtures is not allowed". So the installation of other than listed portable mechanical or lighting fixtures is not allowed. Additionally, or alternatively… (time called) **Duane Jonlin** asks the chairman, this did not come through the TAG process. Is it going to be an order to entertain such a change as he is suggesting? **Dave Kokot**, basically if a part of the code has not been opened up and he doesn't think it has. **Tim Nogler** reports that it has been opened up and we can take action on it.

**Louis Starr**, with Northwest Energy Efficiency Alliance (NEEA). He has been there for about five years. He is a licensed mechanical engineer with a lot of experience with this stuff. A lot of the things we work on proposals that we put

DRAFT

forward and one of the first I want to talk about was the masonry one which was not put forward by NEEA, but by the Wood Institute. He maintains that insulating CMU walls actually creates jobs and currently 54% CMU walls built in Washington have a wall built inside of them. The other aspect to consider is 100% of the other 48 states have the same wall built inside of them. The masonry people have gotten a pass a couple times and in the sense of fairness they be brought up to parity with other wall structures. What this proposal does is just bring us up to what the other 48 states are doing. There is the CMU wall the mason will be doing the same work, then the carpenter building the wall, therefore you've just created jobs. The other aspect is the price of the building went up but it is paid for by energy savings. The overall U value for the wall is about 2.5 R value, a window is 2.6 R. We want those values better and a wood wall with insulation is better than 2.5. On lighting the proposal that is in the current WSEC is very similar to what is in the 90.1 2016 values so this seems very achievable. Over more than 50% of our studies are betting these things by a mile. The DOAS, those that take the economizer exception will be losing a lot of savings. **Duane Jonlin**, you said that lighting power densities have been beating the standards by a mile. That is a fairly indistinct number. Do you have something or send us a more distinct number? **Louis,** Yes. Think of a large retail store is hitting values of about .9 and the allowances are 1.4 watts per sq. ft. So that gives you an idea. **Doug Orth**, what's the CMU section you are talking about, the R value of 2.5. **Louis**, that's the overall U value what you would put in the model for an eight inch wall. Encourage these kind of questions be asked of Mike Kennedy.

**Mike Kennedy**, NEEA. 33 years doing building energy efficiency evaluation modeling in the northwest. He is an ASHRAE certified building energy modeling professional for the last 18 years for NEEA and Bountiful Power. He has evaluated the energy savings from the commercial energy codes in the northwest for the last five code cycles in all four states. He is generally in favor of the energy efficiency provisions in this code. A large majority of the savings from this code will come from a handful of items; plug load options path, fan control requirement, DOAS, the lower LED allowances, the CMU wall. Consider those very carefully because eliminating them will put a dent in savings. On the CMU wall issue, the proposal was put in by Wood Institute and the supporting material was based on modeling he did in a previous code cycle. He updated that model for economic committee and found the walls to be cost effective. He stands behind that modeling. He researched lab test results from a lab and he did a lot of modeling using various prototypes that are calibrated to northwest buildings. He looked at the minority report modeling, and warehouse they used was a semi-heated warehouse. It is not required to have wall insulation in our code. The big bucks retail the model output the heating energy. It was 66% less than the most efficient building in the last NEEA northwest building stock assessment. Their model was 90% less heating energy than the average building. This is not representing northwest buildings. The savings from wall insulation will not agree. Reinstating the CMU wall will increase energy use. In

DRAFT

2009 it was required to have R-7.6 insulation in zone 2. That was eliminated in the last code cycle. Somehow zone 2 did just fine requiring insulation on CMU walls with vermiculate cores is thermally equivalent of a metal frame window. We are talking 100% glazed buildings. **Duane Jonlin**, you didn't mention the other mass wall proposal. Does any of your economic analysis cover that? Kennedy, from memory when he looked at the mass effect, which was about four years ago the overall mass effect from modeling was about equivalent to decreasing the thermal conductus by 5 to 15%. It is a small effect in a commercial building. In his mind the 078 which would be the option 2 is a wall that is much more equivalent to our frame wall values. **Jonlin**, Do you have any basis for concluding how the energy savings would compare? Kennedy, the concern is that we currently have economizer exceptions in the code and buildings have to do various things to get through them. Depending on the form that we have the increased glazing and exemptions from DCV that are to some extent rollbacks. There will be a pile of buildings doing that type of systems chilled beam and VRF will take a slight step backwards. That will offset to some extent that some people may choose to do the system. **Eric Vander Mey**, so 7 of the 14 prototype buildings that we use for the 2012 code would switch to essentially having DOAS be the baseline and if DOAS is a prescriptive, we really can't count on DOAS being 50% of the building stock now. What is the impact of what we report to the legislature? NEEA looks at buildings every 5 or 10 years and this is what it looks like and we have tried not to project that out in the future, but what it looks like now. In a few years you might be able to count the savings. **Eric** do you think it is appropriate to flip the C407 baseline to a DOAS base system. Is that from a system that has been more traditional in energy modeling programs. What are the challenges on flipping that baseline? **Kennedy**, he doesn't do compliance modeling very often. He thinks having C407 out of sync with a prescriptive path is a bad idea. If DOAS is in the prescriptive path it has to be in the modeling path. The new thing would be simpler it would be much more constant target for the modeling process. **Doug Orth**, do you agree that the DOAS would essentially restrict your limit to VRF. Do you agree with that? **Kennedy**, is in not an engineer, so he guesses he agrees that humidity and the moisture coming into the DOAS system is a consideration mostly in more humid climates. He thinks that is a minor refinement of the DOAS proposal. **Eric** you would be a proponent of change in the DOAS proposal that we'd let designers this code cycle figure out how to control the ventilation units? **Kennedy**, yes he would agree to that.

