



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

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MINUTES STATE BUILDING CODE COUNCIL

Date: October 5, 2009
Location: Spokane City Hall

Council Members Present: Peter DeVries, Chair; Jon Napier, Vice Chair; Kristyn Clayton; John Cochran; Angie Homola; Don Jordan; Robert Koch; Jerry Mueller; Tien Peng; Dale Wentworth; Rep. Timm Ormsby; Rep. Bruce Dammeier

Council Members Absent: Ray Allshouse, John Chelminiak, Mari Hamasaki, Tom Kinsman

Visitors Present: Travis Allen, Joe Andre, George Bacon, Dave Baker, Craig Benjamin, Ray Bizal, R. Todd Blevins, Ray Bral, Jim Breidenbach, Dave Bruell, Mike Casey, J. Paul Chase, David Cohan, Bruce Corigliano, Tom Craig, Pete Crow, Bob Eugene, Gary Faucett, Phil Fuller, Bruce Georgen, Dan Gladwill, John Hogan, Neil Johnson, Brian Jones, Lisa Jones, Tom Karier, Doug Kelley, Kevin Kidos, Dave Kokot, Eric Lohnes, Daryl Lokboroa, Jeff Losey, Sue Lani Madsen, Robert Marshall, Mike McGee, Jeanette McKay, Brian Minnich, Julie Nichols, Paul O'Connor, Sara Orange, Don Pamplin, Richelle Risdon, Greg Rogers, Chuck Murray, Howard Schneider, Rep. Shelley Short, Bill Taylor, Leonard Terrenbagh, Terry Thomas, Joe Walsh, David Whitwill, Joel White, Joe Wizner, Mark Yapole, Tom Young

Staff Present: Tim Nogler, Joanne McCaughan

CALL TO ORDER

Chairman Peter DeVries called the meeting to order at 9 a.m. Everyone was welcomed and introductions were made

REVIEW AND APPROVE AGENDA

The agenda was reviewed and approved as written.

REVIEW AND APPROVE MINUTES

Approval of the September 29, 2009, minutes was deferred to the next Council meeting.

PUBLIC COMMENT ON ITEMS NOT COVERED BY THE AGENDA

None received.

PUBLIC HEARING

Chairman DeVries identified the basic ground rules and requested:

- Speakers who testified in Renton last week please defer to Eastern Washington people who have not yet testified.
- A three-minute time limit per speaker.
- Room vacation by 1 p.m. for other Spokane city business.
- Written comments and additional documents may be provided until close of business on October 5, 2009.

Washington State Energy Code

Tom Craig, Spokane City Building Department

This morning, I'd like to identify the following errors and corrections to several sections:

- 105.4 Certification, page 5: It says the certificate is supposed to be completed by the building or registered design professional; residences, single family/duplexes up to four units are not required to have a design professional. Who is going to complete it? It is probably going to be the building contractor.
- WAC 51-11-0303, p. 24: Mechanical Ventilation references 1508, but there is no 1508; it stops at 1507.
- 502.2.1 UA calculations, p. 34: When showing compliance with Table 9-1 using options a, b, or c the proposed design shall be less than the target UA by the fraction noted in the table, but each of those has two different ways to comply with 3a, 3b or 3c, and the percentage is on the second part.
- 503.2.2: For sizing of heating the units and cooling to M 1401.3, there's no problem with the sizing requirements but is there going to be a fudge factor. What happens if we go 10 degrees or 15 degrees below design temperature? With no fudge factor there are going to be a lot of people not very happy with us.
- 503.10.2 Duct Leakage: Who is supposed to provide the certificate that the ducts are within the parameter that it is required to be? It doesn't really talk about that.

Bruce Dammeier asked if people can submit written comments or additional information after the public hearing. Tim Nogler responded that the written comment period was filed to be open through the close of business today. Material may be faxed, e-mailed or sent by regular mail.

Tom Karier, Washington Representative of the Northwest Power and Conservation Council

I work for Gov. Gregoire and worked for Gov. Locke prior to that. The Council was created in 1980 by the Power Act to do power planning for the Northwest and fish and wildlife planning. Our power plans are designed to ensure an adequate, efficient, economical and reliable power supply for the Northwest.

By an act of Congress, we're instructed to prioritize conservation, which we do. Part of our power plan, an important part of it, is called the model conservation standards. These are really essentially model building codes for the four states in the Northwest. So the Council encompasses Montana, Washington, Idaho and Oregon. These model conservation standards are developed by the Council.

We have a high-powered staff in Portland that does the research on ensuring that these building measures are cost-effective. And we rely on the state-of-the art information and science behind that. We also have the authority, if the states do not adopt these model conservation standards, we have the authority to recommend to Bonneville a surcharge on Bonneville's electric power customers to help finance these investments in the model conservation codes. We, I think, have only once made that recommendation, that was in the early 1980s. But we haven't made that recommendation since then because states like Washington have paralleled our model conservation standards. In fact, historically, Washington has adopted codes that parallel very closely to our model conservation standards.

We now have a sixth new power plan that is out for public comment. In fact, I have to leave to get back for a meeting at 10 o'clock, where we'll be taking public comment on this new plan. An important feature of this new plan is that it just about doubles the amount of cost-effective conservation that is available in the Northwest. It does that for two major reasons. One is that alternative sources of energy have become much more expensive in the last few years. And also technology has improved significantly, making a lot more measures cost-effective than they used to be.

We in Washington State and the Northwest enjoy some of the lowest cost electricity rates in the country. The last I looked, Washington was about the fifth cheapest state. And that's for two major reasons. One is the low cost hydropower that we rely on. The other is our major investment in energy conservation over the last 25 years. The Council has calculated that we've saved 3,700 megawatts in 20 years, and thank you. I encourage the Council to adopt these building codes and continue to allow us to enjoy the lowest cost electricity in the country.

Kristyn Clayton asked where the Council got its data from. Tom said the Council relies on sources all across the country; much of it comes from utilities, from their own experience, energy trust of Oregon, some of the national labs, PNNL, there's lots of research that's done, a lot of case studies where information has been collected. Our staff combines all of that and then turns it back to you through this sixth power plan. So you can find a lot of that documentation in the sixth power plan and the appendices. It is available online at www.nwcouncil.org.

Angie Homola asked Tom to elaborate on the sixth power plan, how it cooperatively works between Northwest states and how it brings the power to us more efficiently. Tom answered that the major motivation for setting up the Council was to provide some regional planning across the four Northwest states and to provide some authority over Bonneville Power Administration that provides about 40 percent of the power to the Northwest, primarily to public

utilities. The Council is a unique institution, a national leader in energy conservation, otherwise; in fact we now are leaders in the country. Probably outside of California, the Northwest is one of the major investors in conservation through not only the building codes, but also through consumer practices and utility programs. The four states are mandated to cooperatively work to ensure economical, reliable power supply.

Joe Andre, representing himself/National Electrical Manufacturers Association

I'll comment on three different proposals. I ask for a little indulgence on time rather than coming up three different times. I only signed up once, but have comments for several. The first comment, not taking a position for or against, but I want to bring to light what I think is a potential safety issue, the proposed new Section 1515 that calls for shut off of emergency egress lighting. The proposal calls for that egress lighting to be controlled by a listed emergency relay and occupancy sensor. I need to point out that not all listings are created equal. The listings for electrical equipment to be used for emergency systems is significantly more stringent than the listing for the same product for general use.

I have some information from Michael Schullman, principal engineer for lighting at Underwriters Laboratories. He says that automatic controls, flood control relays are covered by UL 924 that covers emergency systems. And there are many such products listed. So the relays are okay, I won't go into all the detail. He goes on to say that occupancy sensors are only currently only evaluated for failure and shock. This was just discussed at an NFPA 101 meeting, and he said they will be working with the principal engineer for non-industrial photo-electric switches to draft a proposal to test and identify those sensors that will fail safe as required by NFPA 101. Under that standard, those sensors would automatically default to the closed or on position if there was a component failure or loss of power. He goes on to say that there may be products on the market that meet that standard, but that they haven't been tested or recognized.

We see this as a significant issue. Listing of relays includes investigation of product before and after the shock hazard. But those for emergency use are additionally evaluated for a larger number of operations, fail safe mode, robustness and durability. Occupancy sensors have not been tested to that standard.

The Energy Code Section 101.2 states that the code requirements will not abridge safety requirements. I don't know if we're treading on that or not, but I have serious concerns about it. The NEC requires that listed electrical products be used in accordance with the conditions of listing, and per the manufacturer's instructions. The manufacturers of these occupancy sensors do not encourage, nor will they stand behind, products that are used for functions that they're not designed, listed and tested for.

105.4: A brief comment on this proposed section; it calls for a permanent certificate to be posted within three feet of the electrical distribution panel. Now I don't have a big problem with that one way or the other, but I would point out (TIME is called)

Joe Andre indicated he would submit the remainder of his testimony in writing.

Rep. Shelly Short, State Representative, 7th Legislative district

Thank you so much for convening this public hearing here today. I am so pleased to be testifying here as state representative on behalf of the 7th Legislative District. One of the things

that came up during the last legislative session when we took up consideration of SB 5854, whereas the importance of doing updates to the Energy Code, but keeping in mind the nature, state of the economy at the time this bill was considered. That really got to the spirit of the legislation, when we talked about the need to be incremental with these changes, recognizing folks are having a difficult time working, the cost of homes, affordability of homes, just really being mindful of the balance

The concern that I have that I want to express to you today is that the draft that we have really goes beyond the incremental. I think it is very important that we are still in a state of flux with the economy today in Washington State. The building industry is in a state of flux; everything is just ready to tip. I think it's very important that we keep that in mind and I would encourage the Council to keep that in mind while it deliberates where it goes with its building codes.

The second thing is the need for a comprehensive analysis; you spoke to that a little bit. I would encourage that, along with the economic impacts, potential loss of jobs, that you would look specifically at the capital costs of the codes that you're looking to mandate. Along with this, any data that's out there on the potential cost savings. And I would encourage not in so much a net benefit, but so folks can actually see, what is the capital cost of me to make these investments in my home, or my business, my commercial place of business, and what are those savings? I think it is very important to look at those independently of one another. A lot of times things will be looked at as a net benefit; that might really misconstrue the actual cost and the length of time it took to achieve that benefit. And so I would encourage the Council to look strongly at that as well when it looks at a comprehensive analysis.

The third thing, it gets at issue of the fire sprinkler code (not sure if you need to have me testify separately). The district I represent is a very rural one, and water supply is at issue in some portions of my district. I'm concerned that the mandatory fire sprinkler code could potentially make it either cost prohibitive for a family to be able to build their home or add on to their home. I'm not sure about that. I'm really concerned about what that might do and whether or not we would actually have the adequate water supplies in certain areas.

Homeowners in my district might buy a piece of ground first, and then want to build as they can obtain financing and so forth. You may actually be jeopardizing those folks in realizing the dreams they have to build their homes. I would just encourage that to be looked at very carefully, especially if there is information on potential concern on water tables.

Thank you again for being here today.

Mary Kate McGee, WABO

Rather than go into detail, which I think you got a lot of last week, I'm just going to name off the sections and WABOs positions. If you have questions I can answer them afterwards. We support disapproval for Sections 503.10.1, 505.1, 1132.3 and 1314.6. WABO supports approval for Chapter 9, and Sections 401.1 and 501.1.

The committee did not actually have a chance to review all the sections that they planned on making recommendations on. Everyone ran out of time. More written comments may be submitted.

Craig M. Benjamin, Conservation Program Coordinator, Cascade Chapter of the Sierra Club

I'm here to voice the Sierra Club's strong support for the full package of proposed energy code amendments currently before the Council. Since 1892, the Sierra Club has been working to protect communities, wild places and the planet itself. We are the oldest, largest and most influential grass roots environmental organization in the U.S., with over a million members across America, and 25,000 in Washington State. The Sierra Club is dedicated to reversing global warming and creating a clean renewable energy future.

While the proposed changes to the energy code fall short of the 30 percent energy efficiency called for by Governor Gregoire, they do represent a significant step towards that goal, as the full package of energy changes will increase energy efficiency by an average of about 20 percent.

But the proposed changes do more than just save energy; they make home ownership more affordable as they lower heating and cooling costs; they make new homes more attractive to buyers as new homes will be more energy efficient than older homes, and they level the playing field for builders as everyone faces the same costs at the same time.

The code change proposals submitted to the Council are practical, cost effective, and readily achievable. And they present a major step in improving efficiency in Washington's building stock, and a large step in reducing our global warming pollution. I urge the Council to approve the full package of proposed amendments to the Washington State Energy Code.

David Cohan, Northwest Energy Efficiency Alliance

I was in Renton, but came to Spokane to address some of the testimony that was given in Renton. I work for the NEEA, we're supported by electric utilities throughout the Northwest, plus the Bonneville Power Administration, and the Energy Trust of Oregon.

I want to talk about testimony that was given regarding the lighting sections of the proposed code package, the commercial section. It was stated that those are overly aggressive and two lighting designers who represented a committee had submitted a second proposal that was slightly more modest, or significantly more modest. As a side note, the energy savings from lighting in the commercial code are the majority of savings, so they are a critical part of the package you're considering.

I'd like to tell you about a study that we did. This was an \$800,000 study, conducted across the four Northwest states; statistically representative of commercial buildings constructed between 2002 and 2004. They were completed during that time period. We looked at that data, and it turned out that 46 percent of the 350 buildings would have passed the proposed code, the one being considered currently, with no changes at all. So the idea that this is 'pushing the envelope' somehow, it is hard to give that much credence. Seventy percent would have passed the proposed 2010 code with only three simple technology replacements: standard T-8 lamps and ballasts would be replaced with high performance T-8 lamps and ballasts or T-5 technology. The standard T-8s are going to be outlawed by federal statute in any case. We are not pushing the envelope here. The second change is that high intensity discharge fixtures have to be replaced with T-8 fixtures or the equivalent. And the third is that for all the incandescent bulbs in a building, half of them would need to be replaced with compact fluorescent or the equivalent. If these three things are done, 70 percent of the buildings built eight years ago would pass the building code, no changes to lighting design whatsoever.

