



STATE OF WASHINGTON

## STATE BUILDING CODE COUNCIL

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### Energy Code Technical Advisory Group Meeting Review Notes for July 16, 2021

**TAG Members Present:** Kjell Anderson, Chair; Erik Bedell; \*Christopher Boroughs; Michael Fowler; Patrick Hayes; Gary Heikkinen; Scott Henderson; Luke Howard; Duane Jonlin; \*Elizabeth Joyce; \*<sup>v</sup>Jon Lange; Mike McGivern; Allan Montpellier; Erik Olton; \*<sup>v</sup>Andrew Pultorak; Irina Rasputnis; David Reddy; Lisa Rosenow; \*Poppy Storm; Shaun Vig; Amy Wheelless

**TAG Members Absent:** CJ Brockway, Martin Connor, Michael Curtright, Chris Holliday, Gavin Tenold

**Visitors Present:** Caroline Traube, Juan Alvarado, E. Anderson, Christine Brewer, Josie Cummings, Shaun Darragh, Sean Denniston, Jake Deering, Kevin Duell, Michael Frank, Jon Frankel, Mark Frankel, Peter Godlewski, Brian Goldcrump, Chris Hawes, Michael Hedrick, Ken Horsfall, Adam Hutchinson, Emma Johnson, Nels Johnson, Mike Kennedy, Dan Kirschner, Jonny Kocher, Bill Konrady, Duane Lewellen, Sarah Moore, Nick O'Neil, D. Scott Peterson, Stan Price, Alexander Ratcliff, Sloan Ritchie, Michael Rosenberg, Kat Rosenbaum, John Rothlin, Anthony Schoen, Daniel Silva, Tonia Sorrell-Neal, Skander Spies, Shilpa Surana, Eric Vander Mey, Ted Williams, Kenneth Wilson, Jeff Yirak, Tom Young

**Staff:** Krista Braaksma, Stephanie Feuchter, John McEntyre

\* indicates an alternate member. \*<sup>v</sup> indicates a voting alternate

Agenda Items	TAG Actions
1. Welcome and Introductions	Meeting called to order at 8:30 a.m. Kjell Anderson welcomed everyone and roll was called.  Kjell went over the rules of the meeting—using Zoom reactions to raise hands to speak or ask questions or use other icons to note agreement; removing reactions after they have been acknowledged; mute while not speaking; and be respectful of one another.
2. Review and Approve <a href="#">Agenda</a>	The agenda was approved as modified: the order of 21-GP1-091 and 21-GP1-108 under Item 5 will be reversed.
3. Review and Approve meeting notes from <a href="#">June 25, 2021</a>	The meeting notes for June 25, 2021 were approved as written.

<b>4. Remaining Lighting Proposal</b>	
<a href="#">21-GP1-094</a>	<p>Proponent: CJ Brockway, Sparklab Lighting Design Subject: Table C405.4.2(2), Ornamental/exhibit lighting</p> <p>There was some confusion as to the revision to be discussed; it was believed that CJ Brockway had circulated a later version than what was shown on the agenda. In CJ's absence, the discussion was tabled.</p> <p><b>MOTION:</b> Lisa Rosenow moved to table the proposal. Duane Jonlin seconded the motion. The motion carried.</p>
<b>5. Definitions and Envelope Proposals</b>	
<a href="#">21-GP1-130</a>	<p>Proponent: Mike Kennedy Subject: C402.1.1.2, Semiheated spaces</p> <p>Mike Kennedy noted there was some overlap of Duane's 158 from last week. This proposal would not allow the additional 8 Btu infrared heating; it would need to be part of the original limit. David Reddy advocated removing the electric resistance prohibition. There was discussion regarding the heat pump exception and how cooling could effectively be disabled. With the removal of the electric resistance prohibition, the exception for electric infrared heating equipment was removed as well. The heat pump exception was reworded to "...heat pumps without electric resistance back up and connected to a heating only thermostat."</p> <p><b>MOTION:</b> Patrick Hayes moved to recommend <a href="#">approval as modified</a>. Duane Jonlin seconded the motion. The motion carried.</p>
<a href="#">21-GP1-150</a>	<p>Proponent: Lisa Rosenow, Evergreen Technology Subject: Mass transfer decks</p> <p>The TAG reviewed the modifications suggested by Patrick Hayes incorporating examples, but ultimately determined to go with Lisa's original language, with the addition of a footnote on both tables stating component performance must be used.</p> <p><b>MOTION:</b> Duane Jonlin moved to recommend <a href="#">approval as modified</a>. David Reddy seconded the motion. Motion carried with 5 abstentions.</p>
<a href="#">21-GP1-207</a>	<p>Proponent: Luke Howard, Department of Commerce Subject: CMU Wall footnotes in Tables C402.1.3/C402.1.4</p> <p>It was noted that the life cycle cost analysis for this proposal was not included with the proposal and the link within the rationale did not function. Here are those documents:</p> <ul style="list-style-type: none"><li>Link to the <a href="#">2015 analysis</a></li><li>Link to the <a href="#">current proposal analysis</a></li></ul> <p>This proposal amends the CMU footnotes in Tables C402.1.3 and C402.1.4 and would require affected building types to insulate CMU walls in some instances,</p>