**Andrew Lee**, been practicing as a green building consultant in Washington for over a decade and currently chairs the Seattle Chapter of Cascadia Green Council. He would like to speak in support of the proposals put forth to the Council. These include the ductless mini-splits, residential efficiency options, the CMU wall exemption, the DOAS proposals, the controlled receptacles, the lighting power allowance, and the commercial efficiency options. There are two that he wants to address specifically that controlled receptacles and the lighting power allowance. Controlled receptacles is very important issue. As we have

DRAFT

heard from previous testimonies the public are the largest non-regulated end use in buildings. His experience shows that about a third of the energy loads would be dedicated to plug loads and in higher performing buildings they can grow to as much as 40-50%. Plug loads are notoriously challenging to manage from a design and operation standpoint. Adopting this proposal will essentially provide the clearest path to give teams the ability to do manage the unregulated loads. The next one is the lighting power allowance. This is a beginning towards moving to permanent LED technology. In the last five years that technology has a prevalent and universal in new construction particularly when you are trying to achieve any higher performing standards such as LEED Certification. In our higher performing buildings we are seeing a 40% reduction from what it currently in the code in terms of lighting power allowance. This 40% is achievable and practical given the current market conditions.

**Mike Fischer,** Kellen Company. He wants to talk about DOAS and masonry. The low hanging fruit is gone now we have to get into the nitty gritty. The proposal is bringing forth the DOAS system as a mandatory option. This is correct for the residential side. On the commercial side you're pushing in that direction, however on the residential you are leaving intact the equipment trade-off. The problem with the baseline is that you're not going to get the energy you think you are. In the WSEC you continue to retain a different set of rules for fenestration products. We will have metal and non-metal frame windows and let the buildings perform separately with no regard to the fact that you are giving preferential treatment to one set of materials. That is a concern. We have discovered in the foam sheeting committee is a fundamental arithmetic problems in the thermal bridging. There is a huge problem with expansion of the thermal bridging requirements. Thermal bridging is not two dimensional, it is three dimensional. We are working to give you some information on this issue.

**Dave Baylon**, with Ecotope in Seattle. He would like to talk about the R406 Options and the revisions there too that were made by the TAG in the process. There is a couple of things to say about the table, There has been a significant amount of work done to change this option table to make it more directly flexible and more directly affable to the residential sector. We have added several options and we have changes the point systems both up and down to reflect new federal standards and performance research that has been done around the country. By putting the two tables side by side you will see the differences rather quickly. It has also been an effort to add flexibility that would allow both multi-family to be more easily managed option table. We added two additional option points to the requirement in the code. This isn't exactly two points because if you notice we have increased the number of points available and reduced the requirements for high efficiency gas furnace. In effect we have considerable savings and we had to add points to cover that. This adds approximately 9% to the savings in the residential sector. If you take the most cost effective paths for a standard house, you add about $1,000-2.000 or slightly less than $1/sq. ft. Payback periods for the total option package are under four years and for the

DRAFT

increment in this are approximately five years. At this point we have a very unique and very effective way of introducing to the building industry real options as to how they might meet energy efficiency goals.

**Bruce Carter**, representing Tacoma Power coming before you today to provide some input on testimony received. The study that WSU did with Tacoma Power we saw in a bidding process that we end up with a $2700 system. The current market for ductless heat pumps was artificially raised by utility incentives as this technology was introduced into the Pacific Northwest and in the absence of those incentives you will see a more even playing field and competition will take effect. That competition in the marketplace will drive these costs further down. These are similar in noise to a refrigerator in a quiet kitchen. These are very quiet. There are filters that need to be rinsed off for maintenance.

**Lester Grestmann**, architect in Tacoma in BLRB. The upgrades in the code proposals are worth your attention and he supports them. As a designer help us build better buildings. Currently we have been incorporating the technologies that you are looking at in these proposals, such as dedicated outside air systems, etc. Currently he is working on a project attempting to achieve an EUI of 20-24 and the DOAS is the type of system to achieve this. In the area of masonry and insulating these walls we have been insulating them for quite some time. Washington state has been a leader in efficiency in the USA and he encourages the Council to support that leadership which does a great service to the citizens. **Duane Jonlin**, are we talking about a lot of extra money or just a little? A school building with an EUI of 22 is pretty good. **Lester,** in this care we are augmenting the budget with some money. In this case we have a geothermal system that is part of the system. There is additional money just for that, not for the DOAS. There are costs and cost benefits in implementing energy savings systems, so it is not all cut and dry.

**Elizabeth Willmott**, with Climate Solutions, a clean energy non-profit that is focuses on practical and profitable solutions to climate change. Since 2012 she has worked with King County's Cities Climate Collaboration on strategies to cut carbon 50% by 2030. The K4C includes King County and 12 cities representing 1.5 million people and almost 20% of Washington's state carbon emissions. Based on our original carbon reduction analysis, the elected officials of these jurisdictions formally adopted commitments including that all new buildings would be carbon neutral by 2030. Local governments cannot meet this goal alone. We found that for the K4C to meet this goal, the state of Washington must fully implement the codes that reach the legislated 70% in energy consumption in new buildings in 2031. The energy efficiency changes in this code cycle including proposals for ductless heat pumps, extra efficiency credits, plug controls, efficient lighting, eliminate of special exemptions for CMU walls and the DOAS are critical to state goals. Without them the K4C will struggle to meet its schedule. She asks the Council to support these changes.

**There was a 15 minute break.** Energy Testimony was put on hold to take care of items that must be done with the quorum present.

