



STATE OF WASHINGTON
DEPARTMENT OF ENTERPRISE SERVICES
1500 Jefferson, Olympia, WA 98504

Washington State Building Code Council

Improving the built environment by promoting health, safety and welfare

SUMMARY WORK SESSION MEETING MINUTES

LOCATION: Department of Enterprise Services, Presentation Room
Olympia, Washington

MEETING DATE: October 19, 2012

Agenda Items	Committee Actions/Discussion
1. Welcome and Introductions	Meeting called to order at 10:00 a.m. <u>Members in Attendance:</u> Ray Allshouse, Council Chair; Angie Homola, Vice Chair; Rod Bault; Rep. Vincent Buys; John Chelminiak; David DeWitte; Duane Jonlin; Dave Kokot; Mark Kulaas; Jerry Mueller; Dave Peden; Jeff Peterson; Steve Simpson; Eric Vander Mey, <u>Staff In Attendance:</u> Tim Nogler, Managing Director; Krista Braaksma; Joanne McCaughan; Peggy Bryden <u>Visitors Present:</u> Tom Young, Jan Rohila, Gary Nordeen, Jeanette McKague, Chuck Murray, Maureen Traxler, Kraig Stevenson, Brandon Housekeeper
2. Review and Approve Agenda	Agenda was approved as modified adding Green Building TAG Report as 3.5, there will be no Executive Session as listed and under Other Business a Legislative Report will be given.
3. Public Comment on Items not on the Agenda	None was offered.
3.5 Green Building TAG Report	Steve Simpson reported the Green Building TAG met on October 15 where a Life Cycle Analysis representative, Kate Simeon, gave a report. Also discussed was a meeting schedule which we would like the Council to approve and give feedback. Tim Nogler pointed out who was represented on the TAG. Duane Jonlin mentioned the Council could decide not to create a new code. There also could be amendments added to the existing codes. Angie Homola feels this is a good schedule and would like to hear again from the TAG after the January 2013 meeting. Dave Peden asked Steve if there were members on the TAG from the east side of the state. He

	<p>commented there was one member on the list, but they had not participated to date. Eric Vander Mey asked if we had staff enough to support the TAG. Tim said it is an additional task and that is why the meetings are scheduled when they are.</p>
<p style="text-align: center;">Motion</p>	<p>Angie Homola moved the Council accept the Green Building Code TAG Schedule as presented. Jerry Mueller seconded the motion. Motion carried.</p>
<p>4. Report from MVE Committee</p>	<p>Eric Vander Mey reported the MVE Committee met on October 18 to review the RCW language, the commercial cost benefit analysis done by NEEA, and the residential cost benefit analysis. Also discussed was the process of the Energy Code and the Legislative Report that is coming due. Tim Nogler added the non-residential Energy Code new measures must be cost effective to building owners and tenants. The law does not require a cost benefit analysis. The Council voluntarily submitted this cost benefit analysis. We have had some strong feedback regarding our process from “all sides.” We need to determine what is cost effective to the Council. Tim quoted the APA on what cost effectiveness means to clarify this for Council members. Mark Kulaas had a question about cost effectiveness according to regions and stated how much lower the cost of electricity is in his region than other parts of the state. Eric quoted from the RCW and stated we can consider the regional benefits, but we must make statewide decisions. Rep. Vincent Buys feels from the Legislative perspective that we need to determine the cost effectiveness for all the other codes not just the energy code. If we make these rules mandatory and a business can’t afford it then we’ve closed the business down. Eric pointed out that although we are to achieve the 70% reduction, we are to inform the Legislature if this creates undue hardship and there needs to be a balance. Mark feels the Legislature needs to hear from the regions he supports.</p> <p>Kim Drury of NW Energy Coalition made comments pointing out the statutory language refers to the cost to the owners and the tenants, but when the building is being built those two interests are not necessarily aligned. The person who is building the building may be concerned with the cost of building whereas the tenant will be concerned about how to pay the energy bill after the building is completed. Also simple payback for</p>

commercial maybe two to five years, but a building will be in existence for 50-100 years. It costs so much less to build it right the first time than over the long term. Ultimately the costs to upgrade the building is borne by the all the utility users. **Jeff Peterson** said the actual service life of a building is typically 25-50 years.

