



STATE OF WASHINGTON

## STATE BUILDING CODE COUNCIL

### MECHANICAL, VENTILATION & ENERGY COMMITTEE SUMMARY MEETING MINUTES

**MONITOR LOCATION:** Enterprise Services, Rm. 2322  
1500 Jefferson Street  
Olympia, Washington

**MEETING DATE:** June 9, 2014

Agenda Items	Committee Actions/Discussion
1. Welcome and Introductions	Meeting called to order at 2:00 p.m. <u>Members in Attendance:</u> Eric Vander Mey, Chair; Jeff Peterson, Vice Chair; Dave DeWitte; Duane Jonlin; Tom Balbo <u>Staff in Attendance:</u> Tim Nogler, Managing Director (ph); Joanne McCaughan; Krista Braaksma <u>Visitors Present:</u> Lisa Rosenow, Noah Noaker, Rand Conger
2. Review and Approve Agenda	The agenda was approved.
3. Draft Language for Code Changes Based on Interpretations Definition, Refrigerated Warehouse	<p><b>Krista Braaksma</b> summarized the first proposed code change. This is based on interpretation 14-14 on what exactly the threshold is between a heated or chilled space and a refrigerated space and how it is defined. When doing the interpretation it was mentioned that the 2009 code said 45 degrees. She found the language that was adopted in the 2013 ASHRAE 90.1 and it seems that since it was established model code language it would be a good alternative to what we have now in place.</p> <p><b>Eric</b> asked for comments from the Committee on these definitions. <b>Tom Balbo</b> feels the language is very clear and he likes it.</p> <p><b>Duane Jonlin</b> states there is no need for “that can be walked into” since it is language that was used for the walk in coolers rather than warehouses. His thinking is if there is language not needed then it shouldn’t be there.</p> <p><b>Lisa Rosenow</b> from NEEC asked should a jurisdiction be confirming that for a cooler the system could not be used as a freezer, as many systems are capable of both.</p> <p><b>Duane</b> feels that anything capable of being a freezer needs to meet the criteria for a freezer.</p>

<p style="text-align: center;"><b>Motion</b></p> <p>Sections C402.4.5.2 and C403.2.4.4</p>	<p>The language states if the building is designed to maintain 32 degrees it is a freezer. If it is designed to maintain 40 degrees it is a cooler.</p> <p>Duane moved to accept these changes as shown except that for both definitions the “can be walked into” “and” be deleted. <b>Dave DeWitte</b> seconded the motion. <b>The motion carried.</b></p> <p><b>Krista</b> stated this item on dampers and leakage rates is more controversial. SBCC has received numerous comments on this proposal.</p> <p><b>Eric</b> said the Committee went through a number of interpretations on clarifying Class 1 dampers and the leakage requirement. Also discussed was how to clarify Washington state requirements that are different than 90.1 or the IECC on return air openings and the requirements for dampers with those</p> <p>Based on interpretations we thought it was best to update our code to the WSEC 2012 to reflect those clarifications. Section 402 is in the envelope section of the energy code. It is not in the HVAC mechanical section. It is in the C403 section of the WSEC Commercial Energy Code This proposed change in C402.4.5.2 reflects what we established in the interpretation where we have a separate paragraph for the outdoor air supply, exhaust and relief opening. We clarified it is a Class 1 damper based on what is required in 90.1 2010, 90.1 2013 and the 2015 IECC requirements.</p> <p>We then have a separate paragraph for return air openings that are used for air side economizers. Operation shall have Class 1 motorized dampers. That is a Washington state requirement. In the 2009 code we had a requirement for a Class 2 damper and that was changed to Class 1 damper under 2012 code. Following this we have exception 5 which is a potential exception we would be considering for unitary packaged equipment. Following is exception 6 which is again for unitary packaged equipment. Exception 5 has more basis than 90.1-2010 requires a certain leakage rate. A Class 1 damper is required in certain zones but it wouldn’t be required in the Washington State climate zone.</p> <p>Exception 6 is a Washington state exception for return air tampers. There is no IECC requirement or 90.1</p>
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requirement for leakage ratings at return air openings.

**Duane** said exception 5 is very confusing for him. The phrase “return openings” should be stricken because it is dealt with in the next exception. Where it says “shall be equipped with” in the second line it should be “if permitted to be equipped with” because it is an exception. The phrase “maximum leakage rate” should have been the opposite. It should be the lowest leakage rate available at adoption. In this exception there are two instances where the second sentence contradicts the first sentence. Duane feels it should be deleted entirely.