DRAFT

| | |
|---|---|
| **6. Emergency Rule: Elevator Cabling** | **Dave Kokot** explained he had been working with the state elevator inspector and the inspectors for City of Spokane and City of Seattle. There is an elevator manufacturer that continues install elevators with cables that are combustible and not meeting the fire rated requirements. The intent of this provision is to get it into active code early so that we are able to address some of the existing buildings. Within the reference standards it takes out one paragraph requirement Section 8.15.5 elevator hoist ways and rooms. Leaving everything else at the 2010 version of the standard.<br>**Duane Jonlin** moved that Council adopt the emergency rule as written. **Steve Simpson** seconded the motion. **The motion passed**. |
| **2015 International Mechanical Code** | **There was no mechanical testimony offered.** |
| | **The Energy Code Testimony continues at 2:34 p.m. If the quorum is lost the meeting must terminate.**<br>**Reed Hart**, Pacific NW National Labs. He is involved in the Energy Codes. He is in favor of the DOAS proposal as it has been revised by Mr. Heller, and the lighting reduction. There are several changes in the language that are favorable. The economizer exception has been limited to units smaller than 5,000 CFMs. We did make changes to the language about the fan control. DO air is a primary component in green buildings. The 2011 ASHRAE advance energy design guide for 50% in office buildings up to 100,000 sq. ft. relied on DOAS in both climate zones relevant to Washington. It makes sense for it to become a prescriptive measure that does allow flexibility to do other things. It is important to keep is prescriptive and not an exception to the economizers. On the light side the light tower reductions there may be some questions about the cost effectiveness of the PNNL analysis completed of the ASHRAE similar of lighting reductions based on going to a mix of LED fixtures and there may be an upfront cost it is more than paid for by reduction in lamp replacements over the life of the LEDs.<br>**Jason Lear**, founder and owner of a design built company in Seattle. He would like to speak about what he knows - homes. E009 and E012. Putting a ductless heat pump in a small residence is often the most affordable solution in for the goals at hand. When you use best practices in building buildings you find that it is the most appropriate technology for installation in that building. It makes sense for it to be in the code. E-012 is holding the medium sized buildings to a higher threshold is smart and in line with our society's and climate goals.<br>**Lisa Rosenow**, with NW Energy Efficiency Council (NEEC) member of Energy TAG. We would like to state our support for the proposed changes currently under consideration for the 2015 Energy Code. Similar to Gary Nordeen's comments about WSU Extension NEEA provides technical assistance and training for the commercial provisions of the Energy Code for designing professionals as well as the code throughout the state. Thanks to the generous support of NEEA. The 2012 Energy Code which was adopted in 2013 we have held over 40 classroom trainings and webinars which have been attended by ov |

DRAFT

2,000 professionals. We also maintain the compliance of commercial energy compliance forms required by the majority of the jurisdictions in the state and we would like to acknowledge Mike Kennedy's role in developing these forms. We also recognize that increases in codes stringencies are necessary to achieve the deep reductions in energy usage that has been mandated by 2031. As an industry educator we feel it is very important to ensure the Energy Code language is clear and unambiguous in the application of its requirements. While this will be an ongoing effort in continuous improvements, we are pleased to see there is a number of requirements in the code that are being made clear with this set of proposed changes. In addition we are thrilled to see progress in several areas that provides the potential for additional energy savings such as mechanical system fault detection and diagnostic requirements to facilitate optimal equipment performance over time, increased scope in the mechanical lighting systems that are requirement to have some load base control. The professional certification requirements for those deemed qualified. The new chapter for the existing buildings and the requirements for additional efficiency packages, which will promote efficiencies and innovations. We are committed to provide industry education and support of the WSEC provisions as approved by the Council to encourage consistent compliance with traditions. We appreciate the dedicated work of the Council. **Duane Jonlin,** there have been some concerns about if the DOAS proposals are accepted that there will be a fairly large amount of education needed would that be part of NEEC"s role? **Lisa,** yes it would. We have been working closely with NEEA about that. As we figure out how we are going to prioritize our training for the next code cycle we will definitely create a training module for that

Rebuttal is requested to be in writing by Chairman Kokot.

**John Heller**, with Ecotope. The DOAS is not based around VRF. There are many systems that are just as easily adoptable. Concerns about high humidity are not concerns for the State of Washington.

**Tom Young** said he does return calls. Mr. Kennedy it is easy to critique any study and in the process of critiquing ours he hasn't seen the studies I most recently referred to by CTA Consultants. **Dave DeWitte,** do you have any percentage of masonry walls are already with insulating walls? Tom, it pertains to certain building types. The exception can be significant.

Tonya Neal, the wood industry's claim on fairness. The wood industry's claim on fairness. A document was passed around which shows a group of wood industry reps who believe in flexibility and cost effectiveness. The fact that they have proposed an amendment against the masonry industry flies in the face of their overall position on it is besides the fact that it becomes a competition issue between industries. Addressing fairness the Council is not about fairness between industries is not what you do. The 40% glazing change that you did on 2013, the Council members said it was a reasonable, practical thing to do. It is in the spirit of the code to allow flexibility. That was Council members talking about changing the glazing elements of it. Lastly the life cycle. The proposal is