	<p>such as when a wall covering is applied. There was testimony in opposition to the proposal, based on cost and usability issues.</p> <p><b>MOTION:</b> Patrick Hayes moved to recommend <b>disapproval</b>. Gary Heikkinen seconded the motion. <b>Motion failed</b>, 3 to 9 with two abstentions.</p> <p><b>MOTION:</b> Duane Jonlin moved to recommend <b>approval as submitted</b>. Poppy Storm seconded the motion. The motion carried, 9 to 3 with two abstentions.</p>
<p><a href="#">21-GP1-208</a></p>	<p>Proponent: Luke Howard, Department of Commerce        Subject: CMU Wall footnotes in Tables C402.1.3/C402.1.4</p> <p>It was noted that the life cycle cost analysis for this proposal was not included with the proposal and the link within the rationale did not function. Here are those documents:</p> <p style="padding-left: 40px;">Link to the <a href="#">2015 analysis</a>        Link to the <a href="#">current proposal analysis</a></p> <p>This is similar to the previous proposal, but eliminates the exception, bringing the code into closer alignment with the IECC and the Seattle energy code. The Northwest Concrete Masonry Association stated this would be a large impact on their industry. These buildings are typically low energy buildings and the wall durability is need on both interior and exterior walls. It was noted that low energy and semi-heated buildings do not require wall insulation. There was debate on whether Washington was the only state allowing uninsulated CMU walls.</p> <p><b>MOTION:</b> Duane Jonlin moved to recommend <b>approval as submitted</b>. Mike Fowler seconded the motion. Motion carried, 11 to 1 with four abstentions.</p>
<p><a href="#">21-GP1-157</a></p>	<p>Proponent: Duane Jonlin, City of Seattle        Subject: Table C402.1.3, footnote I, penetrations in continuous insulation</p> <p>Duane Jonlin introduced language from the Seattle code differentiating stainless steel and carbon steel connectors.</p> <p><b>MOTION:</b> Mike Fowler moved to recommend <b>approval as submitted</b>. Eric Bedell seconded the motion. Motion carried</p>
<p><a href="#">21-GP1-160</a></p>	<p>Proponent: Duane Jonlin, City of Seattle        Subject: C402.1.3, thermal resistance for PTAC/PTHP units</p> <p>This is language from the Seattle and NYC codes requiring heat loss calculations for through the wall equipment.</p> <p><b>MOTION:</b> Mike McGivern moved to recommend <b>approval as submitted</b>. Mike Fowler seconded the motion. Motion carried</p>
<p><a href="#">21-GP1-104</a></p>	<p>Proponent: Alex Ratcliff, PAE Engineers        Subject: C402.5.5, Rooms containing fuel burning appliances/duct insulation</p> <p>This proposal aims to coordinate the duct insulation requirements.</p>