David Cohen, NW Energy Efficiency Alliance commented that NEEA has created most if not all of the analyses that have been done and they have been the basis for Council's decisions on the Energy Code over the last ten years. A comment was made that the Council has depended on one outfit supplying these analyses and it is a real problem from a public credibility perspective. David requests the Council consider the resources required. It is not enough when someone is submitting a proposal asking for a determination of costs, because somebody neutral needs to vet that. He can submit a cost that is 100 times the industry standard or a 20th of the industry standard. If you just accept that into the process you are not building public credibility. He applauds the Council for this discussion on cost effectiveness and he hopes it will continue. However, there is a parallel track about the resources needed for the Council itself to run a process that has public credibility.

Kraig Stevenson, with ICC commented. He would like the Council to make their decisions as those provisions in the statute guide. He thinks there is sufficient guidance in there to help the Council make a decision. He is encouraging the Council to review the differences between Section 19.27A.025 and 19.27A.045 as this might help the Council make the decisions needed in cost feasibility.

Eric Vander Mey feels this report should indicate something about the process and looking forward the Council should have a section on how they are going to look at future codes and evaluate the process. Maybe have the Energy Code be different than the other model codes.

Eric continued stating the MVE Committee reviewed the Commercial Cost and Benefit Analysis Draft that was funded and done by NEEA based on work from Ecotope and NEEA staff. There was discussion on the methodologies used to do this report based on the Dept. of Commerce's recommendation. The take away is this

	<p>report is very different than analyzing individual measures. This is trying to quantify the entire commercial building stock which will be built. Is it an energy savings and is it cost effective? The committee recommendation was that additional information be gathered regarding multi-family residential occupancies that are not addressed by the report. Further review of the cost benefit analysis was asked for as well prior to approving the report. Therefore another MVE meeting is scheduled for November 8 to review these items.</p> <p>Eric then stated the residential side of this report was recommended for approval by the Council today as a cost effective code. Tim suggested the Council review the methodology in the commercial report. The methodology was reviewed with slides of the report. Dave DeWitte commented on the internal rate of return calculation. Jeff Peterson commented on the assumption for loan rates along with other members of the Council. Eric stated this is what Commerce has recommended to the Council. Chuck Murray of Commerce reported on the methodology used in the report. He feels it is appropriate to redo the analysis. Tim said the Committee hoped to have this new information by November 2, thus allowing stakeholders to review the materials prior to the Committee meeting on November 8.</p>
<p>5. Work Session – Review Proposed Rules Adopting 2012 Codes including Testimony</p> <p style="text-align: center;">Plumbing Code</p>	<p>Tim Nogler reported the intent of the Work Session is to look at the testimony received on the proposed rules. The goal would then be to identify what areas will need to be amended based on this testimony. Any amendments will have to be put forward by the TAG chair for that particular code. These motions would then be available prior to the final vote, which is scheduled for November 9. Should all these amendments not be completed on November 9 there is another meeting scheduled for November 30 to complete the process. Anything not completed on November 30 will have to go into the next code cycle. Tim recommends beginning with the Plumbing code.</p> <p>Steve Simpson reported on the permit language from Chapter 16 to Chapter 17 as suggested by Dave Cantrell of the Seattle/King County Public Health, which requires a motion on its own to be given on November 9. John Chelminiak asks TAG chair for recommendation. Steve said he recommends this change as it helps the building</p>