I want to respond to comments by the representative who spoke earlier (Rep. Shelley Short). In terms of how one would look at increases to cost, most of the energy efficiency industry agrees that capital cost is not a good way to look at it. In particular, with reference to homes, people don't buy homes with cash, they finance them, so if you there's a \$2,000 increase to the cost of a home, it is only \$200 for 10 percent down. It is a trivial amount on a monthly basis.

Tien Peng asked if the study is on line. David answered the website is www.nwalliance.org.

Kristyn asked if technology is ready for the proposals being suggested. David said the three switch outs he discussed are all very basic. He said there is no problem with technology.

Kristyn asked if our code has slipped in recent years? David said he believes it has.

Angie asked if all the 350 buildings in the study were commercial buildings? David answered yes.

Bruce asked if there's payback for a home's cost. Dave answered yes. In the context of an actual homeowner, we're talking about adding a few thousand dollars to \$200,000 home. You'd pay 10 percent of that \$2,000 (down payment) and get lower heating bills. So from a cash flow perspective, it is about neutral, might even be negative at that point. I think if you're buying the home and doing the math, a cash flow analysis probably makes the most sense.

Doug Kelley, AVISTA Utilities, Regional Account Executive

I spend 70 percent of my time working with commercial and industrial customers, helping them understand how to use our products and how to gain efficiencies in their equipment and buildings.

Advancing cost-effective energy efficiency has long been a goal of AVISTA. We've made substantial investments in, and we and our customers have reaped large rewards from, our commitment and focus on educational and incentive based programs to encourage customers to adopt energy efficiency standards that are beyond the norm. We truly believe that when an energy efficiency measure is cost-effective, in a substantial majority of the circumstances, then the most inexpensive manner to realize the benefits is to do so through energy codes and standards. By cost-effective codes and standards, we are referring to those measures that reduce the customers total cost of owning and end use operation over the life of the building and the equipment.

If our customers were to invest the time to fully understand their energy alternatives, these are choices that they would make. Codes are a means to making that cost-effective choice without the need for the investment in utility and nonutility-based educational and incentive programs. It also reduces the degree of effort that is required of the customer to make an informed choice on energy issues that may not be within the realm of their expertise and may be tangential to the focus of their overall investment. In addition, it may help reduce the conflicts from architects' task of weighing in on design and cosmetic preferences of a customer that conflict with the incremental costs of adding additional energy efficient and life cycle cost reducing measures. In short, the wise application of energy codes to help the customer, utility and society to make cost-effective choice while minimizing the time and energy, for them to

research and educate themselves on the esoteric energy efficient topics. It also reduces the need and cost of educational programs sponsored by governments, utilities, and other entities to increase the adoption and implementation of these measures.

Not that I want less work in the future, in the field with my customers, but by incorporating cost-efficient, energy-efficient measures into the codes, the results are the best economic choice being reached in a higher percentage of the market and in the least overall cost to the customer. It's nearly always more efficient to do the right thing the first time than to correct it later down the road.

Tom Young, Northwest Concrete Masonry Association

I did testify in Renton, but I have some additional information today. I'm speaking on the nonresidential prescriptive path requirements of Table 13-1 and 13-2, and some unique masonry wall issues.

I first want to clarify a comment that was made in Renton. There was some concern over whether I was talking about the current version of these provisions. And yes, I am. I was involved in Energy TAG meetings where we looked at the current provisions, and that's what I'm commenting on. I find it interesting that there was no response to our comments about lack of justification for the mass wall provisions or the economic impact.

This amendment does have a major impact on the masonry and concrete industry, particularly in nonresidential buildings. It prohibits the use of a common product, a single width concrete masonry block where we insulate in the interior or the hollow cores of the block. It allows the block to be exposed on both sides, giving the owner a durable wall surface, a fire safe wall service, also reduction of VOC and mold and mildew issues. If the code as proposed would be met, we would have to most likely build a frame wall on the inside of that concrete block wall, therefore that would be an inefficient use of materials and would also run costs up quite dramatically, disadvantaging our industry.

The need for the amendment has not been substantiated by the proponent; energy modeling studies we have conducted show that this proposed change is not cost effective. We are looking at modeling that shows payback periods in the range of 100 years. Cost-effectiveness is a required consideration for state energy code changes stated in RCW 19.27A.025.

In addition, the economic impacts of the amendment have not been considered. I did go to TAG meetings as I said; the economic issues were deferred to the economic committee; when we went to the economic committee those issues were deferred back to the energy committee and they weren't discussed further.

We do believe it's a significant impact, in the order of five percent is our calculation. So the required amount of time should be taken to properly address our concerns prior to adopting to restrictive provisions impacting our industry. So, the amendment to the mass wall requirements would have a detrimental impact on our industry, without adequate justification. Further study should be done, including economic impacts. We believe that better solutions can be developed to balance energy efficient building design with the cost impacts that are associated with that.

For this code cycle, we support maintaining the current mass wall provisions that we have in place. They provide greater design flexibility and cost effectiveness for concrete wall masonry systems in non-residential construction.

Kevin Krebs, Masonry Industry Promotion Group

I represent masonry sub-contractors that hire union bricklayers and hod carriers in Washington State. I support the testimony offered by Mr. Tom Young. His point that the mass wall provisions of the proposed amendment are not cost-effective for the building owner should be given strong consideration.

With efforts by some to continually make the energy code more stringent, at some point you no longer have a reasonable payback period to offset the increased cost. Cost effectiveness is gone and the economy is negatively impacted. We are now at this point with our masonry walls.

I would also like to add a comment regarding the residential portions of Log #09-031. There is no credit given for mass walls in the proposed tables. This is contrary to the approach taken in the national codes, where the thermal benefits of mass walls are recognized. Due to the slow construction economy, this is a bad time to impose more restrictive construction regulations. Union bricklayer man-hours of employment are down 50 to 60 percent this year. Our estimate is that this amendment would have a significant economic impact upon our industry.

The proposed code changes would disadvantage our industry during an economic downturn, and is not cost-effective for building owners. We ask the Council to deny the mass wall provisions of this amendment and maintain the current masonry energy code requirements.

Bruce Corigliano, White Block Company

My family-owned business is a third generation company started in 1947, located in Spokane and employs about 21 people. As a board member of the Northwest Concrete Masonry Association, I support testimony offered by masonry colleagues today.

We oppose changes to the mass wall provisions of the proposed energy code amendment Log # 09-031. The masonry industry consists of many small businesses operating throughout the state. The small business economic impact of this proposal has not been considered.

I commend the Council on the efforts undertaken to address the code change concerns of the small window manufacturers. This mitigation, headed by Don Jordan, was conducted in a very cooperative, productive manner.

As stated by Tom Young, the masonry industry was not afforded such an opportunity to focus on our technical issues and economic impacts. We would welcome the opportunity to meet and hold meaningful discussions.

Proposed changes to the masonry requirements would have a detrimental impact on our industry without proper justification. More restrictive regulations would be especially harmful given the current state of our construction economy. Further study should be done including economic impacts prior to making code changes.

Howard Schnider, AIREFCO/Carrier

Thank you for the opportunity to address specifically from a manufacturer and distribution standpoint any changes in the minimum efficiency of residential heating and air conditioning equipment.

Most recently the mandates that were dictated by the Montreal protocol will take effect the first of this next year. Any change in the dynamics or a change in requirements of the federal change, something mandating something other than the federal standards will result in exceptional costs to both the manufacturing sector and the contracting sector. Industry is already impacted 35 to 45 percent loss in revenue and wages and jobs will be greatly affected by any changes in the current standards.

I would suggest that the standards and the notions of changing minimum standards on equipment are first thoroughly processed to include manufacturers in discussions. It is my understanding that in the Renton hearing we did not have any manufacturers represented. I would suggest that before any changes are made in terms of equipment that manufacturers representatives are encouraged to join in discuss any possible changes to the federal mandate.

Angie encouraged Howard to please submit his comments, or any other industry comments, by the close of the comment period. She reminded everyone that all meetings were open to industry attendance.

Bruce, sympathizing with potential ramifications to manufacturers, asked for a specific listing of the potential sections in the code that would be impacted, including consequences. Howard asked about the timeframe for providing the data. Staff told him the public comment period ends at 5 p.m. today. Bruce said he'd like the information, even if it is outside the public comment period. Tim noted that staff will work with Howard.

Jeanette McKay, Washington Realtors Association

I want to discuss with you that our association represents both residential and commercial realtors, with clients located throughout the State of Washington.

Recently, the federal government has been looking at energy code changes. Our national organization is working at the national level on amendments on that code, as well as what is happening at the state level. One of the things the association did recently was to adopt an energy policy. The way it reads is that realtors support energy code standards for new construction that are cost-effective and sustainable for the useful life of the building.

I want to quickly bring a perspective to you, to remind everyone that Washington State is one of the cleanest states in the nation. We have some of the most stringent and effective environmental protection laws in the country. Our state's carbon emissions only amount to about .03 of one percent of the global emissions and one percent of U.S. emissions. So, over time our technology and building standards and requirements have made buildings far more efficient than earlier.

Another overriding consideration should be the GMA. As growth comes into the state, the Legislature has adopted a number of goals, including making sure that we can provide for the housing, that we enable economic development to occur, so that we can provide for our citizens and provide jobs, and also that we protect the environment, including air and water.

We would ask you to take into consideration the nature of the economy. It is getting better, but we're not over the hump. There are still things that are happening in the real estate industry that we don't know what is going to happen, and we don't know what's going to happen on the international markets.

So, I strongly urge you to take a look at the economic impact of each of the changes. And each individually may not be a lot, but collectively a combination of changes that may have to go into a building may cost a great deal, and may prevent people from building or being able to afford new homes.

The other aspect is that as you adopt these codes, you need to be thinking about what happens when people come in to remodel their homes and new buildings. It may not occur.

Brian Minnich, Building Industry Association of Washington

I'm providing handouts which are the talking points for BIAW on the energy code issue, as well as something I would like the Council to review, SB 5854, passed last session, related to the energy code. See page four, section three, where it talks about the Department of Commerce, states strategic plan for enhancing energy efficiency and reducing greenhouse gases; plan is due by December 31, 2010. Page five notes there will need to be a workgroup created to inform the initial development of the plan. Groups that worked on this legislation, including BIAW, thought the Legislature's message to the Council and the agency in regard to planning for development of the energy code over the next several years. On page 10 of the bill, section five notes that the Council would be adopting energy codes incrementally over several years from 2013 until 2031 to gradually achieve the 70 percent reduction in annual net energy consumption.

I've discussed this before the Council in the past, but believe it is still relevant in terms of the discussion on the energy code, and on our opinion in regard to how we felt the Legislature addressed this issue in terms of planning for the future and the goals they set for 2031. Carefully consider that as you deliberate over the next month on changes to the energy code.

The Joint Administrative Rules Review Committee reviewed the small business impact statement of the Council and determined that it did not meet all the requirements of existing law as it relates to small business impact statement. The Council will be doing an additional review of the cost benefits of these energy code proposals, as well as whether there will be jobs lost or created.

We encourage you to include builders in that discussion as well as folks that actually are building these commercial structures and residential buildings. There has been a lot of debate over the numbers. People feel the numbers are pretty high from the builders side, but they also feel like the numbers from the agency are low as well. We would like to be included in that process, but carefully consider SB 5854. For the record, I will be submitting (post)cards from BIAW members.

Kristyn asked Brian how BIAW believes that the code proposal conflicts with the legislation. Brian said there was a lot of controversy over SB 5854 during the session. There was a lot of work from the proponents and those from industry. He believes the start date for the Council for their eventual target of 2031, was to start in 2013. The Council and the agency would begin discussions with all interested parties to develop the required strategic plan. They thought this was how it was intended. It was to give the industry, construction community, environmental community, energy advocates, the ability to collectively plan together to achieve the goal that the Legislature established in this bill, i.e., the mandate was to achieve this by 2031.

Jon Napier asked if Brian believes that SB 5854 would circumvent the rulemaking process this Council already has in statute. Brian noted that the underlying statute gives the Council the authority to adopt the building code, as provided many years ago. Over the years, the Legislature gives direction in terms of issues, like the energy code. Occasionally the Legislature will step in and make a recommendation to the Council, for example, that the Council conduct a study on the voluntary installation of fire sprinklers, or with an issue like this where the Legislature specifically gives a timetable for adoption of new changes to the energy code.

Jon then asked if the expected 20 percent increase this package has is incremental. Brian said there was debate over the 20 percent figure. After completion of the Energy Code TAG work, a lot of folks were under the impression it was a 30 percent based on the fact that the Governor had requested a 30 percent change in the code for this year. Over the last month or so, it seems like the costs are low and the actual percentages of the energy efficiency increases has dropped. He has heard 15 to 20 percent, and someone from the Northwest Power Planning Council that testified in Renton that it would be 25 percent.

Jon asked what a reasonable percentage increase for your industry would be. Brian said, you'd have to look at it component by component, but he felt 30 percent is too much. The biggest change is probably Chapter 9. I think our industry would like to see what the changes would look like if Chapter 9 was not included in this energy code proposal. I can't answer where that would fall out in terms of how much energy would be saved under that scenario. But, I know that it's something that in talking to our builders that we'd be interested in seeing.

Chuck Murray, Department of Commerce

I want to reinforce the fact that the Council has received significant amounts of economic data to support the proposals that were submitted. We did a detailed analysis of the primary residential code changes, which shows a positive cash flow for consumers. Once again, the strength of the cost data is the fact that they used large data sources.

For example, the insulation data they used is based on a set from the Northwest Power Planning Council that includes 4,500 different insulation jobs where the receipts have been collected and included in the data set. It is a pretty rich set of data.

With respect to things like furnaces, they relied on the U.S. Department of Energy rulemaking process, a very open public process that includes manufacturers and other interested parties. The cost data used on that in respect to the equipment is based on that sort of analysis.