**Duane** continued. In exception 6 he suggests it would be better to say “the motorized dampers on return air openings in unitary packaged equipment are not required to meet a specific leakage rating.” Otherwise it is a code requirement and an exception in one. He also feels we should move this piece out of the envelope section and into Section 403 with the other related material. However it is a large change for mid-cycle. We probably should fix it where it is now and make the move in the 2015 code cycle. **Eric’s** thought was to leave it where it is, but put a pointer to it in Section C403. **Duane** said this would be helpful.

Under exception 2 Section C403.2.4.4 is not an exception. It’s a code requirement and should be put into the main paragraph. Finally under exceptions 8 and 9, those have the same wording as discussed in exception 5 and 6.

**Jeff Peterson** asked Duane if he had any issues with the maximum leakage rate available, which is a standard factory option. Is there any equipment that is available, but not common as the unitary package? The price would be tenfold of the normal piece of equipment. **Duane** feels we have determined that it could be compliant, but it would make it so restrictive, based on the available range of products out there, that it is not a fair requirement at this time. Duane thinks we have to wait for the industry to get a bit ahead of us.

**Eric** reached out to a number of manufacturers on the outside air and exhaust air openings to see what kinds of damper options are available. In 90.1 it is part of the HVAC mechanical section, but not in the envelope section. The 90.1 users’ manual is quite clear that it applies to openings in unitary equipment. It is not just something that is outside air opening in the side of your

building in the envelope. So even though packaged units are required to meet efficiency ratings it is very clear that they are also required to meet these damper leakage ratings; with the caveat that Washington state is the only one with return air damper leakage ratings . He did get responses back from six different manufacturers in regard to the outside air and exhaust air openings. Some manufacturers have Class 1 dampers for the colder climates. Some had them as a standard factory option. Others could do some sort of custom option at the factory. Others are doing retrofit out in the field to achieve these requirements.

**Duane** asks is this not a more stringent requirement than what we have had before. Eric said that is correct. We had this on outside air and exhaust air on 2009 Code it was a Class 1 damper. Return air was a Class 2. It hasn't been specifically enforced at this time.

Public Comments.

**Noah Noaker** with York Unitary Products wants to reinforce what was stated regarding the contractor's side. He does the coding for the northwest region and there is still a lot of confusion with the contractors on what is required and what is not, other than the City of Seattle.

**Jeff** asks if Noah has a class 1 as part of his standard products. Noah said just recently had his engineers put these in certain tonnages to provide for the ASHRAE 90.1.

**Krista** reported on the written comments from Jeff Sloan of McKinstry. He states the language in C402.4.5.2, doesn't really mention the dampers must shut automatically and because it is covered in C403, he recommends a cross reference there. Exceptions 5 and 6 are a little confusing because 5 tells you to do it this way and then 6 says never mind. He suggests alternate wording for 5 with no exception 6. His exception 5 would read, "if the unitary air packaged equipment return air damper leakage cannot be shown to be less than 4 cfm wind tested in accordance with AMCA 500D the unitary packaged equipment and outside air and return air dampers shall at least be provided with a motorized actuator and all available standard factory options and accessories to reduce damper leakage."

In C403.2.4.4 for shut off dampers, Jeff Sloan suggests because this seems a duplication of earlier language he

doesn't think you realize that it was being moved for 402 into 403. He is referencing it back to C402 with recommended language that says, "shut off dampers, outdoor air intake, exhaust openings, and relief outlets required by Section C402.4.5.2 shall be provided with motorized dampers which close automatically when the system's fans are off. Return air dampers are not required to close automatically when the system's fans are off."

**Lisa Rosenow**, NEEC, has a couple of questions. Is it intended to remove entirely; the direction activation of the damper? It doesn't appear that it was picked up in either section. The original language talks about activation of a fire alarm device from the fire alarm system or energy?? of power, She doesn't see that in the 403 language. **Eric** said this is in a separate section before the section we are talking about. **Duane** said that whole section is reorganized in the 2015 code; and those requirements were moved to an appropriate location. **Lisa** asked if for the rest of this code cycle this code language is going to be removed. That is what it looks like right now. Lisa's second question is going back to 402.4.5.2 exception 5. It doesn't seem clear as in the exception when it still states the leakage rate. It says in the first sentence that it can be what's available, but the same language is repeated with regard to the leakage rate. She feels this will cause confusion.

**Eric** recommends the Committee decide on a couple of key things on how to structure this and then work on the exact language from there. The two keys decisions are, a) is this going to be in the envelope section or will it be moved to the mechanical C403 section; and b) are we going to have exception 5 for the outdoor air exhaust and relief opening; or if we are going to say because 90.1 requires them in certain climate zones they should be available and we are not going to have that exception. Then we can finalize the language.

**Motion**

**Duane** moved the Committee not shift the 402 language into the 403 section at this time based on the risk of unintended consequences and correct it in place and wait until the 2015 cycle to do what ICC has already done.