	<p>departments regulate this.</p> <p>Steve stated the balance of the amendments were never brought up in a public hearing or discussed at the TAG level and therefore should go through the regular process. Dave Kokot asked if any of these items were life safety issues or required emergency ruling. Steve said if these items were done wrong there would be an issue, but there are already safeties in the code to prevent that. Tim commented these adjustments could be done off cycle rather than wait for the next three year cycle.</p>
<p>Building Code</p>	<p>Tim Nogler reported Seattle is good to identify inconsistencies and they are primarily editorial. Woodstove testimony was reviewed. He feels it would be better to refer to the Dept. of Ecology statute as an appropriate amendment.</p> <p>Tim referred to the summary sheet and the editorial items listed: Shaft pressurization consistent language with IFC; Room size missed statement in the WAC; Special Locking Devices new language in the 2012 IBC; Licensed Care, sections to read the same; Corridors, language correction; Exit access definitions.</p> <p>With regard to Fire Separation Tables, the TAG recommended disapproval, and the Council agreed. This will have to be resubmitted.</p> <p>Concrete standard may not have a complete proposal. There will be a report on this after the Portland hearings.</p> <p>Drinking fountain language is purely editorial. Tim recommends not making this editorial change.</p> <p>Dave Cantrell's testimony on toilet spacing was reviewed to make it consistent with other codes.</p> <p>Kraig Stevenson with ICC provided information on the different codes. The Residential Code Committee is tasked with looking at one and two family dwellings and townhouses and balancing issues of affordability along with what is needed. In a home where you put a second bathroom it makes it more efficient. In a commercial application that committee says no they want the wider distance. People quite often want the Residential Code to be exactly like the Building Code, but then it takes it outside of its stated purpose to a degree.</p> <p>Tim referred to testimony on high rise buildings from WABO. This provision is in the base code that was intentionally filed so the Council could make a decision since it was identified as having a disproportionate impact as it requires two fire service access elevators instead of one. Duane Jonlin feels this is a lot of square footage and electronics cost for buildings that rarely catch on fire. Tim said he would provide additional information on this</p>

	<p>to the Council for their review prior to a decision. Dave Kokot is concerned about Council making a change on something that has already gone through the process. Dave Peden asked if this could be an emergency rule.</p> <p>Tim then brought up adult family homes which in the proposed rule amendments on the residential side of the base code since they are treated as single family homes. The amendment is intended to address the grab bar layout in the adult family home. The modification is to accommodate a single family setting. The change is to correlate with either the IRC or the IBC. Discussion was held among the Council on this.</p>
<p style="text-align: center;">Fire Code</p>	<p>Joanne McCaughan reported on the Fire Code. Testimony was received on Section 202 under Definitions and this doesn't need to be added since they will already be in the new WAC. There was an editorial correction with stove hoods. There also was quite a bit of testimony previously regarding CO alarms. There were other editorial items that need to be cleaned up. Egress markings also had quite a bit of testimony. There are two options with this issue. There was some discussion by the Council on these options. Dave Kokot stated the TAG recommended following Option1 on this issue.</p>
<p style="text-align: center;">Mechanical Code</p>	<p>Eric Vander Mey reported on the Mechanical Code stating there was an editorial change on Section 403.8.2 along with some editorial changes from the City of Seattle to clean up language in 403.8.5.2 which are recommended. Larry Andrews provided testimony that we shouldn't move forward with the IMC, which is not recommended by the TAG. He also recommended changing Chapter 10. Discussion was held on this matter by the Council where it was decided to work with staff to reword the exception mentioned along with the item in Chapter 20.</p>
<p style="text-align: center;">Energy Code</p>	<p>Duane Jonlin reported on the Energy Code as the TAG chair. The first things he wanted to discuss were mass walls, metering, commercial air barrier testing, and residential air barrier testing. It appears there was an error in the mass wall U-values. Metal and wood industries feel there shouldn't be a special exemption for masonry walls. Duane feels now is a good time to strike this exemption and go with Option 1. Discussion was held on this by Council members.</p> <p>Tom Young offered some clarification. He referred to the table distributed saying there were more lines than needed. Current U-value requirement is .15 for mass walls. We see then the original proposal that was being defended very strongly. He feels that proposal is incorrect. You have two provisions. You have a U-value criteria then you have an exception that allows under certain conditions</p>