That is all I wanted to reinforce today.

Kristyn asked if there is a conflict between the incremental plan of the Legislature and the Governor's desire for changes to be adopted sooner. Chuck said there are two opinions on that. One was just presented by BIAW. The other opinion is that the legislation was passed after the code process began this year. Many of the parties involved in forming SB 5854 actually compromised some of their language, knowing that this code process was already underway. There were a lot of people who had the opinion that that was for moving forward, from 2013, and that it would not impact this particular process. It was meant for 2013, after the Governor's changes take effect.

Bruce asked if SB 5854 is effective legislation today. Chuck answered that it is. Bruce said he hasn't seen the economic data Chuck referenced. He asked if there's been a cumulative look at all potential changes and the associated cost impacts. Chuck said there is for the residential sections. For the commercial sections, we primarily rely on referencing other public processes that have already undergone the Sixth Power Plan. As you heard from Tom Karier earlier; for a lot of the commercial stuff, ASHRAE is our reference for commercial equipment, which is a national process that basically determines the equipment standards in the country; it is approved by Congress. They are recognized as the people that do that. So that's where those sorts of data sources come from.

Bruce asked if there has been a listing of all the proposed changes with the potential cost impacts related to each of them. Chuck answer no; it hasn't been done for every change.

Bruce asked if prioritization of the changes has been done, to determine the most positive impact for the least cost. Chuck said savings analysis has been done, for both commercial and residential. He said it would be easy to select the most interesting code changes, if that's the Council's preference.

Angie asked Chuck to explain Washington's energy goal, how it compares federally and how far off the mark it would seem that this first 30 percent would be. Chuck said the 30 percent goal is certainly not something that was homegrown here in Washington. It was established about four years ago by the Department of Energy with the American Society of Air Conditioning Engineers. It's also appears in two pieces of federal regulation, the Waxman-Markey Climate Bill, that has been adopted and speaks to achieving 30 percent immediately, and the Senate version, which hasn't passed yet. There's been a lot of debate about these climate bills, but the energy code targets are not one of them (that is being debated).

Julie Nichols, attorney, Building Industry Association of Washington

I am here to inform you of some legal issues involving federal preemption, where federal law trumps state or local law, of state energy efficiency regulations. I will briefly describe federal preemption law, and then walk through a recent case out of federal court in New Mexico. It's very interesting in the context of the energy regulations under consideration.

As background, Congress adopted the Energy Policy and Conservation Act in 1975 to govern energy efficiency and energy use standards for certain heating, ventilation and air conditioning products. The Act contains an express preemption provision that prohibits any "state regulation concerning the energy efficiency, energy use, or water use of the covered products." There are 13 covered products detailed in the U.S. Code. The Congressional Record is full of specifics about why this law was enacted. Essentially, Congress didn't want the appliance industry having to comply with conflicting local and state requirements for their equipment. You've heard a little bit of this from the HVAC manufacturer representative who spoke earlier.

So there are two ways to get around this federal preemption rule. The first way is to petition the federal DOE for a waiver; or, two, to enact a code that meets the strict seven-part test as outlined in the Act.

That's a broad overview of the federal law, now a recent court action I was referring to. A federal judge in New Mexico recently looked at a set of energy code changes being proposed by the city of Albuquerque and issued an injunction stopping the city from imposing these changes, finding the city essentially in violation of federal preemption. This was last year. The court concluded that the distributors, contractors and manufacturers who brought the suit were likely to suffer economic harm as a result of the regulations and concluded that the city's proposed codes did not meet the seven-part test as enumerated in the U.S. Code. The city also did not apply for a waiver. The court made several important points, but I want to draw your attention to a couple of them in particular. You can follow along on page three of the letter handed out:

1. Federal court points out that state and local codes "cannot expressly or effectively require the installation of covered products whose efficiencies exceed the applicable federal standard."

I'd love to finish. I think this is a really important legal issue, but I understand if I'm over my time.

Angie noted that economic harm may be suffered by not looking ahead. Julie, deferring to past testimony about economic harm, discussed the federal law and court case. She said the manufacturers, in this case, presented evidence that they had a lot of expensive equipment in stock that was essentially going to be wasted. The court looked at that as part of the test of whether or not to issue the injunction.

Tien expressed surprise that states like Washington and California that have always had their own energy codes that are more stringent than the federal code have never been sued based on the preemption law. Julie said it doesn't mean that no one's ever sued. She brings the possibility of litigation to the Council's attention because BIAW believes there are several sections of Chapter 9 that could put Washington State in violation of the federal preemption rule. Essentially Washington would be requiring manufacturers and contractors and distributors to go above the federally based land standard that's spelled out.

Tien noted that Washington's always been beyond the federal law in terms of the energy efficiency. Thus he said preemption has always been an issue, whether it's Chapter 9 or not. Julie said she can only talk about it in the context of the proposed regulations that are before the Council today.

Bruce said he would like to identify sections of the code proposal that might be at risk for possible preemption litigation. Julie said BIAW would be happy to work with the Council, because the association believes the Council, in adopting Chapter 9 as it is currently drafted, will be opening itself up to possible legal challenges.

Gary Nordeen, Washington State University Energy Program

I would briefly like to talk about the preemption issue that was just brought up. The energy code proposals in Chapter 9 will not violate federal preemption laws. It is one of 14 options. The key word here is "option." This is the same type of scenario that is in place in

Oregon currently, and accepted by GAMA and AHRI, which are national organizations of appliance manufacturers. This will not be a federal preemption violation. It an optional thing.

Cost, I hear cost again this time. Please read the Commerce (Chuck Murray) report and note the sources of their data. We're talking \$1.00-1.24 per sq. ft. for 75 percent of the housing stock on the residential side. Thirty percent package keeps getting kicked around. In reality, on the commercial side, we're talking 13 to 15 percent; and 22 to 25 percent on the residential side. And again, I think this makes houses more affordable to a homeowner, when they have more money in their pocket to pay for more bills at the end of the month, with positive cash flow after about three years.

Bruce asked if Gary is a licensed attorney in the state of Washington. Gary answered that he is not. Bruce then asked if Gary was rendering a legal opinion or expressing a personal opinion when he said Washington won't be violating the federal law. Gary said it's his personal opinion. He said he is familiar with the New Mexico case, related to a requirement by the City of Albuquerque for high efficiency furnaces. It was a clear violation of preemption.

John Hogan, City of Seattle

I would like to touch on two topics. The first is proposed reductions in stringency, yes, reductions in stringency. There are several notable places where the public review draft of the 2009 Washington State Energy Code (WSEC) is less stringent than the current 2006 WSEC. This includes areas where the draft is less stringent than with past direction from the Washington State Legislature. In 1990, 19 years ago, the Legislature passed SHB 2198, the vote in the house was 91 to 3 in favor of that bill. The 2198 criteria were incorporated into the 1991 WSEC and subsequent energy codes. I would like to highlight some of the proposed reductions in stringency related to single-family houses.

1. In the Chapter 5 trade-off option, 2198 specifies a U-factor of 0.044 for opaque walls in Climate Zone 2, which is Eastern Washington. However, the public review draft proposes to roll the criteria back to .056, a 25 percent increase in heat loss.
2. Chapter 6 prescriptive option - 2198 specifies R-24 insulation for opaque walls; public review draft proposes to roll that back to R-21, again a heat loss.
3. Also in Chapter 6, 2198 specifies R-10 insulation for Climate Zone 1 and R-12 in Climate Zone 2 for below grade walls insulated on the exterior. Public review draft would roll that back to R-5, cutting the insulation requirements in half.
4. There are cases where the glazing criteria in the public review draft are less stringent in Climate Zone 2 than the existing 2006 WSEC.

Why is this happening? This is primarily because of a proposal to eliminate the existing two climate zones and to have only a single set of building envelope requirements for all single-family houses, thereby rolling back requirements in Climate Zone 2. However, SHB 2198 directs that "the Washington state energy code shall take into account regional climatic conditions." It specifically divides Washington State into two climate zones. Brian Minnich mentioned SB 5854, but I note 5854 does not modify the existing sections of the RCW related to separate climate zones. SB 5854 also establishes the 2006 WSEC as a minimum. It does not allow a rollback of existing state energy code requirements.

Consequently we urge the Council to adopt modifications to retain separate criteria for climate zone 2, so as to address these problems.

Second topic regarding the energy saving increments; this is not entirely within the purview of Washington State. For example, the National Energy Policy Act of 1992 establishes ASHRAE 90.1 as the baseline for nonresidential energy codes. Whenever Standard 90.1 is revised, the state is required to revise their energy code to update to achieve that minimum efficiency.

We encourage the Council to adopt the proposed revisions with some additional changes which we will submit. And this will allow you to make a positive statement about the nonresidential requirements for the WSEC.

Kristyn asked how the WSEC can be rolled back when doing so isn't allowed by statute. John said there is no legal authority. Therefore it cannot be done.

Sue Lani Madsen, Architect

I am speaking from my experience as an architect in private practice in Eastern Washington for 30 years. I live in a small town. I am here representing a personal opinion I would like the Council to consider as they review the proposed changes.

During the first energy crisis, almost 20 years ago, early in practice I learned an important lesson. It was the first time that technology was really highly applied to building management systems. I realized after a couple of projects that you need to suit the technology to the building occupants, the building user. If the capability and the commitment and the ability, economically or operationally, to maintain those systems is not there, they will be abrogated and nobody wins. A lot of money has been invested, the system has been gone around and no energy is saved.

As the energy code has become more and more complex, as the system requirements have gotten more complex, I see more evidence in my practice and clients, building I'm involved with as a volunteer, with energy systems that may have met code at one time, and simply don't. Don't fool yourself that by picking off all these wonderful things that are going to save energy in all these studies; unless those studies included a human factor. How do people interact with the technology and what will they do when faced with the need for fresh air? Are they going to open the window when it's January and 20 below zero because they can't figure out how the system works? Or are they going to actually use the system with the heat recovery? In many buildings what you're going to get is building users doing what makes sense to them, and the systems have to match the building user.

I recommend less reliance on overly technical solutions, allowing more opportunities for people to recognize their own need for energy conservation and to practice that.

Angie said she recently attended an affordable housing seminar here in Spokane for a few days. One of the discussions from the architects was concerns about returning to natural ventilation and just using the sun and those currents. She asked if Sue sees a place in these codes where that hasn't been addressed, or does she have some specific recommendation for exceptions for utilizing resources available to us. Sue answered that any place in the code where you can allow the opportunity to take on more personal responsibility for the operations of the building, and recognizing what the consequences are, the more compliance will be achieved. As building

codes become more complex, there is a divide between high tech, highly developed, highly monitored buildings that meet all the codes, and a whole sub-culture of disrespect for building codes as a basic protection for public health, safety and welfare. And as building codes expand beyond those basic protections, we are creating a lot of civil disobedience, and that is not to anyone's benefit.

Kristyn asked if there evidence that if people have the ability to operate their building systems, it creates a positive effect? Sue said she doesn't know of any studies. She said because the focus is usually on equipment rather than people, user impact is unclear. But when systems don't suit the capability or ability of the user, the user will circumvent the system.

Jon asked if Sue believes there are enough options built into the WSEC so that people have options in the way they use their building and interface with it. Sue answered that she does not. While she hasn't done an exhaustive analysis, there are enough examples where her clients are frustrated with what they have to do to meet the energy code.

Bruce said he's an engineer, previously a contracting officer for the Navy, responsible for doing energy conservation improvements in Navy housing in Western Washington. He put in pre-programmed thermostats that did not allow the occupant to control them. Shortly thereafter, he found these thermostats were being shorted out, among other reasons because occupants were doing things like putting bags of ice on top of the thermostat trying to fool it. Bruce asked if that's an example of what Sue was referring to? Sue said yes; people will find a way around it. Bruce said the options are a mandate, education, or something in the middle that combines them. Sue said she wants the Council to continually ask the question, "How's this really going to work with real people?"

Jim Breidenbach, Business Owner, Craftsman Construction

My company, a residential design-built firm in Spokane, has been in business upwards of 25 years.

One of the challenges we see with new energy code requirements is that it is 'myopic,' only focusing on new construction. Within the code, there are requirements as existing housing stock is improved, upgrades are required. The challenge as a remodeler working on existing housing stock is that they are only looking at a portion of the problem. There are hundreds of thousands of existing homes with little or no insulation, with low efficiency heating systems, low efficiency windows, and exterior door systems. It's the tail wagging the dog, if they are going to continue the focus on making new housing tighter and tighter.

I echo the previous speaker that the systems will be thwarted. As a remodeler, we come in after the fact that the housing was built and see how many have been deactivated, removed, shorted, or thwarted. This includes fresh air intake sources. I have seen rags and insulation stuffed into them, and continuous exhaust fan systems deactivated. The user of the house is going to find a way to deactivate these systems, given the creativity of the occupant.

Recognize that you can make new construction as efficient as you want to meet this grandiose plan of 30 percent increase in efficiency, but if we're not going to take a look at the existing systems and existing housing stock, which truly are the energy hogs in the system. Over the years we have continually seen new systems brought onto the market. We even see

housing stock where, back in the 1940s, they thought tin-foil wrapped on the interior wall surfaces was the efficiency of the time. These systems come and go with time.

I encourage you to look at all housing stock, just not being myopic with the current housing stock, so that we can take a look at improving all systems, not just a select few.

Joe Wizner, Spokane Building Official

I want to touch very briefly on the topic of existing structures, the concerns that some of the building officials in eastern Washington have:

101.3.2.6 - When altering an existing air handler, air conditioner, heat pump, cooling furnace or even a heat exchanger, that the duct system be tested for leakage. This could drive a lot of people to have work done unpermitted. We don't have the resources to go out and verify these.

1132.3 - The 20 percent rule expands to 60 percent and includes ballasts and lamp replacement. Even on the new side, the blower door requirement. To really do it right would require another inspection to make sure that all those systems were sealed correctly.

So, we really feel some education is needed as much as these changes.

