



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

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June 14, 2022

TO: Council Members and All Interested Parties

FROM: Energy Code Technical Advisory Group

SUBJECT: Residential Energy Code TAG Report

The Washington State Residential Energy Code TAG met several times this spring to review proposals for the 2021 Washington State Energy Code-Residential. Across 6 meetings totaling around 32 hours, we considered the 44 proposals, suggesting modifications to many of them. Most TAG meetings drew around 50 participants, including TAG members and many members of the public, contributing more than 1500 volunteer hours within the meetings to improve the code. Many dozens of hours were spent outside of meetings as well, since the TAG recommended that the proponents of many proposals convene interested stakeholders and return with more consensus-based modifications and technical refinements to their proposals. With robust discussion, we recommend 29 for the 2021 Washington State Energy Code-Residential to be considered by the Council for the CR102 public comment period. More than two-thirds majority voted in favor of 24 of these; the other 5 included closer votes.

Significant proposals include a requirement for primary space heating (065) and water heating (066) to use heat pumps, a shift of some Group R-2 multifamily buildings to the Commercial energy code to align better with other Washington state codes (084), an update to the R406 Options table (073), and several other recommended modifications to the energy code.

After passing these proposals, modification to the approved R406 Options table have been necessary to align code requirements with other passed proposals, specifically 065 and 066. The proponent for the main R406 update (073) agreed to update the table to align with the other passed proposals and will have them prepared for the June 15 MVE committee to consider. The TAG also passed a motion to make available a version of the R406 table that doesn't presume the Council will pass proposals 065 and/or 066.

The TAG kept in mind the RCWs that govern our work that include goals for 70% energy code reduction by 2031, as well as consideration for first cost and operational costs. Washington utilities continue to find energy efficiency as the largest, cheapest, and lowest-risk energy resource. Since efficiency in new buildings is generally cheaper than in existing buildings, the energy code is one of the most effective strategies in providing low-cost energy in our state and an important tool in addressing climate change.

The following table shows the TAG recommendations on each of the proposals as well as a link to the latest version of each. Note that any links in the "TAG action" column are the most recent as the TAG modified several of the proposals after thorough discussion.