DRAFT

| | |
|---|---|
| | not cost effective under your life cycle tool; the current code is cost effective under your life cycle tool. **Dave DeWitte**, can we see those calculations? **Tonya,** Tom Young has submitted it or it will be received on Friday. **Steve Simpson**, what percentage of union members are working with CMU walls? Less than 30% of the new construction industry is masonry of any type. Of that 30% you have about 15% of the full market which is a CMU product. Of that 15% you have about 12% that fits under this exemption. Of that 12% almost 40% of the work force is doing those exempted buildings. It is a huge part for the masonry industry; a small part of the full construction industry.<br>**This is the close of public hearing for the Energy Code.** |
| **2015 International Residential Code**<br>Townhouse sprinkler | **Jon Napier**, he is the proponent of the proposal. We have had several people ask if this is anyway related to lodging house proposal and it is not the same thing. There is data on smoke alarms which you know are required in all residential properties. We have seen a disturbing trend in recent years in the increasing number of residential fire fatalities with working smoke alarms that don't have sprinklers. NFPA shows that from 1999 to 2001 30% of fatalities in homes had a working smoke alarm. One would think over time with education we would be able to lower that. However, what we have seen in that is actually an increase. IN 2003 to 2006, there is 37% of fatalities occurred in a home with a working smoke alarm. For the period of 2007 to 2013 this number raised to 40%. In 2014 the WSFM office reported that 7 people died in areas where smoke alarms were found to be inoperable. More alarming is that in the same year 12 people died in areas protected with working smoke alarms. We see that working smoke alarms is not going to solve the problems. Although smoke alarms are an essential life safety feature, those with smoke alarms alone will protect the occupants are ignoring that modern construction practices have short that furnishings have dramatically reduced safe evacuation times. With the window time being between the operation smoke alarm and the onset of an untenable situations becoming shorter, older, younger and impaired occupants need extra time to evacuate.<br>**Jim Kambeitz**, President of Washington State Association Fire Marshals to testify in support of the townhome fire sprinklers. He addressed the group in Spokane at which time some questions were asked that he wanted to confirm the answers to. Inspection testing and maintenance was the first question. He found that the owner and occupant is supposed to replace any damaged, leaking or painted sprinkler heads and they need to keep the system from freezing. There were no jurisdictions found that were enforcing that. No required maintenance record is so basic that it is the owners responsibility. The question of backflow prevention was asked. We are not see may backflow preventers on these systems anymore, they aren't necessary; however if you do have one the local jurisdictions are requiring inspection of those. There was also a question about fire statistics in Washington on townhomes. The national reporting system does not have a category for townhomes, but they are considered multi-family |

DRAFT

residential. That is how they are grouped for the country. Between 2010 and 2014 we have had 5,700 total structure fires in Washington with $130 million in damages. Last year alone it was $100 million with 4,000 residential and 25% of that was multi-family.

**Hank Teran**, Fire Chief representing the State Fire Chiefs. There is approximately 400 or more fire districts that are part of that association. They support the townhome fire sprinklers. One of the aspects we hear about sprinklers is they help save lives and how they help the elderly and the young as well as those with physical disabilities to evacuate in case of a fire. You don't often hear about the importance of fire sprinklers from a fire chief's perspective and the importance of allowing sprinklers to address other issues regarding levels of service. In Kirkland they had two fires in the exact same type of occupancy in the exact same day and location. They had a fire in the kitchen due to cooking and one was sprinklered and one was not. The sprinklered building one head activated and extinguished the fire an there was $500 damage. One fire engine took care of the issue. The other fire within the same period there was over $1 million damage because sprinklers were not installed. Three additional units suffered heavy fire damage, four families were displaced and a total of 12 times the amount of man power was required for that fire. Of the calls received 80% are EMS calls, medical calls, These providers are fire fighters who are EMTs and paramedics. When they are at a call for an extended period of time we aren't able to provide service to the rest of our community. What about mutual aid? We work very well helping each other out. The problem with this is delays in getting mutual aid from other companies to your jurisdiction. Please support the townhome fire sprinklers. **Diane Glenn**, In the EMS calls, you send out the big trucks on those calls, what about getting the smaller units to those calls. **Hank,** we are a combination department which means we have volunteers and career members. Most departments are combination or volunteer type departments. When they take the larger pieces of equipment, they do that for two reasons; 1) those are our toolboxes where we have all the equipment that we need and many times when you go on a medical call before you get back to the station you get diverted to a fire call. This is why we try to anticipate future calls. **Duane Jonlin**, in his block there are seven houses ten feet apart from each other and comparing that to townhomes with firewalls; how it would be more dangerous in the townhome if there was a fire than in the home on his block. **Hank** said when you have an individual unit you are responsible for it. When you have attached units you are not always responsible for what your neighbor does. Even though you have division walls they could make changes and you have no control over that as your individual home. **Duane**, do we have any evidence that shows fires breaching through those party walls between townhome units? **Hank,** with his 37 years of experience he has seen it. For statistics he would have to look to colleagues. As buildings get older it is not uncommon for fires to breach walls.

**Tracy Moore,** owner of Moore Fire Protection in Issaquah. Has been in residential sprinklers for a long time in the state. He also does commercial

DRAFT

| | |
|---|---|
| | sprinklers as well. Big proponent for getting amendment passed. Sprinkler systems really work. They are easy and cheap and that is what we need to get to. He can do in townhouse in the state for $1.50/sq. ft. His has a daughter that moved into a sprinklered townhome which is he happy about. The sprinklers work. **Dave DeWitte**, is your business growing? **Tracy**¸ yes it is growing. **Duane Jonlin,** is there a break on fire insurance costs for having sprinklers? **Tracy**, yes there is. Can't say exactly because each company is different, but it roughly 50% of the fire portion of your insurance. Insurance companies are in support of this.<br><br>**Todd Short**, Fire Marshal for Redmond, Washington. Some are concerned about negative economic impact. In the City of Redmond everything is sprinklered and there is no negative economic impact. We are a growing community. Previous testimony indicated people weren't asking for sprinklers so builders shouldn't have to provide them. Townhouses are built in phases for that potential buyer to actually be able to ask for sprinklers that decision has already been done at the planning stage. The second part is fire sprinkler education is working. In 2014 1,000 home owners were polled and they were asked if they were purchase a home that had fire sprinklers in it. Seventy-four percent responded in the affirmative. However, in 2005 only 36% of the people said they would. We attribute that to the education that fire sprinklers is gaining across the country as well as in Washington. People assume that multi-family structures will already have sprinklers. In January 2011 our jurisdiction suffered a five fatality fire. He was surprised by the public outcry. The people in the community asked why didn't that building have fire sprinklers. They expected that it would. The public is trusting the Council's decision to protect them. H really encourages the implementation of fire sprinklers for multi-family townhomes.<br><br>**Jeff Shapiro**¸ executive director of the IRC Fire Sprinkler Coalition. He wants to bring three points to the Council's attention. One person testified, Michael Cathcart, that 244 families would be priced out of new home for every $1,000 increase in cost. That number is from an NAHB report called "Priced Out", which he is very familiar with. Those 244 families was one-tenth of one percent of all 192,000 households in the Spokane region. The 244 also assumes that every household in the region is looking for a new home. If you had all the information you would probably see it differently. Point two you have received written and oral testimony from Greenstone Construction which attempts to convince that townhouse prices must increase with sprinklers. That is not true. Market forces dictate sales prices not builders. If you accept the argument that a builder increases the sales prices for home every time the construction cost goes up, then why shouldn't you except the construction cost goes down the builder will decrease the price. If you required in Washington townhouses to be sprinklered today and you took that requirement out, how many of you expect the price of a new townhome would drop by the cost of the savings. Point three, he has been involved in Habitat for Humanity doing fire sprinkler systems in |