International Building Code

Dave Kokot, Fire Protection Engineer, City of Spokane Fire Department

I want to address concerns and changes proposed for assemblies and elevator lobbies.

The proposed changes that have been put before the Council waver away from the national model codes in eliminating elevator lobbies. There is a lot of misrepresentation in the information that was presented as part of the original code proposals and changes on some of those particular items. I'm talking about that regardless of the number of stories, elevator lobbies don't provide enough capacity. Smoke compartmentalization is being required so we don't need to have elevator lobbies.

I think that there's a lot of issues in particular types of occupancies, particularly the I-2 occupancies, where do have patients that are sleeping, patients that could move from one smoke area to another smoke area. However, the big source of the problem is that now, by creating a non-elevator lobby area, we have now basically created a path for smoke to go from floor to floor, so that if we don't have a lobby we have an easy way of smoke being able to transmit throughout at least one part of the floor or one part of the area that we may be trying to transport patients through. It's a very big concern for the fire department to be able to deal with smoke issues like that when we basically are having staff from the hospital move people from one area to another to get them away from smoke. This is relating to Section 407.43 and 712.9.

The other proposal that was presented related more specifically to 707.14.1. This relates to, the comment here was made in the presentation of the proposal: "elevator lobbies serve no purpose on the floors in which these facilities have protect in place."

Again this is duplicating some of the discussion I've had previously, talking about that elevator lobbies do provide some protection. We're not planning on having every single person that's in a bed in this particular place, but what it does also provide is the separation so smoke does not go from floor to floor very easily. There is separation. It is very possible that by

passing some of these requirements, we end up having assemblies that are basically smoke barriers. But unfortunately the elevator doors themselves do not provide enough smoke separation. We could basically be sending smoke throughout a building from floor to floor without having elevator lobbies.

Mike Wheeler, Smoke Safety Council

I am speaking for disapproval for items numbered 13 and 22 (which go together as one amendment) and item number 20. Currently you have some significant issues including energy and residential life safety. I would hope that these two items don't get lost.

Since 1980, after the MGM fire in Las Vegas, the model codes have recognized that protection of vertical smoke migration is important. They accomplished that by a concept called elevator lobby separation. These proposals would eliminate or modify that requirement in the State of Washington; this would leave patients, firefighters and staff at risk from vertical smoke migration. I urge the disapproval of these two amendments.

Angie asked how other states handle vertical smoke migration and elevator lobbies. Mike said the proposed amendments would be contrary to what is in the national code. The national code has these requirements in them. The proposed amendments would modify or delete those requirements in I-2 occupancies. Those are national standard now in the building codes.

Jon said, as we look at the national model for smoke migration in buildings, it is a system that we're looking at, the way that model codes evaluate the movement of smoke and heat through the building. If we decide to move away from model codes, he asked if Washington has to do something different every time the code changes to verify the design of the systems within those buildings. Mike said his sense is that on the national level these requirements will stay in the code for at least the next two or three code cycles. He said there is a proposal by the Department of Health at the national level to with the same language being proposed here.

Jon asked if deviating from the model code puts Washington at risk. Mike said Washington has always been in the forefront of such issues. He views it as a backwards step. The national code may have to be dealt with at the same time in subsequent cycles.

Jon asked for confirmation that the only change at the national level in Baltimore is the DOH proposal. Mike agreed.

Frank Hertzog, Smoke Safety Council

I am speaking to the same changes Mike Wheeler just addressed, specifically Sections 708.14.1, 712.9, and 407.4.3. Twenty-four of the suggested amendments are stated that they are being provided to ensure consistency with the national model code. However, these three changes will move Washington directly away from where the model code has been for quite some time.

This concept of protecting I-2s is kind of a murky area and was not clear until the hearings in Orlando in 2006. It was clearly stated and established that hospitals need to be protected, even with their smoke compartment construction, just like prisons do. It was clear

with prisons, it was not clear with hospitals. It has now been clear since that 2006 hearing, the 2007 supplement, then the 2009 code established that. I'm pretty sure based on the information we know now that it will be consistent in 2012 code that will be established after the hearings in Baltimore in November.

Nonetheless, this provides a minimum level of life safety, that's the defined requirement within the building code. The building code for the country establishes a minimum level of life safety. You can do more, but you don't have to. This is also the protection that's provided in the 2009 code and previous editions are consistent with what the State of Washington has done for years under the old UBC. They provided this protection then, and there's been no substantiation that I've seen, technical justification, to change that and lower that level of life safety, in particular for a critical junction in the node called a hospital for most communities.

In terms of enforcement, this is going to create more complexity because it won't be consistent with the model codes, so if you have architects coming from out of state they're not going to be expecting this. These amendment changes also sweep into the recommended changes for the R-2 occupancy. The R-2, as can be seen from other associated changes talks about boarding houses; R-2 also encompasses dormitories, hotels, motels, fraternities and sororities. You have to be careful you don't get unintended consequences by passing a change that will affect occupancies that perhaps the proponent didn't intend to affect when he was trying to change things for boarding homes.

I recommend that you disapprove these amendments. In so doing, you will be consistent with what the model code has established as a principle over the last three or four years.

Mike Kelly, Director of Facilities, Sacred Heart Medical Center and Holy Family

I'm speaking on behalf of Providence Health Care, and as past president, on behalf of the Washington State Society for Health Care Engineering.

I am speaking on the elevator vestibule issue. It is not argued that it is a higher standard; but the question is, is it necessary? For example, at Sacred Heart Medical Center, under the IBC, staff is already required to compartmentalize the medical center. They train staff in horizontal evacuation. There has never been an incident in his 30 plus years, where that technique was not sufficient.

There is a question about an evidence-based decision. One of the issues was with Mount Sinai, where they did use horizontal evacuation techniques and it proved very efficient. I don't believe it's in NFPA 101. If there is vertical transmission of smoke, it is held in the compartment already. This comes back to the cost of health care. It is a cost above and beyond what is truly necessary.

Hospitals are incredibly safe environments. They are fully sprinkled. They have automatic fire detection systems. And while we strive for zero deaths, as far as life safety incidents go, the average loss of life in a hospital is one per year. It's very, very low.

John Cochran asked if the amendment is consistent with what is required in NFPA for medical certifications. Mike said he doesn't believe it's in the NFPA. He can't say with certainty, since he didn't review every sentence of the document. But he doesn't think it's there.

Angie asked if vestibules are required and if the "one death per year per hospital" is associated specifically with egress? Mike said the one death per year is related to fire. He believes the

amendments should be adopted, thereby eliminating the requirements for elevator vestibules, no matter how many stories.

Bruce Corigliano, Eastern Washington Masonry Producers Association

I want to offer masonry industry support for the five building code amendments. All have been recommended for approval by the Building Code TAG. In addition, two of them have been discussed by the Structural Engineers Association of Washington, Earthquake Engineering Committee.

These proposals and section numbers are:

09-243 section 2108.2 anchor bolts

09-244 section 2107.3 anchor bolts

09-245 section 21.04.1 grout heights

09-246 section 2107.1 and 2107.2 on allowable stress design.

This proposal is recommended for approval by the Structural Engineers Association, as well as the Building Code TAG.

09-242, Section 1405.6.2 Wire reinforcement in masonry veneer. I support the modified proposal by the Northwest Concrete Masonry Association.

International Residential Code:

Ray Bizal, National Fire Protection Association (NFPA)

I testified in Renton and will not repeat the testimony already provided. I'll also provide my testimony in writing.

I'm here on R313. I urge the Council to disapprove the proposal to remove the sprinklers because fire sprinklers save lives.

I want to talk about an NFPA report prepared in response to information provided to the IRC TAG. It was entitled "Homebuilders Supporting Facts on Residential Fire Sprinklers" by Building Industry Association of Washington. It also addresses the National Association of Homebuilders' recommendations for state and local amendments for people like you who are considering these matters.

NFPA does not like the fact that their reports have been misquoted or misused or misapplied. When the author of the NFPA read this report from the homebuilders, he was very upset and noted down his remarks to clarify where they were being misapplied or misquoted. You'll get that in writing. When you get that, please take serious consideration to the use of the facts and the statistics in the report.

If you keep the provision, it won't take effect until 2011.

Gary Faucett, Lake Stevens Fire Department

I stand before you today in opposition of removing R313 from the code.

I recently had sprinklers installed in my home for all the reasons already discussed. None trumped the reason. As I watched the sprinklers being installed, it was then that I realized firsthand that as great as every fire department is, and as great as any fire department's response times are to a fire, no fire department can provide as quick a response as a residential sprinkler.

I looked at every sprinkler head as a firefighter on duty installed in my home, fully equipped and capable of extinguishing any fire in my home within seconds of a fire, 24/7. As comforting as this was to me as a homeowner, as a fire chief, I wondered how I could compete with such services. How could I even suggest to my citizens that they should continue to pay increased fire taxes over the life of their home in an expensive and substandard service when compared to those home sprinklers, when I know that a one-time cost at today's rate for sprinklers would be the best way to go.

In truth, more lives are lost in home fires than commercial structures. As a fire chief who deals with the ravages of fire, it is inconceivable. The codes are created and required in commercial buildings because of the potential of loss of mass life, yet those same masses when retreated to the safety of their homes do not have the same life value.

We all know the value of sprinklers. We all know the cost of sprinklers vs. the operations of the entire fire department. Yet today we are actually here spending time and fighting about money about what is right, rather than doing what is right.

Too many lives have already been senselessly perished while we continue to debate this issue. Lives across the state trust their fire heroes will come and rescue them. And we will do the best of our ability, but we all know the odds are we won't save them. It's time that we as fire service quit marketing fire levies to provide this service. And it is time that the building industry quit marketing its claim that residential fire sprinklers are too expensive.

The time has come. We're in the 21st century. Let's not only say that we will build fire safe homes, let's do it.

Robert Marshall, Fire Marshal City of Lake Stevens, President of Snohomish County Fire Prevention Association

The Association is a division of the Snohomish County Fire Chiefs, made up of public educators, public information officers, fire inspectors, fire investigators and fire marshals throughout Snohomish County. I am here to ask the Council to keep fire sprinklers in the residential code. Do not remove that item. As an association, we are in full agreement that that item needs to remain in the residential code. We want to help Council look at it from a preventative side.

Sprinklers correlate with prevention because sprinklers do four things: ensure safety to life, reduce property destruction, enhance environment by less alien type damage to the environment. I've had an opportunity a number of times to attend the National Fire Academy in Emmitsburg, Maryland. A firefighter memorial is located there, very beautiful, very solemn. There are three flags. As I witnessed, about every third day the American flag goes to half mast to honor a fire fighter who has died in the line of duty. It is more often at half mast than at full mast.

Firefighters used to be called smoke eaters because they would rush into burning buildings to save people, to stop the progression of fire. The problem is that most of those firefighters have passed on simply because they contracted a lot of things that killed them by running into burning buildings without protection. So the fire service has done a number of things, such as creating self-contained breathing apparatus and uplifting safety guidelines. NFPA has provided guidelines such as 1710 and 1720 having to do with responses and how many people need to be on responses. They also have two in/two out.

Has safety improved? Absolutely! But there are still residential fires and they are still as bad as they ever have been. And even more so, because of all the contents that are all based on petroleum products.

We as an Association of Snohomish County adamantly urge you to keep the fire sprinklers in the residential code. It is protection, it saves lives, it saves the cost of loss of property. I'd ask you to do that this morning.

Angie asked if Robert has any cost benefit analysis of levies compared to the cost of fire sprinklers in a dwelling. Robert answered that he doesn't have such figures with him. Angie then asked if Robert feels fire sprinklers compensate for levies. Robert said he believes that is true.

Terry Thomas, City of Walla Walla Fire Dept., representing Washington State Fire Chiefs

We are opposed to removing the fire sprinkler requirements in IRC Section 313. Washington State Fire Chiefs are in support of a statewide requirement.

Firefighting is a well-planned, well-coordinated team effort which requires a minimum number of firefighters trained to a specific level of competency. Basic interior attack firefighting requires meeting and maintaining, at a minimum, the following knowledge and competencies: safety and health; fire behavior; building construction; personal protective equipment; ropes, knots; rescue and extrication; forcible entry; ladders; ventilation; water supply; fire hose, fire streams, fire control; detection, alarm and suppression systems; loss control; preserving evidence; communications; introduction to hazardous materials; pre-hospital emergency medical care for firefighters.

I spoke recently with a fire chief from a small rural fire department in Eastern Washington. We talked about the difficulty of finding members of his community who could dedicate the time and effort it takes to meet the minimum requirements to serve a community as a firefighter. My fire chief friend told me his only option was to train certain members in specific skills and then hope the right combination of responders arrive at the event. That is not a good situation to be in.

We have a tremendous opportunity to support our firefighter's mission, their dedication and their sacrifice. We have the opportunity to tell them we are going to help them protect their communities. We have the opportunity to place a firefighter in every home constructed, beginning in 2011 in residential sprinkler systems.

Washington State Fire Chiefs are opposed to removing the sprinkler system requirement in IRC section 313, and we are in support of a statewide requirement.

Leonard Terrenbakh, Pacific Insurance agent

I am opposed to mandatory sprinklers. I think they should be voluntary.

Whenever I look at something as heated as this, I like to follow the money and see who is supporting it, who's not supporting it. I think you should listen to the builders, who have actually installed sprinkler systems and seen how much it actually does cost to install sprinklers, and not a sprinkler company who's trying to sell sprinklers.

Myself, I've heard people say "cost is no object." Well, I can't have people vote for me to help me on my house payments. Cost is a huge object for me. And I think sprinklers are a very expensive thing to put into a house.

I also don't know if you know...what insurance companies do is they have a "clue report." And this report, anytime you have a claim, it goes into the "big sky." When you try selling your house, if there's water damage because of a faulty sprinkler, they're going to see this "clue report" and it goes by address of the property and by name of the customer. So if you buy a house, you might have a tough time finding homeowners insurance at a reasonable rate because a sprinkler head went off three or five years ago.