	<p><b>MOTION:</b> Duane Jonlin moved to recommend <b>approval as submitted</b>. Mike McGivern seconded the motion. Motion carried</p>
<a href="#">21-GP1-159</a>	<p>Proponent: Duane Jonlin, City of Seattle          Subject: C402.2.8/C402.2.9, Thermal bridging at balconies and fenestration framing</p> <p>The TAG reviewed the modifications suggested at the June 11 meeting.</p> <p><b>MOTION:</b> Duane Jonlin moved to recommend <b>approval as modified</b>. Mike McGivern seconded the motion.</p> <p>Patrick Hayes moved to <b>table</b> the proposal until a diagram is provided. Eric Bedell seconded the motion. The motion carried, 12 to zero, with three abstentions.</p>
<a href="#">21-GP1-161</a>	<p>Proponent: Duane Jonlin, City of Seattle          Subject: Reduced fenestration U-values</p> <p>The TAG reviewed proposal based on Seattle language that improves fenestration by roughly 10 percent. There were questions as to whether double glazing would be able to meet the new values.</p> <p><b>MOTION:</b> Duane Jonlin moved to table discussion to come up with some compromise language. Patrick Hayes seconded the motion. Motion carried</p>
<a href="#">21-GP1-131</a>	<p>Proponent: Mike Kennedy          Subject: C402.4.2, Minimum skylight fenestration</p> <p>Mike Kennedy presented a revision to the skylight requirement based on ASHRAE 90.1 language.</p> <p><b>MOTION:</b> Lisa Rosenow moved to recommend <b>approval as submitted</b>. Patrick Hayes seconded the motion. The motion carried.</p>
<a href="#">21-GP1-108</a>	<p>Proponent: Chelsea Guenette, PAE Engineers          Subject: Building thermal envelope testing</p> <p>Alex Ratcliff presented the proposal for the proponent. The proposal removes the exception allowing air leakage up to 0.4 cfm. The TAG discussed the fact that the requirement in the 2018 code hasn't been in place long enough to evaluate. They also debated if the 0.25 would work for all building types. It was stated that some jurisdictions are not requiring testing because of the exception that doesn't require passing the air leakage test.</p> <p><b>MOTION:</b> Mike Fowler moved to recommend <b>approval as submitted</b>. Mike McGivern seconded the motion. Motion carried</p>
<a href="#">21-GP1-091</a>	<p>Proponent: Mike Fowler, Passive House NW          Subject: Dwelling unit enclosures</p> <p>Mike Fowler said the changes from 108 could be integrated into this proposal, which introduces the ASTM standard language from the Seattle code that was</p>

	<p>in the previous code. If the exceptions are deleted per 21-GP1-108, the change from 0.40 to 0.30 is unnecessary.</p> <p><b>MOTION:</b> Henry Odum moved to recommend <a href="#">approval as modified</a>. Patrick Hayes seconded the motion. Motion carried.</p>
<p>6. 10 am Key Issue Discussion: Heat Pump Space Heating</p> <p>Various links and documentation provided for discussion:</p> <p>Council Energy Code <a href="#">Baseline report</a></p> <p>Seattle Times article on <a href="#">electricity rates</a></p> <p>WA Dept. of Ecology: <a href="#">Washington State Greenhouse Gas Emissions Inventory: 1990-2018</a></p> <p>Stan Price Slides on <a href="#">impact of proposal and electrification growth</a></p> <p>Commerce <a href="#">Fuel Mix Disclosure</a> slide</p> <p>Commerce Summary of <a href="#">Resource Adequacy Meeting</a></p> <p>NARUC <a href="#">Battery Energy Storage</a> report</p> <p>Vendors/Manufacturers <a href="#">letter of support</a></p> <p>Stakeholders <a href="#">letter of support</a></p>	
<p><a href="#">21-GP1-103</a></p>	<p>Proponent: Jonny Kocher, RMI          Subject: Heat pump space heating  <a href="#">PowerPoint Presentation</a>    <a href="#">Modified Proposal</a></p> <p>There were concerns voiced about the late posting of the revised proposal, and the inclusiveness of the group making the revisions. Also expressed were concerns that the analysis only looked at single zone packaged equipment, the cost and effect on small business, power reliability, inhibition of technological advancement of gas appliances, effectiveness in cooler climate zones and compatibility with other code changes. Some felt it was too early in the process to ban fossil fuel; others felt it was cost effective and viable, except in retrofit situations.</p> <p><b>MOTION:</b> Duane Jonlin moved to recommend <a href="#">approval as modified</a> with the caveat that technical clarifications will be made in the future. Lisa Rosenow seconded the motion.</p> <p>Gary Heikkinen moved to table discussion. Chris Boroughs seconded the motion. The motion to table failed, 2 to 9 with one abstention.</p> <p>Back to main motion, the motion carried, 14 to 1.</p>
<p>7. Review of Definitions and Envelope Proposals</p>	
<p><a href="#">21-GP1-192</a></p>	<p>Proponent: Mike Kennedy          Subject: Update water heater efficiencies</p> <p>Mike Kennedy provided an updated proposal to replace the current water heater efficiency table that includes UEF rather than energy factor ratings. It also includes the draw pattern.</p>