a single Wythe wall. Those conditions have to do with how much grout is in the wall and what type of building you are putting that in. So it is limited. It doesn't work if you are not in that building type and it doesn't work if you can't comply with the grout percentages. The comment that all these lines below apply to the exception is untrue. The exception is based on a maximum grouting of 32" on center. It doesn't apply to 16 and it doesn't apply to solid grout. Essentially what you are seeing is the U-value of .24, the second line from the bottom, is the 32" on center scenario. You see a difference between the WSEC value of .24 and the other value of .379. Essentially where that difference comes from is when we originally set up the mass wall credits, where that U-value .24 comes from is thermal conductivity testing that was done and submitted and was recognized. It is based on tests of local material. When you use national data it is going back to the 30,000 ft. view. It is conservative. It is broad based. If you look at specific data and products, which we have done in terms of the U-value and in terms of our position on cost effectiveness. We are saying we are looking at specific systems and specific building types in this climate zone in terms of the assessment of cost effectiveness. The difference between those values is national values versus local materials and actual tests of local materials. Essentially if you are at 32" on center you are at the second bar from the bottom, the .24 based on our local materials, not some of the numbers above there. This is all for the prescriptive approach. These numbers do not relate to trading off or to simulation.

Duane said the tested U-values Tom referred to must refer to light weight CMU. Duane asked what he did with medium weight. **Tom** replied the typical CMU is not that heavy. It varies depending upon where you go in the state. The values in the Tech Bulletin talks about testing local materials because there are differences. There are differences because the aggregates vary.

Tom continued to say the more specific your analysis is and the more local the more accurate it can be. He has the most recent values for the code in California which is .69 for concrete masonry walls. He takes exception to a couple of comments made. Option 1 would be harmful to his industry. This statement has come from various sources. Many times where the owner wants a hard surface or a better fire rated surface not only is he paying more money to insulate, but he is losing the benefits of the masonry that he has to begin with. The final thought is you are not saving that much energy. Your air conditioning load can go up quite frequently and your overall energy use is pretty insignificant in terms of the savings. Therefore the cost effectiveness to building

owners is affected. Regarding the Option 2 comment made; it is the code today so he doesn't know why it isn't code compliant. It applies to the prescriptive table, it doesn't have anything to do with trading off. If you trade off you go back to .15. It is certainly not an incomplete proposal. If you want to reword it we would entertain that.

Duane asked about the difference between concrete masonry here and other places in the country. **Tom** said rather than getting hung up on those numbers, which are substantiated, the issue is are we really saving any energy. We were looking at paybacks of 100s of years. Say we were off a magnitude of 20% it's still not anywhere near the paybacks that we were talking about today in terms of simple paybacks and what is reasonable. The bottom line is does this result in significant energy savings and is it cost effective to the building owner. He feels the answer is no; not in this climate, not with the building types that we have limited this to. **Duane** said Tom limited this to his entire market for exterior walls. **Tom** responded this info came from Oregon. They were modifying the IECC and going through the same process as this group is and it seemed like a place to start. This language is directly from Oregon code and those were the building types they felt made sense to accept. They are the building types where the durable surface and some of the other building things talked about are important.

Eric commented if Council did go with Option 2 it would have to be limited to what is now Climate Zone 1. More discussion was held with the Council regarding the accuracy of the numbers and data.

Duane then summarized the proposed metering requirements. For a 20,000 sq. ft. building or bigger a metering system is needed showing how much energy is being used. Testimony had been received from metering suppliers. Testimony has also been received from others regarding the large expense of this proposal.

Jeanette McKague with Washington Realtors and partner with AWB made the following comments. She feels metering is one area they asked not to move forward with the code this year because it wasn't in the 2012 IECC. It was discussed at the national level and will be looked at it again for 2015. Their request is to wait for 2015. If it is done now, please do it as an option. They would like a bigger conversation on the issue.