I, myself, live out in the country, and my house only has a five-gallon/minute pump. So I'd have to have a cistern besides the regular sprinkler system. My pump would not hold a sprinkler system. It wouldn't get enough water off.

I think it's a very expensive item, I wouldn't want a sprinkler system in my house. I see plumbing claims after plumbing claims with faulty plumbing.

David Whitwill, Central Washington Homebuilders

In 2008, Sanger Construction LLC built a \$1.8 million vacation home for a client in Suncadia Resort located in Cle Elum, Washington, where sprinkler systems are required in every home by covenant. The home was completed just prior to the Central Washington Homebuilders tour in September and was featured in that tour. The owner did not occupy the home immediately. And in January of 2009, we experienced an extreme cold snap, during which the home experienced a furnace failure. And since the home was unoccupied, the furnace issue went unnoticed for some time. As a result, all water and sprinkler lines and all the plumbing fixtures were frozen solid. The total cost of the repairs from the failed fire sprinkler system was in excess of \$80,000. Of this total, the failed portion of the plumbing system was barely \$1,000.

There is a cost sheet included with this presentation which I will give to Mr. Nogler when I'm through. Requiring sprinkler systems in all homes by code adds another substantial layer of cost to homes in an already burdened industry. The cost of the system is just the tip of the iceberg. Additional fees for permitting, inspection, engineering, water hook-ups and so on are also hidden costs.

I've been a homebuilder for 34 years and during that time changes in construction technology, and approved building code requirements, electrical and smoke alarms have resulted in a dramatic drop in fatal home fires, especially when you factor in significant population growth and increase in housing stock. This tells me that new homes are safer than ever before and that this requirement would be one more cost placed on the backs of homebuyers already strained financially to purchase a home. Fire sprinklers should be a voluntary choice left to the consumer or homebuyer and not a mandate.

Joe Walsh, retired builder, Central Washington Homebuilders Association

I want to share a position statement that has been adopted by one of our members, Yakima Valley Partners, a local affiliate of the Habitat for Humanity organization. I will read the statement and then I will provide it for the record.

Habitat for Humanity does not oppose fire sprinklers. We do however, oppose a national mandate (state mandate if you will) that forces installation of a fire sprinkler system into every new home. Installation of fire sprinklers should remain a local community decision, to be made by local citizens working with local officials. Increased costs will reduce the number of families we can serve at a time when more families need our help than ever before. We encourage all homeowners to check their smoke alarms regularly and have a fire safety plan in place for their families. This is from Steve Luten, Executive Director, Yakima Valley Partners.

I'd also like to share with you a few concerns from another member, the Nob Hill Water Association, about two basic concerns with mandating residential fire sprinklers. Much of the growth in the Yakima area is west of town and most of that is probably outside city limits and the urban area. And it is this Nob Hill Water Association that provides domestic water for that area. Liability, they see this as a great exposure put upon them in the event they have to stop service for non-payment. They see no way to avoid that liability exposure. The other concern of theirs is that liability issue could be taken care of if it was a separate connection.

I will submit the remainder for the record.

Jon noted that 2009 legislation will take care of the liability issue. He suggested Joe contact the Water Purveyors Association.

Sarah Orange, Spokane Realtors Association

Today I am speaking on behalf of our State Association, Washington Realtors. We appreciate the efforts to make new homes safer by requiring fire sprinklers. But the information that has been submitted to the Council regarding Washington's fire history should include additional details, including the age of the home, the cause of the fire, and the type and the year of construction, and location of the structure fire, whether that was urban or rural. Another important statistic to consider is what percent of all fires are occurring in new home construction, and the causes of these fires.

This year Snohomish County considered requiring fire sprinklers in new homes to prevent home fires. In April of this year, the Snohomish County Association of Realtors conducted a telephone survey of a sample of registered voters. Findings included: 69 percent of those surveyed opposed the addition of sprinklers to new homes, while 26 percent were in favor of the proposal. Two-thirds of those surveyed agreed with the statement that indoor sprinkler systems should be optional, as individuals and families know best what they can afford and what their home needs to be safe from fires. Approximately 31 percent agree that sprinkler systems should be mandatory, and that they save lives, money and prevent fires from spreading to other areas. In part due to the survey information, Snohomish County did not require mandatory fire sprinklers in new home construction.

Finally, how many potential homebuyers will be priced out of the new home market, and as a result, how many will not be able to upgrade to vacated rental units or older homes of those seeking, but failing, to afford a new home. We respectfully ask the Council to vote 'no' on requiring mandatory sprinklers and approve an amendment to allow sprinklers to be considered on a voluntary basis by local jurisdictions.

Angie asked if the survey was identified as being sponsored by the Realtor's Association. She also wondered if there was a cost provided to those folks that answered the phone about what

would be anticipated and what it would cost them to buy a home. Sarah deferred to Jeannette McKay from the state realty association. Jeannette offered to follow up with Angie and provide a copy of the survey to her. She said it was a telephone survey, without any exchange of money. Peter DeVries asked Jeannette to provide copies of the survey to all Council members. Jeannette agreed to that, through Council staff.

Bruce Georgan, Spokane Homebuilders Association

I've handed out some written testimony. I'm Bruce Georgan, President of the Spokane Homebuilders Association. We're a 1200-member association. We encompass seven counties of Eastern Washington. I can tell you of no member of our industry that is in favor of the mandatory sprinklers in residential homes.

I've been in this industry for 30 years. And I've lived through the improvements in hard-wired smoke detectors, improved electrical systems, heating systems, insulation requirements, fire separation technology, and escape windows or egress windows in all bedrooms and basements.

Research has shown that fire deaths have decreased by over 50 percent since the 1970s, even though the population has increased by 80 million and the home proportionally. So the system is working. A Johns Hopkins University study, paid for by the fire administration, showed that 75 percent of all fire deaths could be prevented by working smoke alarms, mostly in older homes I'll add.

Homebuilders estimate that the cost of putting mandatory sprinklers in a home are about five percent. The average or mean price of a new home in Spokane last year was \$309,000. That means 10-20,000 dollars, depending on the circumstances, to install the sprinklers. On top of that you have to add real estate commissions, closing cost in the form of excise tax, titles and attorney fees, appraisals, all based on the sales price of the home. Every \$10,000 increase in a home, to me, to my customer, means I have to add another 38 percent just to cover our overhead and our profit margins. That'd be \$13,800. Our own research shows that every \$10,000 increase in a residential home, as many as 50,000 potential Washington State homebuyers are priced out of the ability of affording that home. And these are the people that are going to be buying older homes that don't have this built in new technology.

In conclusion, I'd just like to say that it seems to me that more lives could be saved, and better energy savings could be achieved, by improving existing pre-1990 homes with better fire alarm systems and better energy technology, than to burden, unnecessarily adding more expense and costly legislation to a housing industry that it already suffering.

Brian Jones, Lexington Homes

I want to agree with Bruce Georgan. Fire sprinklers are a great idea if people want to pay for them. The reality is that the homebuilding industry is in a tight market right now, as it has been. We are concerned about the expenses, the maintenance, water damage, all those kind of things, especially in this climate over here in the winter, dealing with that kind of thing. Power outages and frozen pipes are a concern for us because that creates more damage than the actual fire when it happens. It's all the times in and out of that that we have to deal with.

So, I would just like to say that we are opposed to fire sprinklers as mandatory. We as homebuilders are happy to install anything that a customer would like to purchase. They are

offered all the options that they would like to have. They're welcome to purchase and install it at any time. But to have to have it mandatorily required, we're opposed to that.

Dave Kokot, Spokane Fire Department, Fire Protection Engineer

I'm going to speak in support of leaving the requirement for mandatory sprinklers within the International Residential Code.

I'm going to address today water freezing. You've probably already heard several comments on it today. It's a scientific fact, water's going to freeze. It doesn't matter whether it's in a residential sprinkler system, doesn't matter if it's going to be a plumbing system. When the temperature gets cold enough, water will freeze. The challenge is being able to control that freezing. And there's ways that that can be done very simply by a homeowner. It doesn't cost very much; it basically becomes common sense.

There are a couple of things you need to deal with residential sprinklers, the same kinds of things you think about for domestic plumbing systems when you put them in a house. [Questions you need to consider are] where do you put the piping and insulation to protect the piping, what is the thermostat set-point, and what type of potential cold air sources could freeze your pipe.

When you talk about a mixed flow system, that is sprinkler systems that are basically designed to handle both your plumbing needs and your sprinkler needs. Your plumbing system and your sprinkler system are exactly all one in the same system. So, if your water is going to freeze, your sprinklers are going to freeze. If they're separated so that you have a separate sprinkler system, the same potential is there, although now you're talking about a different piping system.

There are several locations within the United States that deal with their requirements for mandatory sprinkler systems. One of those is Maryland. Maryland has a suggested set-point of 58 degrees on their thermostats to make sure that when people leave for vacation, obviously it gets cold there, that those buildings will be able to stay warm enough so that the sprinklers will not freeze.

So what do you do other than that to be able to keep things from going wrong? What if you're going to have a residential recreation home or something like that? What about turning the water off? We think that's probably the last resort.

But consider this, residential sprinklers are different than commercial systems. The primary purpose of residential sprinklers is to protect the people and protect the firefighters. If there's nobody in the building, then the firefighters don't have to go in to rescue somebody. If there is somebody in the building, we would much rather have fire sprinklers in there to protect us as well as the people who are living in that building.

There are many studies and reports for other incidents, for instance Anchorage, Alaska. Anchorage has for quite some time had requirements for residential sprinklers. Anchorage obviously has a very cold temperature situation, so they are going to be very cold all the time. Yet there are a number of studies and reports that they have had no freeze for residential sprinklers. Well, that shouldn't be surprising to anybody, because basically they're living in an environment that anything could freeze their plumbing system. Well, they don't want their plumbing systems frozen. It's not something they can fix relatively quickly. It's something that's going to take some time to do that, and they possibly may not be able to occupy the house while that's going on. So they've learned.

And basically I think that citizens can be taught, and can learn, how to use residential sprinkler systems, including the maintenance for repairing these systems when they freeze, especially in a mixed use system that uses a different type of piping. It expands with expansion of the ice.

Bruce told the following story. He built his own house. Instead of expanding access of the long driveway for fire trucks, he voluntarily installed a fire sprinkler system. Patriot was the contractor who installed it. After testing, the installer asked Bruce, "Do you want to leave it charged?" Bruce replied, "Why wouldn't I?" The installer said, "Many people, once it passes the test, turn it off so they don't risk water damage. They're not 'zoned' so it goes on throughout your whole house, instead of just where the fire might be." Bruce chose to leave his sprinkler system charged. He wonders if there are any statistics available about how many sprinkler systems that have been installed are turned off. Dave said that's not a standard practice he's aware of. He thinks it's just a misunderstanding of how a fire sprinkler system actually works. He said if the sprinkler system has been tested and passed, it should stay charged. He addressed the statement, "if one goes off, they all go off, because there is no zone to them." Fire sprinklers are heat activated; water flows only from those sprinkler heads that are exposed to heat in a fire situation. Similarly if a sprinkler head is hit or broken, only that head is going to be a problem. It is very easy to turn the system off so that you prevent the amount of water flow through. It's the same type of situation as having a piece of pipe break under a sink.

Bruce asked if Alaska has a residential fire sprinkler requirement. Dave said he's unaware of a statewide requirement. Anchorage, however, does. He said there are very simple ways of providing low-cost systems to be able to install sprinklers for remote areas.

Greg Rogers, Washington State Association of Fire Marshals, South Kitsap Fire Department

I wanted to take this opportunity to address a couple of questions that came up in Renton as I was following the process over there. One of the questions was in regards to in-fill lots, as well as homes on well systems. So we put together a flyer, and I think it's going around right now and you'll see it. One of the reasons why I wanted to address this issue was because I found it very interesting.

A just completed, brand new house in our jurisdiction in South Kitsap has a "birthing center." Because it was a birthing center, and what they were going to do, we required them to put in at least a residential sprinkler system to protect the mothers while they were going through their birthing process in the bathtub. We didn't want an incident to occur while they were going through that process, and them not be able to evacuate the home. So one of the things that they did is they put in what's called a tank/pump system with the residential sprinkler system, and then installed this and retrofitted it in the house. The actual installation and the cost of the sprinkler system was actually cheaper than it would have cost them under new construction to connect up to our water supply.

So we thought this being very interesting, four years ago we did an actual study in our jurisdiction, so it would have been in 2005. And we looked at, in our rural areas, because South Kitsap also serves the city of Port Orchard, so we have a lot of water purveyors. We literally

have eight water purveyors, and we also have a rural area where there are no water requirements. So we wanted to test to see what the difference in comparison would be. So we contacted all the water purveyors in 2005 to see what the average cost was to install a sprinkler system and upgrade your meter, or either put in a different connection. We basically said “you give us the cost of what the different systems would be.” At that time we came up with a \$3,500 additional cost to the home.

So what we did is we also contacted the tank-pump manufacturers to find out what the cost of an actual tank pump would be, and again this is in 2005. The tank-pump combination system, to physically purchase it and install it, was \$3,400. It was \$100 less than the average cost of the water utility hookup. The other thing that we noticed in regard to the water-pump system is you’re required to have a 10-minute water supply, and this is one of the reasons why I provided some pictures, to illustrate that.

We’re talking about a very small system. We’re talking about some of the systems that can be installed in physically a coat closet in your house. So if you incorporate that into the construction of your house, and incorporate that into an area that potentially could be heated or, like we did in Colorado where I was originally working before I came to Washington, we installed them in crawl spaces. And we would insulate the crawl space with a little wall, so that way it provided some heat to that area, and that way it provided that system. So I provided you that in writing. I gave you some pictures to do that.

One of the other flyers that I passed around was in regards to trade outs. And I’m glad you brought up the road and access. I took this article physically from the Wisconsin Fire Sprinkler Association because it was the best thing that I could find that talked about trade outs, and given the timeframe we had in between Renton and today I had very little opportunity to do a lot of research. So I stole what I could from the internet. So I want to give them credit for that.