	<p><b>MOTION:</b> Duane Jonlin moved to recommend <a href="#">approval as modified</a>. Lisa Rosenow seconded the motion. Motion carried</p>
<a href="#">21-GP1-174</a>	<p>Proponent: Duane Jonlin, City of Seattle          Subject: High temp water storage tank insulation</p> <p>The proposal requires additional insulation for domestic hot water storage above 130 degrees. There was discussion that this wouldn't require a change for manufacturers, a wrap would work, but it could be done through an applied product as well.</p> <p><b>MOTION:</b> Duane Jonlin moved to recommend <b>approval as submitted</b>. Mike Fowler seconded the motion. Motion carried</p>
<a href="#">21-GP1-175</a>	<p>Proponent: Duane Jonlin, City of Seattle          Subject: Thermostatic valves</p> <p>This proposal again introduces language from the Seattle code and deals with a problem with some electronic valves resetting to a fully open position upon power failure or flow stop.</p> <p><b>MOTION:</b> Duane Jonlin moved to recommend <b>approval as submitted</b>. Mike Fowler seconded the motion. Motion carried</p>
<a href="#">21-GP1-182</a>	<p>Proponent: Lisa Rosenow, Evergreen Technology          Subject: Circulation pumps</p> <p>Lisa Rosenow stated the proposal covered three issues. It requires a ECM motor on the pump on a circulation system, adopts consistent language regarding "configured to," and adds an exception to help clarify vague language. Lisa said she would be fine with striking the exception if that's the direction of the TAG. There was general consensus to strike the exception.</p> <p><b>MOTION:</b> Duane Jonlin moved to recommend <a href="#">approval as modified</a>. Lisa Rosenow seconded the motion. Motion carried</p>
<a href="#">21-GP1-176</a>	<p>Proponent: Duane Jonlin, City of Seattle          Subject: Circulation system pipe insulation</p> <p>Duane Jonlin stated that analysis shows that heat loss through the circulation system is nearly equivalent to the total energy used to heat the water, so he is recommending that an inch be added to supply and return for heated water circulation systems.</p> <p>The TAG discussed thermal bridging effects and wall framing and how this would impact those issues.</p> <p><b>MOTION:</b> Duane Jonlin moved to recommend <b>approval as submitted</b>. Mike Fowler seconded the motion. The motion carried, 7 to 2 with three abstentions.</p>
	<p>Proposal 189 was withdrawn.</p> <p>The remaining Item 7 proposals will be moved to the July 23 agenda.</p>

8. Mechanical and Total Building Performance Proposals Tabled on June 25  Due to time constraints, the TAG did not review these items. They will be carried over to the July 23 agenda.	
9. Other Business	None/not entertained due to time constraints  The remainder of the proposals on the agenda will be moved to the July 23 agenda.
10. Adjourn	The meeting was adjourned at 3:06 p.m.