DRAFT

Habitat homes in the past 10 years. We do multi-family fire sprinklers in Habitat homes. The cold water piping feeds the sprinklers and cold water fixtures. That is allowed by Washington, which waives the backflow preventions so there is no backflow protection issue and those systems in Habitat houses cost a few hundred dollars for the equipment and a couple extra hours labor for the plumbing contractor. We have had really good success with sprinklers with Habitat houses which are quite similar to affordable townhouses. You also received testimony that moving two hour to one, one cost savings in the separation wall between townhouses is unrealistic because the code doesn't allow it. R302.2 of the 2015 IRC specifically allows that two hour to one hour reduction and we have someone to talk about the sound transmission. The cost savings are there is the builder chooses to use them. The developer of the townhouse complex who is also the builder will save money on access roads and water supply. Why would builders not want to do this? In ten states we already have this.

**Andre Kline**, professional engineer from Pasco, Washington. Mr. Shapiro spoke about the cost savings in going from a two hour fire wall to a one hour fire wall requirement and you've gotten testimony that builders state they would still have a two hour fire wall because of sound isolation issues between the units. If they choose to still have a two hour fire wall, that is their choice, but it certainly is not a sound transmission issue. Sound isolation between units is achieved in two ways, either by increasing the mass of the wall or by low mass assembles with an air space in between. Current construction practice with a two hour fire wall basically has two one hour fire walls next to each other. Each has 2x4 construction with five-eighths gypsum on each side and the stud cavities are filled with insulation. The walls are usually separated by a small air space. That achieves a sound transmission class or an STC of 45. That is the minimum considered acceptable by code and practice. So if you remove one of the two one hour fire separator walls, then a single studded wall between the units would provide a burging point for sound to be transmitted through each stud. We all agree to that, but that is not how builders would build the walls and that is not what Mr. Shapiro assumed in his cost estimates when he calculated the difference between a two hour and a one hour fire wall. Builders will continue to build the double studded wall construction and the interest thing is by removing the gypsum board on the inside you actually decrease the sound transfer between the two units. You may ask why that happens. Mass and air separation contribute to sound isolation. So when sound strikes the plane of the gypsum wallboard between the two studs, it vibrates through the stud cavity and causes the gypsum wallboard on the other side to vibrate as well. That reradiates the noise. With lot line walls the air space between the two walls is often sealed, as required by code, so a one to two inch trapped air space is very stiff and actually couples the two walls together for sound transmission. So the narrow airspace is currently present but would not be present by removing the gypsum board on the inside between the two walls. The fact is by reducing from two hour to one hour fire resistance rating, and through no other changes, since

DRAFT

| | |
|---|---|
| | there are other ways to build that wall, you increase the STC from 45 to 58. |
| 2015 Uniform Plumbing Code | **Fred Volkers**, concerned Washington resident, TAG member and retired City of Bellevue plumbing inspector, and certified journeyman plumber, chapter chairman of the NW Chapter of IAPMO, representing himself. He stated he has objections to a couple of the proposed new amendments to the 2015 Uniform Plumbing Code. The TAG worked hard and made some good amendments and some bad amendments. The amendments I object to were passed at a TAG meeting without a quorum and it was one I was unable to attend due to a previous commitment. One of the objectives of the TAG has always been to limit the number of new amendments and remove any outdated amendments. The TAG as a whole should be commended for the work they did. Two proposed amendments, log number 15-P29, UPC code section 301.2, alternate materials and methods, and log number 15-P-34, Section 321, material use and energy, nullify some of their work. Log number 15-P29 does not add value to the code and is not warranted. The only difference from the existing Section 301.2 is the last sentence. The new last sentence would require the official to confirm denial of an alternate to the applicant. Not one incident could be cited to support the need for this amendment. The existing language has worked with no amendments since the adoption of the UPC as the Washington mandated plumbing code. The proposal would replace parts of Section 301 and add an unneeded new page to the Washington State Amendments. Proposed amendment log number 15-P34 is not required. The proposed amendment to 301.3.2 would allow jurisdictions to approve the use of material efficient and energy efficient methods of plumbing installations. The existing code language already allows jurisdictions to approve material efficient and energy efficient methods. The proposed change would add redundancy and a new, unnecessary amendment to the 2015 UPC. After all, Section 301 is titled "Alternate materials and methods of construction equivalency." I'd like to note that these amendments were not passed unanimously at a meeting which did not have a quorum. Even though I was unable to access the minutes of this meeting, I was informed that at least one of the TAG members present voted no on each of these proposals. Thank you.<br><br>Dave Kokot turned the meeting over to Steve Simpson while he took a quick break.<br><br>**Kraig Stevenson,** ICC. I have several points here to make. I'm going to ask you to retain P29 and P34 for two specific reasons. One, the legislature does not intend that all of the codes except one deal with alternate materials and methods differently. Therefore, when you have all of the codes this council adopts require that you give in writing why there is a rejection if you have an alternate material or method proposed is of fundamental fairness. So I'm asking you to retain P29 because it makes it consistent across the board. The legislature does not intend to have two different standards or two different metrics. There's been a long history documented in articles by Julius Balanco where the currently language in the Uniform Plumbing Code without justification to an applicant they've been |