But I think in closing, the important piece is the amount of trade-outs that could be given to a developer. What we found cost evaluation wise in regard to storm water requirements from the state are hugely insubstantial in the reduction of the cost.

Jeff Losey, Tri-Cities Homebuilders Association

I’d just like to set this up real quickly about my comments. In Tri-Cities we live between a nuclear facility and a chemical depot in Umatilla. So we have evacuation routes planned based on which way the wind is blowing. I would also add to that we also have, because of the nuclear facility, the number of engineers, safety engineers, scientists; we have a national laboratory that averages one patent a week that comes out of there. And the reason that I bring that up, is that we have, not disparaging anybody else’s community, but we have a very educated community.

And some of our builders, custom builders, they bring up to their custom clients, “Do you want a fire sprinkler system in your house?” And they don’t take them up on it. It’s not that they’re not intelligent; they can figure out if they’d like to have that. And we feel that it’s perfectly appropriate that residential fire sprinklers to be part of the appendix. They can be there to mitigate other circumstances that may occur, that it would require that. But to have it mandated on all the homeowners that want to purchase houses and put that cost on them, they have the opportunity to research that information and figure out whether or not they would like to have that.

Mark Gable, City of Wenatchee, Fire Marshal

I may be a bit of an anomaly, because although I support sprinkler systems, I have some concerns. And one of those is what's going to happen in 30 years? What will I see if our fire loss is primarily in older homes? And this proposal doesn't do anything to address what we have in the older homes.

What I see is, what I parallel in the smoke detectors that we mandated in the 90's, is when we went to a system where they were all interconnected, in NEC. And I just talked to my sister for an example. Last night she had a problem with her smoke detectors. She couldn't get them to reset. They're all hooked together because of a remodel she did and so she just took them all out. So now she has no smoke detectors. And as a fire official, smoke detectors to me are just huge. It's unconscionable to have a home without smoke detectors in it.

What I see with the sprinkler systems, what I'd like to see as part of this package is how are they going to be maintained? Commercial systems are maintained every year by our ordinances. And I don't know, maybe this is an educational process for me, but I wonder how this is going to be handled. How are these systems, as Bruce was mentioning, how are we going to mandate or ensure that these systems are left on? And what's going to happen to a sprinkler system if you build a home and then you decide, due to water issues, due to water damage issues, you turn it off, and then you have a fire, then the insurance company comes back to you and says, "Well I gave you a five percent discount, and you turned your sprinkler system off. What's the liability's there?"

So, I guess I speak on an educational basis for me. I don't want to speak against sprinklers systems, but I have some concerns.

Paul Chase, Assistant Fire Marshal, Spokane Valley Fire Department

I speak on behalf of the fire department and personally. Would you require the installation of fire sprinklers in all new homes in Washington State? The families of the following people ask you, no they beg you, to do the right thing: Shirley Jo Hanley, Martha L. Rodnick, Ralph James, Andrew Carter and his wife Zeta Carter, Ray Westenberg, Jeff Hines, four-year old Bradley Wilson, Yong Dek Fong, Qua Nguyen, Marlene Stock, Floyd E. Johnson, Nora F. Hayes, Helen Brandt, Theodore Kay Ray, Katherine E. Lamm, Jimmy G. Wilson, Linda Stannard and her friend Charlene Thompson, Norma Weinreich, Sandra Personet. These are 23 names of people who have died at fires in the Spokane Valley in the last 23 years. They died in homes, trailer homes, retirement homes that did not have fire sprinklers. They made local news, but they did not make national news. Why? Because they died in ones and twos. Nobody noticed.

In the 1990s, Washington State, through a fire code change, started requiring fire sprinklers in hotels, motels, apartments, boarding homes, and schools. We are now reaping the benefit of that courageous decision. It was the right decision. Spokane Valley Fire Department has had seven sprinkler saves in the past nine years that occurred in hotels, apartments, and even one boarding home. Six of the seven started in the kitchen stove. The seventh one was in the boarding home, and it was arson. The sprinklers preserved the evidence. We were able to arrest that individual. Those seven fires didn't make national news, they barely made local news. The arson did but the others didn't.

Nobody noticed because the fire sprinklers did just what they're supposed to do. They saved property and lives. I don't have pictures of all these fires, but let me paint you seven

word pictures. In each case: (1) a single fire sprinkler controlled the fire; (2) no civilians died; (3) no firefighters died; (4) no one got injured; (5) no one even got smoke inhalation. The water spray actually scrubbed the air and made it clean. The fire sprinklers kept the fires cool enough so the people could escape. In each case, the water damage was minimal. Two of the fires didn't even make an insurance claim, because they were under their \$5,000 deductible. I hope these pictures are clear enough for you.

In the past nine years, we've seen fire sprinklers save lives seven times because Washington State did the right thing requiring sprinklers in hotels, motels, boarding homes, and schools. Do the courageous thing, require them in single-family residences.

Eric Lohnes, Building Industry Association of Washington

I'm here to ask the Council to seriously consider the economic climate that we're currently in. It has been said that Washington is vibrant, healthy, and competitively positioned currently. Just to cite some preliminary examples of why this isn't true, I'm going to go into kind of "boots on the ground" sort of data. Washington is one of the highest unemployment insurance rates in the country. Washington has one of the highest workers compensation rates in the country. And currently Boeing is "shopping around" for another state to do business in.

Currently the SBCC has an unprecedented body before it, of proposals moving forward, both in terms of the sheer number of changes that are going through the Council, and the dollar impact of the proposed changes. And this is happening in the context of the nation's biggest downturn since the Great Depression.

What we do here affects the construction industry. The construction industry currently is at the lowest point it's been since World War II. Just to cite some examples, these examples come from the state's Economic and Revenue Forecast Council. They just currently had a revenue and economic update that came out in September. From August 2008 to August 2009, the construction industry lost 37,600 jobs in one year's time. That's 18 percent of the total construction workforce. That's a larger share of the construction workforce than even the United States' economy, which has lost, their construction sector has lost, 15 percent, which has made headline news now for months. Between 2007 and 2010, the state's Chief Economist is forecasting that the construction industry will lose a quarter of total employment. That's 52,600 jobs. Housing permits in Washington have dropped 71 percent from their peak, in 2005, to their projected trough in 2009.

There's other examples. The New York Times recently came out with looking at the top 20 metropolitan statistical areas in the country. And Seattle had the most trouble with construction loans, out of the top 20 metropolitan statistical areas in the country. That's significant. Again, looking at construction, though, we want to state a state preview. Around 40 percent of all non-farm job losses have been in the construction industry, while they only constitute six percent, roughly six percent share of all jobs. So you're seeing a disproportionate impact on the construction industry in terms of job losses. Our state's chief economist recently said our economy has just been through the wringer. And it will take time to recover.

There's a list, a litany of things, of issues, which I'll submit which just talk about how difficult our economic climate is currently. So I ask you in closing to really keep these things in mind and to carefully consider our economic position now as we look at both IRC proposals. And this can easily be applied to energy proposals as well.

Don Pamplin, Pacific NW Regional Manager, National Fire Sprinkler Association

Thank you for the opportunity to speak again to the Council today about the residential fire sprinkler installation costs. I'm a former Fire Chief with 38 years of fire protection experience. I'm speaking to Council today in opposition to R313 and the removal of the fire sprinkler requirement in the International Residential Code. My comments today are a short overview of the more comprehensive package of material I have for each member of Council.

In addition to the two studies that I referenced in Renton last week that were completed by non-profit, highly skilled investigative organizations, there have been many other studies during the past 20 years. All of these former supportive studies have clearly shown that fire sprinklers are not expensive and the average system costs less than two percent of the total costs of a new home. These reports to you detail the inaccuracy of homebuilder positions with documented evidence. One of those included reports is entitled "A Cost Benefit to Society for Having Sprinklers in One and Two Family Dwellings." This analysis, completed in 2005 by Kenneth E. Eizmen, PE, clearly identifies the following: the value of lives saved, the value of injuries prevented, the value of property saved, the value of indirect savings, the value of insurance savings, the value of the construction savings, the value of fire department savings (which is huge), the value of income tax savings, the net cost of sprinkler systems and the cumulative net cost/profit to American homeowners of \$62.8 billion dollars over a 50-year period.

It's also interesting to note that today the National Association of Homebuilders, headquartered in New York, have currently submitted over 1200 code changes involving materials and construction methods for the 2012 International Building Code. In their own printed words they say, "These materials and construction trade outs will offset the cost of putting fire sprinkler systems in our homes." Does fire sprinkling make housing unaffordable? The answer is absolutely no.

Included in the information package for you is a 2007 study done by the Economic Groups of the National Association of Homebuilders. That study is available on the NAHB website. This report identifies all costs in building a 3340 square foot, single-family home in a competitive market place. The total construction cost of the home was \$219,000. The profit on that home was nearly \$51,000. The real estate broker was paid over \$15,000.

This following true story illustrates how tragically wrong the homebuilders have been over the years. Twenty-two years ago, a city in California was trying to get a residential sprinkler ordinance passed. It was opposed by the local homebuilders, one of which was a leading builder of sizable success. That builder repeatedly stated untruths such as, "New homes don't burn" and "Making me put sprinklers in my homes will make them unaffordable." Shortly after completion, a family moved into one of the new homes and that home caught on fire. When the fire department arrived, the whole house was totally involved in flame and smoke. As the fire crews advanced their hose lines across the lawn, the lawn sprinklers were spraying on the grass. There were no fire sprinklers in the home. Two young children died in that home. The fire chief did some research on what the builder had spent in the home, and found out that the lawn sprinklers cost \$6,000, the granite counter tops and Jacuzzi hot tub was another \$9,000. The funeral for the two kids was over \$10,000. If a \$2,200 sprinkler system had been installed, those children would have survived this fire.

A 13D residential sprinkler system today amortized over a 30-year mortgage will cost the homeowner about 37 cents per day. For 37 cents a day, you can protect your family, your

irreplaceable possessions and your home. Thirty seven cents a day is less than one-third the price of a package of chewing gum.

Thank you very much. It's all here. Your question about sprinklers and turning them off in Alaska, I'd like to talk to you about that.

Bruce ran the following scenario by Don and asked for his comments. Bruce's brother owned a two-story home in King County with a tile roof. A fire started as a result of a ceiling fan in one part of the second story and went through the attic space. The house was sprinklered, but all the sprinklers were below the attic space. Because of the tile roof, the whole attic space became engulfed in fire. When the fire was finally extinguished, the house was a total write off due to water damage below. The occupants escaped the fire, for which Bruce is thankful. But he questions the issue of property damage. Don said that a 13D system is a life-safety system. It is not intended to completely extinguish the fire. A 13D system, which was invented back in the late 1970s, was designed to allow people, buy the time for them, to exit the house safely. In most cases, one or two sprinkler heads would activate just directly over the fire and put that fire out. A 13D system is heat-activated. There's a time/temperature curve. Unfortunately in a 13D system, there are no sprinklers required in attics or closets, or in bathrooms under 55 square feet.

Don continued about studies that have been done on the cost per square foot and per sprinkler head. He said a 2,000 square foot home, whether ranch, split level or two-story, takes 20-25 sprinkler heads. At the time the study was done in the late 1990s, the cost per sprinkler head was about \$100. That cost amortized over a 30-year mortgage is where the 37 cent cost-per-day comes from. Another study currently being published reports that more people died in residential fires in the last 92 years than all U.S. military deaths in all wars during that period.

Bruce asked for confirmation that Don said the profit on a \$212,000 home was \$51,000. Don said it was just about \$51,000 on a \$200,000 home, with \$15,000 for real estate. Those costs were furnished in 2007 by the National Association of Home Builders in New York.

Richelle Ridsen, Public Education and Information Officer, Monroe Fire District 3

I did speak in Renton. Today I will be covering something totally different. I'm speaking in opposition to the proposal to remove fire sprinklers from the IRC.

Firstly, I want to say that what I'm going to talk about is not "one size fits all." And I can only speak from my experience. Today I'm not testifying just as a fire service representative, but as a real estate agent who sold real estate in Central Washington from 2004 until just recently, when I made my license temporarily inactive. I've worked as a listing agent, for a land developer, a builder, and have been a buyers' representative in multiple real estate transactions.

I've heard in previous testimony that residential fire sprinklers will price buyers out of a home. I'm here to talk to you about how homes are priced, and what factors are considered when a builder and a real estate agent put a home on the market. When determining a list price for a home, real estate agents will look at their last six months of similar comparable sold homes, and what the selling price was. Then the agent will give this information to the seller or the builder and the list price is set based on those comparable sales, give or take any other features or amenities of the home, or given whether the home is new or older.

The list price has little to do with how much it costs for the builder to build the home, but rather the current market value based on economic factors. The same basic principle applies to new construction. In Central Washington in 2005 and 2006, we saw homes appreciating each year at approximately 15 to 26 percent, sometimes more than that. I watched new homes increase in price each year, with sellers or builders making huge profits. In some cases, prices were set way higher than I recommended, because my sellers wanted to see just how much more of a profit they could make. With this increased demand, sellers continued to raise prices simply because they could.

I remember representing buyers where the builder would refuse to include a refrigerator, grass in the backyard, or other items in the purchase price. It wasn't that they couldn't afford to do so, but rather they didn't want to cut into profits. The problem isn't about making good profits, that's the "American way" in my opinion. Real estate agents, including myself, and builders all made good profits during that time.

Today's economic conditions may be different, but that is its nature. The economy will have its ups and downs. When talking about residential fire sprinklers, we have to remember that we are talking about the long term. It is sad to see the economy where it is today, to watch homes going into foreclosure and builders having a hard time selling their inventory. However, after watching what happened to buyers during a good real estate market as prices sky rocketed, I find it a little amusing that some builders seem to be so concerned about buyers and what they can and cannot afford now, now that they need those buyers and homes aren't selling well.

Builders and other sellers who increase the prices of their homes at a fast rate during a good real estate market are one of the real reasons people are priced out of homes. I would bet that many sellers and builders would do anything to go back two years and accept the offers that they didn't take that were fair offers.