Duane then brought up commercial air barrier testing. He is suggesting that people rely on the test, fill in as many leaks as possible and then send in a report. This is the motion he is recommending. **Dave Peden** asked for clarification regarding the need for the test if it doesn't

have to be passed. **Duane** said the owner who receives the test results generally wants the improvement done and the contractor generally wants to pass the test. **Dave Peden** expressed his concern about the enforcement issue. Comments were made by other Council members also.

The next item **Duane** discussed was residential air leakage. He stated a lot of testimony was received on this. This was changed to be less stringent than the IECC because it appeared to be too expensive. **Duane** is suggested the motion be 4 ACH rather than 5 ACH.

Gary Nordeen with WSU Energy Program commented. He was the sponsor proposing 5 ACH. Those who say 3 ACH is easy to achieve were Passive House builders. Passive House construction is well above the regular type of construction we normally do. One can get to 3 with interior OSB and exterior OSB for air leakage which many do. The cost of construction goes way up with this. We may be able to get to 3 ACH50 at some point in time, but the data we have through a grant program, shows a 90% failure rate. From the industry groups including BIAW there is about a 10% failure rate at the 5.7 ACH50, which it currently is. Gary recommends going to 5 ACH as proposed by the TAG. It is a reduction and we'd need to look at ventilation systems in houses. We have some serious problems with the integrated or Option 4 systems not working. We are not sure how well a one bath fan in a large rambler type house at 3 ACH50 is going to provide fresh air to the occupants. He encourages the Council to wait one code cycle until the study from NEEA gets done on ventilation effectiveness before we move to a tighter house.

Jane Rohila with BIAW commented. We felt that 5 ACH could be lived with although members have said that 5 ACH is something they are going have to work at. We have many members who do much better than 3 ACH, but we also have members that don't reach that current standard. Passive House had an initial proposal to go to 3 ACH, but they had several people who testified they go way below that numbers. Their 37 member companies probably do go below. She has 8,200 member companies who have said that will be more difficult. We were in support of the mash document at 5 ACH. We were in support of the TAG when the agreed at 5 ACH. The MVE Committee agreed 5ACH and that is what BIAW is in support of. She also would be concerned about the effect this would have on Chapter 406 and the effect of the cost benefit analysis that has been approved.

Council members discussed the differences in these ACH numbers.

Duane then discussed 101.4.3 where there is an exception

7 that has a threshold of 50% of lights being replaced. We also have a similar requirement for a threshold of 60%. So he is suggesting the number be 60% to match.

Then **Duane** discussed Table 402.2. He said there were a few things needing to be changed. He is proposing the motion go backward to an R-5.

Corrections were suggested by **Mike Kennedy** for 403.2.5.1 for the exceptions to clarify what is to be done.

Next was 403.3.1.1 which is different language for economizer controls. **Duane** asked Eric to advise the Council on some of these more complicated areas.

Eric then discussed his proposal regarding Domestic Hot Water piping. Discussion on this issue was held by Council members.

Duane then brought up an item relating to definitions. For semi-heated space there was a minimum and a maximum. For this climate zone it was 3 BTUH per sq. ft. up to 8. Mike Kennedy's proposal is to get rid of the minimum and have it go from zero up to 8. Duane is recommending that we not do that because he feels there should be a category for unheated buildings which would be anything below 3 BTUH and that would not require any insulation at all. Once you get to semi-heated you can have an uninsulated wall. Everything else must meet Energy Code standards.

Tim Nogler summarized the AHRI testimony. There is one control requirement, one heat pump requirement and the additional requirements under Section 406 that AHRI claims are in violation of federal law. Tim has had discussion about this with ARHI to understand their concerns. We had this issue with the federal pre-emption on residential and it went into litigation. This is a different section of the federal law and has different language. The control provision was first adopted in 1992. AHRI feels the only option for the state is to adopt ASHRAE 90.1-2010. SBCC staff will continue to work with legal counsel with this.

6. Staff Report	None was given.
7. Other Business	None was given.
9. Adjourn	The meeting was adjourned at 4 p.m.