DRAFT

rejected from using innovative technologies. Chapter 17 of the Uniform Plumbing Code lists 547 standards total. 385 standards are new to the code. And the log number 31 under the TAG changes states that the chapter is unchanged, which is untrue. So with 385 new, the TAG didn't take a look at it. There are 238 references that list specifically alternate material and method exclusion of all others, all contenders from any other nationally recognized standards organizations. What I'm asking you for fundamental fairness, if the letter from the AG is held to be true, that you can't in part totally replace one item with another when you have a code and named in 031, Chapter 17 of the Uniform Plumbing Code actually adopts NFPA 5000. And again, the title of that chapter says they're mandatory. It also adopts ASHRAE 90.1 and 90.2 and 28 other codes and standards. So from the standpoint of either you believe in what the AG opinion was or you don't, either remove 238 references that specifically exclude all other contenders by only including them in a list. And if you read by "inclusion of something" in her opinion, and it was about plumbing codes, then you exclude all others. I'm asking you not to exclude anything that's nationally recognized. Or to include the IPC in Table 1701. There has been testimony submitted to the Council that actually addressed the International Plumbing Code. I thought you're adopting the Uniform Plumbing Code. So I'd ask that you ignore those comments and particularly to suggest that the adoption of the International Plumbing Code would increase unlicensed contractors doing work is ridiculous. Or to imply that it has legionnaires' disease problems is false.

**Chris Van Daalen**, NW Ecobuilding Guild. I want to echo what Mr. Stevenson just said. I don't fully understand the implications of these provisions, but I do want to urge you to avoid anything that would restrict the use of alternative means and methods and any other alternative, innovative technologies that can meet the intent of the code without fully meeting the prescriptive path. I understand that P29 and 34 are there to help ensure that those alternative paths are available. Thank you.

**David Spencer**, speaking for himself as proponent of P34. I think that the two proposals in front of you right now are consistent with the purpose and objectives of the standards stated in RCW 19.27.020, specifically items 1, 2 3 and 4. I know time is short so I won't go over those items. Both these items speak to those four objectives and standards that are required of the state building code council to observe. I think as a side note, these also fall into alignment with other issues before you today in different codes and proposals I've listened to today. I did serve on the Energy Code TAG. I think these allow for different methods and means that allow for energy efficiency as we look as different things and different procedures. They fall within acceptable standards and practices. I do realize on this particular issue in the plumbing code, I have not been part of the plumbing TAG but I think this is an important issue and needs to stay before the council and be approved. Thank you.

**Rebuttal testimony**

**Fred Volkers**. I'd like to rebut a portion of Mr. Stevenson's testimony. In his

DRAFT

| | |
|---|---|
| | reference to mandatory standards, when that title is within that code it does not mean those particular standards have to be used. What it means, if you look it up in the manual of style in the model codes, it means that those standards are written in mandatory language. Thank you.<br><br>**Kraig Stevenson**. With all due respect, I read the title of it, it's what it says. If there's confusion on that, there is confusion for the public. The inclusion of 238 standards means people will take them as mandatory. And if something is not on that list, regardless of the developer, they would assume that it can't be used. Without being given the justification of why you're being rejected in writing, an applicant is treated unfairly. There is such a concept as equal protection under the law. If you take a look at the Council Bylaws, there is no quorum requirement at the TAG. It says in the Bylaws it is preferred. It is a function as the arm of the Committee. The Committee had a quorum. The Committee moved it to the Council and the Council moved it to the public hearings. It is in play and that is totally appropriate. So please support P29 and P34.<br><br>At this point it was noted that the conference call bridge was lost. A quorum of Council members is still present. |
| **2015 International Building Code** | **Lee Kranz**. WABO technical committee testified re: Bottle filling stations; 2902.5.4 inconsistent with Chapter 11; will submit written comments. Re: 3009.1 deletion of Hoistway vents; Washington should not be different than every other state. The reason for deleting the provisions from the IBC was that the provisions were believed to be potentially harmful, conflict with other provisions in the code. The requirement for Hoistway venting was removed from 2010 edition ASME A17.1 Safety Code for Elevators and Escalators. The original purpose of Hoistway venting is unclear, dates back to the 1950s. Since that time provisions have shifted for vents to be readily available, or to operate automatically. The reason to add it to IBC was because of the way smoke travels; could expand a fire beyond its origins. 909.21 does not exempt Hoistway venting when using pressurization.<br>The phone conference was<br><br>**JJMcCoy.** In support of IBC 15-044 EV Readiness for panel capacity/conduit to be installed in apts. Condos and some commercial buildings. This is a good way to 'future proof' buildings for the coming transportation electrification wave. It has been a few years since the law was passed, but there is language in the RCW that directs the SBCC to do rulemaking around electric vehicle charging. The proposal is limited in scope, only the cheapest/front end matters. No actual charging stations required; it will save money for retrofit costs per space. California estimated $3700 minimum for retrofit per space. The EV market is now 1.5 % of new vehicles, some areas are up to 3% in Wa. New models will improve range to up to 200 mile range, at a mid-market price point. Future proofing on the order of 5 to 10 percent is expected. Savings for drivers on fuel are also |