Residential fire sprinklers, at \$1.61 per square foot, won't price most people out of a home. But I think that's for you to decide based on realistic information and estimates. This is how I figured residential fire sprinklers would impact a buyer. If you have a 2,000 square foot home that costs \$300,000, adding sprinklers at \$1.61 per square foot will add approximately \$3,220 to the cost of that home. The bottom line (I'm going to skip over the numbers because that's annoying to me) is that the monthly house payment difference between the house without sprinklers, the \$300,000 house, and the house with sprinklers is a monthly payment difference of \$19.31.

Thank you.

Dave Bruell, WSRB, Property Insurers

On behalf of insurers, fire departments and the insurance consumers of Washington, I'm using insurance rating to encourage efforts that result in improved fire prevention and suppression. I'm speaking today in opposition to the removal of the mandatory sprinkler requirements.

We're similar to the for-profit nationwide organization ISO, and some of you may be familiar with ISO ratings. In Washington, these ratings are performed by my company, the Washington Survey and Rating Bureau. I'd like to provide some information as to how fire sprinklers in homes affect insurance rates and how a decision not to adopt dwelling sprinkler provisions will have an adverse financial impact on communities, their first-responders, and their citizens. Structures with fire sprinkler systems are recognized by the insurance industry as requiring less reliance on fire department suppression tactics and public water systems than

structures without sprinklers. When a community adopts codes requiring fire sprinklers in homes, over time the total number of structures with sprinklers increases, and therefore the amount of credit under our rating systems increases. A better community insurance rating is like a rising tide that lifts all boats. Everyone in the community benefits from a better rating, even if they live in an older home that doesn't have sprinklers. Better insurance ratings result in lower insurance costs.

But perhaps more significantly in Washington and countrywide, our organizations evaluate communities for how effectively they enforce building codes. Our building code enforcement ratings are part of the community rating system used by FEMA and the national flood insurance program to determine how much to charge a community for flood insurance, as well as how much FEMA hazard mitigation funds to make available to a community. FEMA uses these ratings to encourage communities to adopt best practices and national standards, knowing the communities that do so will have less damage and fewer losses than communities that do not. It's often hard to do the right thing, adopting modern building codes and rigorously enforcing them. So FEMA provides a significant financial incentive to communities that do so.

So, why is this important to the debate over dwelling fire sprinklers? Well, the systems that WSRB, ISO and FEMA use penalize communities that do not adopt or that weaken national building code standards. In order to demonstrate the effect of home sprinklers on flood insurance rates, which is probably not intuitively obvious, I've included information from FEMA showing the national flood insurance program classification system. That is on page 2 of the handout there. In the chart, you'll notice that every change in a community's classification results in a five percent change in their flood insurance premium. And I quote from the National Flood Insurance Program: Classification System Manual, Pre-requisite for Class 7:

In addition to having sufficient points, in order to be a Class 7 or better, a community must have received a classification of six or better under the building code effectiveness grading (BCEG) schedule. A building department that adopts the new code, with amendments that remove or weaken the sprinkler requirement for dwellings may be penalized under the BCEG system and may end up being penalized by FEMA and the National Flood Insurance Program. This penalty may also reduce the amount of hazard mitigation funding available to many communities. The communities, the fire departments, and the insurance-buying homeowners of Washington may have millions of dollars riding on this decision.

Angie said she'd like to get a copy of that information about possible liability or reduction in fire mitigation funding to building departments. Dave said he would get it to her.

Bruce cited his personal experience in not receiving a homeowners' insurance deduction for having his residence protected by a fire sprinkler system because his deductions were already maxed by having an alarm system, smoke detectors and other things. He asked if that's typical. Don said that will be determined by the individual insurer of a specific residence. His particular organization offers between eight and 15 percent. For residences with very high value contents, such as a lot of artwork, many insurance companies will insist on a fire sprinkler system and reduce the premium significantly. Don pointed out that standard homeowners policies divide the premium into buyer insurance, liability and other coverages. A five percent deduction for a fire sprinkler system would apply to the buyer insurance portion of the premium, 40-50 percent of the total premium price.

Joe Wizner, Building Official, City of Spokane

I am testifying in support of adopting R313, to move the residential sprinkler requirement to Appendix S.

As a building official, I would strongly advise anyone building a house to strongly considering installing residential sprinklers. The more you look into it, they are a good idea, both for lives and property safety. But as you know, the SBCC TAG identified seven barriers to the voluntary installation of residential sprinklers; education, probably in my mind, being the number one.

I've talked to several people this morning who still weren't aware that this requirement is the subject of this hearing, or a big part of it.

Again, a lack of education may be the biggest problem. I feel that this is as much a policy decision as it is a building code issue. The local stakeholders at this point in time need to be involved in this decision, not just building departments, fire departments, home builders; but our elected officials, because of the magnitude and significance that this code change is going to have.

Brian Minnich, BIAW

This is a fun subject. We could go on all day about this, couldn't we?

Mr. Nogler, I know will be passing around some documents. And there's just a lot of information on this issue.

First of all, the BIAW opposes the fire sprinkler requirement in the 2009 IRC. It's been mentioned earlier, the fire death rate in the United States. There's a chart that documents the decrease in fire deaths from 1977 until 2007, and over that period of time, a population increase of 80 percent. Age of structures has been discussed, and where fires are really happening.

This is a study that occurred in California, by the California Homebuilders Association back in the early 1990s, which documents where fires are occurring. And it shouldn't be any surprise, they're in older homes, and where the fatalities are actually happening. We've talked about today the economic impact. Statistically, you can measure, based on a cost increase on a home how many people are eliminated from being able to afford that house. There are a lot of people, particularly when you're talking about entry-level housing, who have a difficult time purchasing that home. And this chart shows what happens when you have a \$1,000 increase and a \$5,000 increase. And this actually shows the nine metropolitan areas in Washington State. A \$5,000 increase eliminates 23,866 potential homeowners from affording a home.

There's a good piece from Canada on fire experience, smoke alarms, and sprinklers. I encourage you to look at that. I'm sure you'll read it. Again, there's a lot of discussion on costs. I don't know what they build fire sprinklers for in other parts of the country. This \$1.61 estimate just doesn't hold up. As you remember the SBCC had a RFSS TAG that met for months last year. You guys, the Council members, you endorsed the report that was submitted to the Legislature. The documented costs within that were \$1.50 to \$8.50. Obviously \$1.50 is low and \$8.50 is exceptionally high. But these were documented costs that were in that report.

Also I provided you a copy of some actual analyses, these are actual projects, actual homes. Here's one for the City of Redmond, where it lists the cost of fire sprinkler systems. The range that I have here, this is the final cost to the homeowner: \$11,000 to \$15,000.

One of the problems we have in this state, and one thing again I direct you to look at, and it's still on the Council's website, is the Voluntary Private Residential Fire Sprinkler System TAG report that this Council completed last year documents a lot of these costs, a lot of these barriers. One of the things that's not taken into consideration is the number of jurisdictions in this state have high water hookup charges. Now you can range from a few hundred dollars for that extra meter to thousands of dollars. So that's a huge impact. When you apply this statewide, that's what you'll be doing to housing, okay? I will submit all of this for the record and I would also like to submit these cards from BIAW members around the state who would like their opinion known on this issue as well.

Dave Baker, Spokane Home Builders Association and BIAW, past president

I have served on a variety of committees and councils serving the citizens of Spokane County and the citizens of the State of Washington, including six years on the other side of this podium area. So I'm feeling your pain. I'm hoping you're not going to doze off, because I know that there are times.

I come here today to speak in favor of removal of the fire sprinkler requirements from the IRC. The debate over the need for fire sprinklers has gone on since before I was in the industry. The use of smoke detectors providing early warning has expanded since early in the days that I was in the business. The first smoke detectors came on line early when we were first starting and have continued to expand in the adoption of the IRC, which happened in the early 2000s.

As a result of the adoption of the International set of codes, multifamily residential came under the International Building Code and were required to have fire sprinklers, which part of that time they were not required. And I may be making just a lot of history here, but I had to kind of review some of this in my own mind because I put aside all of the books and papers that you all have been getting since I left. What have been the results of these changes? They've been positive. You've heard that there's been some significant reduction in fire deaths, significant savings in lives of people in homes that were built with these features in them.

So I kind of wanted to think about what are the consequences of removing this sprinkler provision from the IRC. Sprinklers will not be mandated in all residential structures throughout the State of Washington through the state-adopted code. But local jurisdictions will still have the opportunity to come before this Council, make their case, and adopt them within their local jurisdiction to have a fire sprinkler ordinance for single-family, townhouse, duplex, under the International Residential Code.

That battle went on when I was here. That's why you get the big bucks every month, right? For showing up at the meetings. And when I look at the consequences of adopting this section and mandating it, you've heard all of the consequences of that, increased cost to the consumer (they won't have the option of building without the fire sprinkler systems) and certain rural jurisdictions will have severe consequences.

Sorry, my time's up, I'd be happy to entertain any questions. Thank you, it's nice to see a few familiar faces. And I noticed that most of the normal suspects were in the crowd.

Jim Breitenbach, Craftsman Construction, Residential Design/Build/Remodel Specialist

I speak in opposition to mandating the sprinkler requirements in IRC 313.

The reason has to do with the slippery slope of what the future holds. If this is adopted as a mandatory requirement, history proves that eventually it will become an issue for retrofitting installation in existing homes, which ultimately should be the goal of this if you're going to be intellectually honest. Studies, time and again, even the fire department specialists will report, that the fires are not happening in new homes, they're happening in older homes; they're happening in mobile homes. This is a very slippery slope we're treading upon at this point. If we mandate the sprinkler systems now, I do see that in my industry the retrofit situation is going to become a reality in very short order, if not in the next code cycle, the one following.

The challenges I see is adapting to existing systems, to existing three-quarter-inch water taps to existing systems. Which closet are we going to have to forego to put in that pump system?

I caution you that dollars and cents have to be considered into the reality of this. What is a life worth? That is an intellectual argument that we can go back and forth with, but we also have to come down to what is realistically affordable in the market regardless of which price point you can afford.

Paul O'Connor, Fire Sprinkler Advisory Board of Puget Sound

I appreciate the opportunity to add some comments to the public record during this public hearing process.

I think one of the things I'd like to speak very briefly about first is that Representative Short has left the meeting here already. And I thought she very thoughtfully presented the issue, with respect to rural installations and the supposed lack of water. I'm here to tell you, as I think you might have heard others say today, that there are options available to a sprinkler contractor to address that very problem.

True, many wells that are being drilled for properties today don't always communicate what's going on between the domestic requirements of the structure and whether or not sprinklers are going to be required in that structure. And that's a huge difference. At that point in time, we are into the design/build processes, as to who has the ultimate responsibility to make sure that information is being communicated between the parties. When it is done correctly and the contractors, all of the contractors, are talking and the homebuilder is involved, the options are available; certainly the tank and the pump which you heard described earlier.

In talking to one of our contractors in the past week or two, he indicated to me that there's also now a variable speed well pump that's in the marketplace. And that serves very well to go ahead and address the problem of the inability of a normal well system to produce the volume and pressure to the system. So that's one possible solution.

In addition to the tank and pump, there's also a pressure arrangement that can be utilized in that particular situation. There is no reason that rural occupancies are precluded from installing sprinkler systems. I think a cost example was provided that speaks to the option of whether you have to upsize the pump, assuming that the well and the water are at a usable depth and availability depending on what you're drilling into. That tank and pump combination can be done very economically. Not really sure what the cost impact is of the variable speed unit, but to me it's a very positive development in trying to address this problem that many of our contractors certainly face.

I'm not really sure what the answer is, as it relates to the pump tank. I think the basic evaluation has to be done purely on cost. If it's going to cost you \$5,000 to go ahead and upsize your pump head, as opposed to putting in a \$3,500 tank pump combination, which come pre-plumbed, pre-wired for installation, then I don't think it's a very difficult decision to make. It's just one of those items that our contractors...they are professionals, they do understand their business.

We're a very regulated industry by the State Fire Marshal's Office. And we have to do the right thing all the time.

Sue Lani Madsen, Madsen Mitchell Evenson & Conrad

I am speaking on behalf of the AIA Washington Council, to give you our position on R313. We do support moving the fire sprinklers for residential construction to an appendix, to make that a local option. AIA Washington Council most often supports consistency and conforming in codes, just for simplicity of enforcement and for design. However, in this case, we do recognize that there are some significant local conditions that can affect whether a fire sprinkler system is a good idea, or even a feasible idea. Our concerns have been expressed by many here. One is simply that water availability and the ability of water purveyors and their systems, or wells to support systems, varies greatly across the state. As one of my colleagues said, on the islands of the San Juans, you cannot get the water. So there are issues that are very local, making it very logical for this to be put in an appendix that could be adopted locally.

There are other variables that we discussed in our conference call. One is the variable in the fire suppression capabilities and expectations of each community. I speak also, and was asked to speak, I have been a fire department volunteer for 20 years. I've responded to house fires. We've saved most of them. Some of them we've just saved the foundation. Our fire district is never going to be better than, I think we're just a community, rating eight. I mean we're not going to be able to get any better. It doesn't matter how many fire sprinkler systems are in houses. It is not an issue of cost savings for the fire department.

Again, that is a very local variable. Some areas can make a difference. In some areas, it simply will not be a difference. It won't be a community value, and there won't be a financial value in it to the community.

User maintenance concerns are a concern for us as architects. We know how our people interact with buildings. I already spoke to that a little bit, and the economic resources to install those systems, housing affordability and housing prices. And we have a large number of our members who are very concerned about housing affordability.