**Tom Balbo** seconded the motion.

**Jeff** suggested a cross-reference in the other section.

**Duane** agreed to this friendly amendment. **The motion passed.**

**Motion**

**Eric** then discussed exception 5 in Section C402. It sounds like many manufacturers are trying to get up to speed with the 90.1-2010. Do we need exception 5 at all? He continued saying we would want exception 6 for the return air dampers which is required and we would strike through return air openings on exception 5. That was to be for the outside air and exhaust relief outlets. However since 90.1 requires Class 1 dampers in certain climate zones and we had a provision that was similar in 2009 code, we could say there is no special allowance for unitary packaged equipment in the state and you have to meet the damper leakage ratings of the outside air exhaust and relief outlets. **Duane** asked if exception 5 should not be allowed at all. That is correct if you want to stay on par with 901 and WSEC 2009. This is unique. The manufacturers are not used to doing this.

**Duane** moved the Committee strike exception 5 entirely. **Tom Balbo** seconded the motion.

**Noah Noaker** was asked if his company could comply with this. Noah said he would speak to his engineers and get the information to the Committee.

**Rand Conger** with Johnson Barrow is asking for clarification on this. On the table Eric distributed under motorized Rand sees leakage rates of 4 and 10 cfm levels and those are the 1A and the 1 levels, correct? **Eric** remarked the class 1 is 4 and a class 2 is 10. A class 1A is 3. In Washington we are looking at zones 4, and 5. Looking at the table we are looking at a class 2. **Eric** stated since these are required throughout the country they should be available here. Washington state went to the most stringent way on the ASHRAE table regardless of the zone in 2009. **Rand** said there currently is not a class 1 damper available in the smaller units. This was not a well understood regulation in this state. **Eric** asked if the units were 20 tons and above would this be possible.

**Rand** said that would be very doable with his manufacturer. **Noah** said his company, York, has this in their 15 ton and above line and it is also in a new model that is in the 3-12.5 ton also. He hasn't had any feedback from his inspectors that they don't qualify.

**Tim Nogler** stated there is a motion on the table and we are trying to fix a problem in the code that is in effect now. This can continue to be examined through the rule making process.

<p style="text-align: center;"><b>Motion continued</b></p> <p style="text-align: center;"><b>Motion</b></p> <p style="text-align: center;"><b>Motion</b></p> <p style="text-align: center;"><b>Motion</b></p>	<p><b>Eric</b> said we know this has not been uniformly enforced throughout the state for the last four years. We will also get public comment at that point.</p> <p>Eric then summarized the motion for those who were confused. There was more discussion among the Committee members.</p> <p><b>The motion to remove exception 5 was carried 3 to 1.</b></p> <p><b>Duane</b> moved the Committee modify exception 6 with the following wording “motorized dampers on return air openings in unitary packaged equipment are not required to meet a specific leakage rating.” <b>Dave DeWitte</b> seconded the motion.</p> <p><b>Duane</b> asked Lisa to repeat her suggested change to this exception. <b>Lisa</b> said she would cut the section out that says “motorized dampers with the maximum leakage available as a standard factory option, but shall not be required to meet the leakage rating specified above.” That way the code requirement is still stating that the highest available is still required, but it doesn’t require more cfm. <b>Jeff</b> wonders how this will be enforced. <b>Duane</b> said at least we have been clear this was what our intention is and what the requirement is.</p> <p><b>Eric</b> repeated the motion, “The motorized dampers on return air openings in unitary packaged equipment that have the minimum standard leakage rate available from the manufacturer shall be deemed to comply.”</p> <p><b>Duane</b> withdraws his original motion and moves the Committee accept the language as it has just been rewritten. <b>Dave DeWitte</b> seconds the motion. <b>The motion carried.</b></p> <p><b>Eric</b> states the language at the top clarifies what was stated in the interpretation. It is a class 1 damper and then provides a separate section for when return air openings are required to have motorized dampers. It then specifies the leakage rate for those return air dampers very clearly.</p> <p>We still need the pointer to the shut off requirements.</p> <p><b>Duane</b> moved the Committee accept the changes as shown in the beginning of Section C402.4.5.2 with the addition of the pointer to the related section C403.2.4.4 and vice versa. <b>Dave DeWitte</b> seconded the motion. .</p> <p><b>The motion carried.</b></p>
<p>4. Staff Report</p>	<p>None was given.</p>

5. Other Business	<p>Krista reported that minutes for the last meeting will be sent out shortly and posted for action at the council meeting.</p> <p>Duane asked about the progress on the IECC publication of the Washington State Energy Code.</p> <p>Krista reported that the final draft should be out within the month</p>
6. Adjourn	<p>The meeting adjourned at 3:38 p.m.</p>