DRAFT

| | |
|---|---|
| | significant.<br><br>**Diane Glenn** asked about the number of spaces, how many would be included? JJ indicated 10 %.<br><br>**Chuck Murray.** Commerce and the Governor's office supports this EV proposal; the Council needs to address this issue per the RCW. It is time the Council dealt with this. The Legislature continues to be interested in these issues; passed an additional law that allows utilities to provide incentives for the installation of charging stations. This will motive some to make these available. California energy commission just published another cost study, good cost/good savings for doing this in advance. He drove back/forth to Issaquah; good charging at both ends. It cost $2.00 for the charging.<br><br>**Chris Van Daalen.** Discussed 'Vision to Action' Symposium, re: the challenge and opportunity for residential charging stations. Rep. Dick Murray and Rep. Jake Fey from Tacoma both were there to discuss the issues. The market is small but growing quickly. In CA there are more EVs on the road but the infrastructure is not sufficient, it is difficult to find a charging station. The cost of installing this is small compared to retrofit costs later when demand goes up. Looked at study showing process for EV compared to hybrids, EV is ahead in growth curve. Stakeholders and builders noted that 'one size does not fit all' so basic EV ready infrastructure is fine, but requiring actual type of chargers is not reasonable. This will be beneficial for large multi-family complexes. This can be a cost effective benefit for low income people who may be able lease the cars at a low cost.<br><br>**David deLong.** Washington State Board of Health; the Board has concerns about the adoption of the International Swimming Pool and Spa Code into the IBC and IRC. Primary concern is causing confusion between Board of Health Code that regulates non-residential swimming pools. Concern that proposed language would apply to all pools, this would cause confusion for regulators, owners, builders, etc. Which code would they need to follow? They also submitted written testimony for clarification, which code applies on which conditions. They will work with the Council to find a solution and avoid confusion between the two codes.<br><br>**Becky Ernstes**. Labor and Industries/Elevator Program tech staff. Re: Hoistway venting to be kept in the code, it is a necessary life/safety feature. This is a small group of elevators that are forced between four stories, when they get into pressurization, and occupancies with overnight sleeping quarters. It is not for all elevators. Venting allows smoke and gases to be vented out of the Hoistway; once smoke enters, it will migrate to upper floors of the building. This has been documented. Re: prior testimony on pressurization and venting; they do not have a conflict re: pressurization and venting; They wrote an amendment for 2010 A17.1 did not remove control of venting. Same language that has been in the code for 15 years or more. Nothing was removed from A17.1. L&I suggests that vents stay closed and work on 'what triggers the opening of a vent'; currently it is lobby smoke detectors, but it is not clear that you even need to have a smoke detector in the top of a hoistway, not clear that it can't be on general recall. They suggest that when smoke gets into the hoistway, that you have a smoke detector |

DRAFT

| | |
|---|---|
| | that opens the vent, and only that detector opens the vent. It is true that it can bring smoke into the vent, but it will also exhaust. Concern about what is in the Hoistway.<br><br>**Duane Jonlin.** If there is a fire there are forces that are pushing it into the hoistway. A fire anywhere in the building would force large amounts of smoke into Hoistway. Can we be causing more harm than good?<br><br>**Becky Ernstes.** When the elevator comes down, during fire recall, they now have an open door at the lobby; we don't really see lobbies being built. Lobbies would take care of the problem, but there are many exceptions for lobbies. Once we have smoke in the hoistway, let's vent it and get it out of there.<br><br>**Eric Vander Mey** asked about the damper and whether it fails to open on loss of power, or whether it stays closed. Becky note it opens on loss of power. Eric asked if that is what they want. That is something to look at.<br><br>**Victor Coleman/Director,** Statewide Childhood Obesity Prevention Coalition. Goal is to make healthy choices easier for all Washington residents. They are the proponent of the rule change on putting water bottle filling stations in the code. This can support community health, healthier kids re: academic achievement, oral health benefits, not an abstract concept. Supports environment by less plastic water bottle waste. Suggestions for proposed language:<br><br>2902.5.4 – '…..in all occupancies that require 2 drinking fountains.' Should be changed to '…..in all occupancies that require 2 <u>or more</u> drinking fountains.'<br><br>The current standard says that filling stations can substitute 'up to 50%' but it is unclear what the rationale is for capping this number. Some may want to replace all fountains with filling stations. They will follow up with a letter making these suggestions.<br><br>**Jeff Shapiro.** Fire protection engineer, 40 years of experience. Discussion of smoke in vents. Unknown where the smoke will go, as noted by Jonlin. Somewhat unpredictable; people are not dying in sprinklered buildings. Never heard of anybody dying in a Group R building as a result of smoke migration through an elevator shaft. The code made the right decision; there is no reason under SBCC guidelines for seismic, geographic or weather conditions to treat Washington any different than they would in any other state. Support what is in the code and leave this out.<br><br>**Scott DeWeiss.** Western Washington Clean Cities Coalition/DOE Clean Cities Program. They are in support of 15-044, EV readiness. This is a very cost effective proposal compared to retrofitting. The industry continues to study the relationship of EV charging availability and EV adoption; there are indications that it is extremely important to have access to charging stations. Recent study showed that employers who provided EV charging were 20 times more likely to have employees who drive EVs to get to and from work than those that do not have charging available. Another study concluded that the majority of charging was done at home and at work, almost half of those were exclusively at home. Puget Sound Clean Air Agency indicates that are roughly 100 premature deaths in |