I'll close with one brief explanation. I'm in Representative Short's district, in a rural area of Northeast Washington. A little over 10 years ago, my husband and I went to build a house. We had bought property that had a single-wide trailer heated by a bad wood stove. We were living there for several years while we got the resources together to build the house, a very modest, 1,800 square foot house. We could not afford a fire sprinkler system. We looked at them. We know how long it takes us to get to the fire station and come back with a truck. So we were motivated. But we couldn't afford it. We could not get a high enough appraisal on the house, on the value of the property, in a rural area, where there are not comparables, where property is not turning over, in order to be able to work that into the mortgage and find the resources to do that. Our alternative would have been to stay in an unsafe structure longer, in

order to get the resources, or simply not to be able to replace it at all. That affordability does make a difference to individuals making those decisions, and that is one of the local variables.

If you are in a market where there are not comparables, where there's not a hot housing market, where there's not even much turnover in real estate, you may find it very difficult as a homeowner or someone who wants to build a house, or improve a house, to find the value there. To be able to justify the loan in the first place, no matter what kind of a mortgage payment you can afford, to actually be able to afford that first cost.

Again, there just are a number of local variables that make it very sensible for the code council to support R313 and make residential sprinkler codes a locally adopted option.

Lisa Jones, City of Spokane Fire Marshal

It is now time to talk about the elephant in the living room, literally. All fire service folks, construction, design folks and other professionals from several other fields as you've heard from today, the elephant being where we consistently find fire deaths throughout the country, and that's in our homes. Although technology has become more and more affordable, making sprinkler technology more and more affordable over the years, fire sprinklers and other life safety technology does not come without its share of challenges, water availability and service, like we just heard Sue Lani talk about, the mechanics of installation alone, the operation and the operator education, just to name a few. Change comes slowly, and our understanding comes even more slowly. But like the basic provisions, accommodating for plumbing gas safety, fuel gas safety, and several other building/construction safety features, the details get worked out and safety is provided for.

The public relies on all of us, building/construction professionals, fire service professionals, architects, community leaders, council members to provide for the safety of people and buildings, including buildings where you live, where I live, and where they live. As someone said earlier, I think it was Sue Lani Madsen actually, we're just talking about basic protection here for safety, health and welfare. This section of the code focuses on the people, where they live and where they die, their behaviors, their expectations and our obligations to provide for basic safety for the people.

There are basic provisions in the code, like I already mentioned, for natural gas safety, cooking, vertical smoke safety like we talked about today as well, plumbing gases, etc. In 2008, fires caused more than \$15.5 billion in direct property loss. Fires in residential properties caused over half of that amount. What greater way to go and what better way to preserve our valuable resources.

We require fire sprinklers in many commercial buildings. Why would we provide any less safety, it just doesn't make any sense, for people in their homes? Where do people feel the most safe? In their homes, absolutely. That's where they feel the safest, yet it is where most people are vulnerable. It's where they're sleeping. It's where they're off guard, where they're unprepared to fight fire themselves certainly.

It's past time to talk about the elephant in the living room. It's time to put all the talk and statistics into action. We at the Spokane Fire Department are asking you to help make our homes safe. We can do some things for existing buildings, although retroactive actions or remedies are limited in practice. We have the opportunity to do something here and now, and great wisdom and for the preservation of housing stock and all the saved lives who would otherwise be in danger of losing their lives to fire and toxic smoke.

So I ask you as a leadership body today to take that step as leaders and keep fire sprinklers in the residential code. Keep the fire sprinkler requirements in the body of the code as opposed to putting it into the appendix. That provides for fewer inconsistencies, from jurisdiction to jurisdiction. It shouldn't be about profit and political pressure, it should be about wisdom and preservation of life.

I appreciate your time and effort on this very challenging topic.

Neil Johnson, Spokane Resident

I have a firm that helps people buy and sell houses. We've probably assisted people over the past 10 years to sell about 10,000 houses. And I'm just here observing and watching what's going on. And I fought for the American flag a while back, and the decisions that we make. We make them as a personal interest, because we've been given that opportunity because that flag goes up and down every now and then when someone loses a life.

A lot of people here are vested in what this decision is. But my question is why isn't the consumer sitting out here? How come they're not out here walking around with signs, saying give us our sprinklers. Or don't give us our fire sprinklers.

He had a fire sprinkler put in probably because he wouldn't get a building permit. I doubt it was a decision he chose to make willingly. And that's the gist of my whole conversation with you guys, that out of 15,000 or 10,000 houses, not one person said, "Hey, I want to buy a house with a fire sprinkler system."

We even helped people build houses, and we give them that opportunity, and they don't choose that. I'm not saying they're bad. I'm just saying that realistically, I'm not sure if the consumer is really ready for something like this.

And that American flag that we're all working for, is based on decisions. Right, if we were required to put ejection seats in Cessnas, you'd probably have a whole bunch of people sitting out here that build ejection seats, and they'd tell you they're really safe.

But realistically, in the big picture, is that really where we're going? This is about housing and affordability and people's free choices.

Travis Allen, Assistant Fire Marshal City of Bellevue, past president Society of Fire Protection Engineers (SFPE)

I hold my professional engineering license in fire protection engineering. I'm speaking to the Council in support of retaining the fire sprinkler requirement in the International Residential Code. I bring the support of the City of Bellevue's Fire Chief and Building Official, and the board of the Pacific Northwest Chapter of SFPE.

As a professional engineer I want to be sure that your deliberations are based on scientific facts, and not the heated rhetoric. I attended the Renton hearings and heard sprinkler costs as high as \$30,000 for installing a system in a single-family home. I also heard that modern homes were referred to as having fire protection built in, without the presence of sprinkler protection. These are just not true and accurate assertions.

Regarding sprinkler installation costs, you've had sprinkler contractors/NFPA testify and you have been presented with several studies. The Marshall Swift organization is one of the most recognized authorities in commercial and residential replacement costs. They are relied upon by real estate professionals, government agencies, corporations and courts of law. I

handed out an excerpt from their August 2008 publication listing a maximum of \$3.65 per square foot for a typical residential sprinkler system. It's important to note as well that that \$3.65 per square foot includes the contractor's overhead and profit and architects' fees.

Regarding the combustibility of homes, this is another question that can scientifically be answered. The contents of the home are the primary source of fuel. Fire is an indiscriminate destroyer. The National Research Council of Canada completed an extended survey of combustible contents in 598 Canadian residential living rooms in the year 2004. The average fire load density for the main floor living room was 31,700 Btu per square foot. For a 12 foot by 15 foot living room, that is the same amount of fuel energy as burning 48 gallons of gasoline. And that's just the living room by itself, no other rooms involved.

Please understand that the peak heat release rate for burning home furnishings has been measured to be reached in less than five minutes from point of ignition. The only fire protection that is going to be able to respond that quickly is an automatic sprinkler system.

Finally, this change will not happen overnight. We must act now to begin reversing the trend of people being killed in their own home. The national process of code adoption has clearly spoken that the time is now to begin effecting this life-saving change. We must start now to begin to create a fire safe home environment, for not only our children but our children's children.

You have the opportunity to retain this life saving code provision. And I urge you not to remove these.

Mary Kate McGee, Washington Association of Building Officials

I apologize for missing my name called earlier. And I'll be brief, and if I repeat anything that was said at the other meeting. I'm still representing WABO. I'm also a building official in this area.

I just want to say that over the course of time the Council has made a valiant effort to hear this issue many, many times in terms of local amendments. And every time, it's been kind of a sticky problem in trying to evaluate special local conditions. I think the reason that it's been like that is that it is very similar to the issue about access roads. And access roads were made a local decision many years ago for a very good reason. It's because it depends on local conditions. And it's very difficult for a body of this nature to make those kinds of decisions for the locals.

I think that in spite of best efforts, there are stakeholders, as one other testifier said, that are underrepresented in this process, which can best be served through the local process. That is the public in our communities.

We've had other testimony that talks about affordability being an issue; that changes depending on what market you're in.

And so, I would urge you to accept the possibility of having the sprinkler requirements put in a pre-approved appendix that could be adopted by the local jurisdiction. That would involve not only their local elected officials, but also their fire service, their builders and their community.

And I think that it really is not an issue of people clamoring for it. I think that there is a leadership component. But I think it can be handled best at the local level.

Phil Fulier, Spokane Homebuilder

The way I view all the products I put into my homes is that it's for the end-use. It has to be good for them. At the end of the day, all the homes that we build, they have to be user-friendly.

So earlier, it was discussed that the maintenance and the repairs of such a system would fall back on the homeowner. And I just want to draw the attention to simple things that I try to educate my homeowners on (they're very basic), on maintenance of a home, like changing their furnace filter, how to operate their thermostat, keeping their gutters and downspouts cleaned out, sealing their concrete. Changing the battery in their smoke detector, believe it or not, is something people don't know how to do, which totally amazes me. But they forget or it's a continuing educational process.

So if we impose this on them, again it goes back to homeowners dismantling things, because they don't know how to operate it. It goes back to they're responsible to maintain it. Many of them don't want to do that. If many of them can't do the simple things, we're relying on them to take care of a major safety feature in the home.

The other thing I just want to draw attention to is I participate in the Energy Star program. I participate in the Built Green program. I educate my homeowners on those two programs. I offer them as a choice, they can take what part of it they want, and apply it to their home to whatever level they want. But again it is a choice for them.

And I agree with what the gentleman earlier said. I was sitting back there as he said it, thinking, "Why do we not have more consumers in this room giving their input?" Because, at the end of it, the choice has to fit the consumers personal and financial goals. So that's how I feel about that.

International Mechanical Code

No public testimony was received.

International Fire Code

Dave Kokot, Spokane Fire Department

I'm going to speak in support of the adoption of Chapter 46 of the International Fire Code.

One of the things that has been enforced for the fire code, that becomes a challenge for us, is trying to pick out pieces of the code that apply to existing buildings. And we see that the creation of this chapter to be able to put all the proper parts or pieces to allow us to address existing buildings.

This is a very positive thing. It makes things a lot easier for us to be able to enforce and to be able to demonstrate to people as to what the requirements are and why those requirements are coming from.

And so I positively support the adoption of Chapter 46.

Uniform Plumbing Code

Pete Crow, International Association of Plumbing and Mechanical Officials (IAPMO).

Regarding 402.3.1, non-water urinals, we support the language that was published in the UPC 2009 edition. I understand there was a comment to delete the requirement for rough-in of water supply that was rejected by the Plumbing TAG for a good reason. Non-water urinals can save a lot of water. It's good for conservation. But there are some problems with maintenance of these systems. And building owners choose to retrofit if they can't keep up with the maintenance. So, roughing in the water in that area of the bathroom is a good idea. For a small amount of money, you can have the water supply there. If they choose to change back to the water-using urinals in the future, if that water's not roughed in there, it is going to be a great expense to the building owner to run the water over to that side of the bathroom and maybe have to resize all of the pipes that they've already installed.

Regarding 407.5, we oppose changing this language. It's the intent of the plumbing code that the clearances be the way they were approved. It's just as easy to remove the conflict in the codes by amending the IRC. Shower compartments we also oppose for the same reason. It's just as easy to amend the IRC. Every time you reduce the size of the compartment of a shower, you also reduce the user's ability to avoid hot or scalding water, even though there are devices installed to help prevent those things.

Regarding 908.2.1, wet venting, we support the original language and ask that the deleted language be put back in, the language that says "the water closet fixture drain or trap arm connection to the wet vent shall be downstream of any fixture drain or trap arm connection." Now the Plumbing TAG did discuss this item, but there were very few people in attendance at that particular meeting. And I think if they would have thought about it a little longer, they wouldn't have recommended striking that language, the reason being, a wet venting system, although it's been approved by plumbing engineers who have studied this problem for many years, does not have a perfect system if you put the water closet ahead of the other fixtures. A wet venting system is supposed to be washed with clear or gray water, not black water. If you put the water closet ahead of the other fixtures, you have a possibility of clogging the vent system with either fecal matter or toilet paper, and that won't allow your wet vent system to work properly.

Jon asked if there's a referenced study about using gray water instead of black, versus a simple engineering standard. Pete said it's an engineering opinion. He heard about it at a recent conference where they had a presentation on wet venting.

Jon asked if enough failures occurred in the horizontal wet venting to cause analysis to be done. Pete said there were apparently enough problems to warrant changes between the 2006 and 2009 codes. Jon then asked for confirmation that the code change proposal deletes the change between code editions that corrected a problem. Pete agreed.

Tien asked for statistics about the potential gray water issue in waterless urinals. Pete said odor in waterless urinals may be a problem when the trap seal fails due to lack or improper

Tien said he believes gray water reuse is a great idea. Pete restated that the recommended language included the rough-in requirement, for a very good reason. He asked if Tien would

rather pay \$200 to put the bathroom water in now or \$5,000 to tear up walls and replace all the piping. Tien asked if Pete has statistics to show it's currently being done. Pete answered that he doesn't have statistics, but he knows it's a problem.

Jon asked what the cost is to replace the trap seal, to put the unit back to its original condition. Pete said he doesn't have that information with him.

International Ventilation and Indoor Air Quality Code

No public testimony was received.

Historic Building Code

No public testimony was received.

STAFF REPORT

Chairman Devries commented that the Council thanks everyone who attended the two public hearings.

Peter noted that the Council will hold a work session on October 29 at the Renton Holiday Inn Select. The meeting will begin at 10 a.m., with a full day of discussion. Plane reservations should be made accordingly, to allow Council members to have the time to work through the issues and accomplish their work goals.

Tim said the written testimony that was handed out today will be available to Council members as quickly as possible. They will also process the testimony from the meetings and provide it to members for their review.

Tim Nogler reported that the JARRC (legislative) committee has requested additional information about the economic impact of the energy code. Tim met with the committee earlier in the month. Our attorney is gathering information to inform the process.

Vice Chair Napier requested information about the federal preemption issue. He asked whether staff could obtain an AG opinion prior to the work session. Tim indicated that would be possible and will follow-up.

Ex-officio Council member Bruce Dammeier asked that if staff prepares the economic analysis, it be done in a prioritized manner, in order of the most critical changes. Tim noted that for final rulemaking, we will be doing as much as possible on individual measures.

ADJOURNMENT

Lacking further business, Chairman DeVries adjourned the meeting at 12:50 p.m.