DRAFT

| | |
|---|---|
| | WA attributed to motor vehicles. Nearly 250,000 live within 200 meters of a major roadway; monitoring data suggests that those who live close to major roadways have proportional health impacts from that exposure. The greater adoption of EVs is very important. This proposal is a very effective way to help foster that transition.<br><br>**Rebuttal Testimony:**<br><br>**Becky Ernestes:** When we ignore Hoistway venting, we are ignoring two things. First, the code has always called for some kind of smoke control; if it did not we would not have pressurization. Two ways to do that – one is pressurization to keep the smoke out of the Hoistway; if we don't believe smoke gets into the Hoistways, why do we have pressurization? We require pressurization on over 75 feet of rise, that keeps smoke out of Hoistways. Once smoke gets into the Hoistways it either migrates onto floor or out vent. New emergency rule on polycoated belts; those belts are combustible and even with an FT1 rating they will still have smoke. There is a machine in the Hoistways, brakes in the Hoistway, definitely have combustible equipment in elevator Hoistways in new technology.<br><br>**Lee Kranz:** 3009 has no reference for any exception for pressurized Hoistways; these are fairly new in the code. They take the place of a 20 minute smoke and draft door in front of the Hoistway/a lobby. The pressurization is there to prevent smoke migration through the Hoistway. Also review 3009.3.1 – real problems with that. Allows a reduction in the vent area if they comply with 4 items: one notes the occupancy is not R1/R2/ I-1or I-2; these are exempted in 3009.1, so there is an issue. |
| 2015 International Residential Code | **Mike Ferry.** Speaking in opposition to proposed new section of the IRC – R101.1; the exception allows for an owner occupied lodging house with one or two guest rooms to be constructed in accordance with the IRC. He understands that the City of Spokane is interested in trying this experiment, to see how it works by putting transients into homes; it's the Air BnB thing. There is a place for them in the code to try that experiment; Spokane may be able to monitor that. It may be a mistake to require everyone to try this experiment; he proposes they do it more like make this an opt-in rather than an opt-out like R102.5 or what they do with residential sprinklers, i.e., by local ordinance. Transients are people who are strangers, to the homeowners, and the other people staying in the home. They are not familiar with the home, the homes may be older homes and not built to today's standards for smoke detectors, CO detectors, etc.<br><br>**Kathleen Petrie.** Regional Code Collaboration. Comments on Appendix U; co-proponent is WABO. Request this appendix be pre-approved. The way the local jurisdictions can impact energy use in small residential is through incentives at this time. A lot of people that have spoken today are part of KFRC, 12 or 13 jurisdictions that represent 21% of WA population. There is an opportunity with respect to this proposal, and those that have been discussed in this entire energy suite. To achieve the goals for energy savings, by 2020, there is only one more code cycle. Important to be supported by code; incentives will only get us so far. |

DRAFT

| | |
|---|---|
| | All jurisdictions across the state should be working with the same tools, working from the same base, we can achieve our goals. |
| Washington State Fire Code | **Lee Krantz.** WABO TCD. RE: 903.2.3 regarding sprinklers related to pre-school and daycare occupancies. WABO TCD will submit written testimony that addresses the issues of occupancies v. fire areas in the charging language. The amendment as proposed is not clear on how Group E fire areas applies to mixed use buildings; if the occupant load within the Group E is less than 50, but the cumulative load within the mixed occupancy fire area exceeded 50, then the result would be that other occupancies within the fire area would be required to be sprinklered, but the Group E itself would not. He is fairly certain that was not the intent of the proposal. The IBC section 508 allows Group E occupancies to be unseparated from other occupancies, so mixed use fire areas are allowed. Other sections such as 903.2.1.1 and 903.2.1.4 clearly state such intentions, so one would interpret this section as meaning something else. There has been some inconsistent application of this provision in the code between building officials and fire officials. So by changing the term 'fire area' in the charging language to 'occupancies' he believes it will clarify this for all concerned. He appreciates that the Fire Marshals included the wording that WABO suggested related to counting the occupant load within the Group E occupancy. However, there is still a little bit of controversy over this proposal.<br>**Dave Kokot** noted that Fire Marshals are working with one other proponent to address the issue. |
| Staff Report | **Tim Nogler.** The schedule of upcoming meetings is as follows: next Council meeting is November 13 is at Shoreline City Hall, next is the final Council meeting on November 20th. The MVE Committee is set to meet on November 12, and the BFP may also meet. What latitude does the council have for making amendments to the proposed rule? There are provisions for making amendments to the proposed rules, as long as it is not a substantive change. For the most part that means we cannot go out of scope. We have the ability to not adopt proposed language, and revert to the 2012 or 2015 base code. At the meeting on the 13th we will review the ground rules to ensure the Council has a good understanding of the final adoption. Dave Kokot suggested they consider using a 'consent agenda' for the procedure.<br>**Duane Jonlin.** Discussed DOAS, and asked if they could have additional opportunity at the MVE meeting to modify the proposals, i.e., a supplemental hearing. Tim Nogler noted that no, it cannot allow for additional public comment and consideration of alternate language.<br>**Mark Kulaas.** Asked about whether they can take action on the 13th so that they will be able to finish the work as scheduled.<br>**Steve Simpson** asked about what their responsibilities are on the 13th and 20th. Can staff provide guidelines/expectations? **Tim** agreed that could be done.<br>**LeeAnn Guier.** Asked for clarification on the meetings on the 12th, as all Council members would not be present. |

DRAFT

| | |
|---|---|
| | **Kokot** noted that they will need to review testimony submitted to determine how to move forward. He noted that there has been a public records request on the marijuana issue. DES legal is working on the response.<br>**Tim** reminded Council members to discuss issues with staff or at the meetings we have scheduled.<br>**Duane** noted the proposals suggested are scaling back or clarifying; there is nothing new or different being proposed on the DOAS. **Eric** noted all Council members are welcome to attend. |
| 12. Other Business | None. |
| 13. Adjourn | The meeting was adjourned at 4:45 p.m. |

DRAFT