Group 2 WSEC-Res Code Change Proposals - 2021

Date Received	Proponent	Section	Subject	Log Number	Revision	Vote	TAG Action	Committee Action	Council Action
3/21/2022	WSU Energy Program	A103 A104	Above Grade Walls Below Grade Walls and Slabs	21-GP2-037			Disapproved-Incomplete		
3/21/2022	Duane Jonlin	R202 R401.1	Definitions Scope	21-GP2-084	Proponent Revision 06/09/22	14-1-3	As Modified 6/10/22		
3/21/2022	WSU Energy Program	R401.3	Certificate	21-GP2-033		unan	Disapproved 6/10/22		
4/8/2022	Dan Wildenhaus	Table R402.1.2	U-Factor replacements	21-GP2-079		11-5-2	As submitted, 5/13/22		
3/31/2022	Kevin Duell	R402.1.2.4	R-value computation	21-GP2-011		unan	As submitted,6/7/22		
4/8/2022	Kevin Duell	Table R402.4.1.1	Insulation in unconditioned spaces	21-GP2-012		unan	As submitted,6/7/22		
4/1/2022	Kevin Rose	R402.4.1.1	Clarification of insulation installation requirements	21-GP2-090		6-2-10	Disapproved 6/10/22		
4/1/2022	Lisa Rosenow	R402.4.1.2	Testing Agency Certification	21-GP2-088	Proponent Revision 6/9/22	8-5-4	As Modified 6/10/22		
4/1/2022	Lisa Rosenow	R402.4.2; R402.4.4	Combustion air and fireplace	21-GP2-081		unan	As submitted, 6/03/22		
4/7/2022	Lisa Rosenow	R402.4; R402.4.1; R402.4.2; R402.4.3	Air Leakage	21-GP2-082		unan	Approve as modified, 5/13/22		
3/21/2022	Sean Denniston	R401.2, R403.5, R403.13, R405.2, R503.1.3	All-Electric	21-GP2-064	Revised cost info. 6/1/22	Unan	Disapproved 6/10/22		
4/7/2022	Kevin Duell	R403.12	Pools and spas	21-GP2-015		unan	As Submitted,6/7/22		
4/7/2022	Sean Denniston	R403.13, R405.2, R503.1.2	Heat Pump Space Heater	21-GP2-065	Proponent Revision 6/01/22	10-5-1	As Modified 6/7/22		
4/7/2022	WSU Energy Program	R403.3.2.1	Sealed Air Handler	21-GP2-032		11-5-1	As Submitted 6/10/22		
4/7/2022	Howard Ahern	R403.4.1	Protection of Piping Insulation	21-GP2-049		11-4-3	As Modified 6/10/22		
4/7/2022	Kevin Duell	R403.5	Service hot water systems	21-GP2-067		12-7	Disapproved 6/03/22		
4/7/2022	Sean Denniston	R403.5, R405.2, R503.1.3	Heat Pump Water Heater	21-GP2-066	Proponent Revision 6/01/22	10-9	Approve as modified 6/3/22		
4/8/2022	Lisa Rosenow	R403.5.1	SWH cirulation system	21-GP2-071		unan	Approve as modified 5/6/22		
4/8/2022	Lisa Rosenow	R403.5.1	System return pipe	21-GP2-072	Withdrawn by Proponent 5/6/22				
4/8/2022	Lisa Rosenow	R403.5.1	Allowed Leakage Rates	21-GP2-089		10-5-2	Approve as modified, 5/13/22		
4/8/2022	Kevin Duell	R403.5.2	Demand recirculation water systems	21-GP2-013		7-5-3	Approve as submitted 5/6/22		
4/8/2022	Howard Ahern	R403.5.2	Hot Water Insulation	21-GP2-048	Withdrawn by Proponent 5/12/22				
4/8/2022	Kevin Duell	R403.5.3	Drain water heat recovery	21-GP2-014		10-4-2	Approve as submitted 5/6/22		
4/8/2022	Nick O'Neil	R403.5.5	Water Heater install location	21-GP2-080		10-6	Approve as modified 5/6/22		
4/8/2022	Dan Wildenhaus	R403.5X, R403.5.4	Water Volume Determination	21-GP2-046	Proponent Revision 5/13/22	unan	As Modified 6/10/22		

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4/8/2022	Kevin Duell	R403.7	Equipment sizing and efficiency rating	21-GP2-069		10-7-1	Disapproved 6/7/22		
4/8/2022	Gary Heikkinen	R405	Total Building Performance-Opt 1	21-GP2-051		11-8	Disapproved 6/3/22		
4/8/2022	Gary Heikkinen	R405	Total Building Performance-Opt 2	21-GP2-052		11-5	Disapproved 6/07/22		
4/8/2022	Kevin Duell	Table R405.3	Emissions Factors	21-GP2-068		11-5	Disapproved 6/07/22		
4/8/2022	Liz Reichart	Table R405.3	Emissions Factors	21-GP2-070		11-4-1	Approve as submitted 6/07/22		
4/8/2022	Henry Odum	R405.3; R406: Chapter 6	Update Section R406 and additional efficiency credits	21-GP2-073	LCCA materials	10-8	As Modified, 5/27/22		
4/8/2022	Andrea Smith	R406	Performance Pathway	21-GP2-022		unan	As Modified, 5/27/22		
4/8/2022	Gary Heikkinen	R406.3	Additional Energy Efficiency Requirements	21-GP2-061		13-5	Disapproved 5/27/22		
4/8/2022	Duane Jonlin	R406.3	Additional Efficiency Credits	21-GP2-083		9-8-1	Disapproved 6/10/22		
4/8/2022	WSU Energy Program	Table 406.3	Energy credit options 3.1 and 3.2	21-GP2-034		13-4	As modified 5/27/22		
4/8/2022	Mike Lubliner	Table 406.3; Option 3.2	HSPF of 9.5	21-GP2-023		14-3	As Modified, 5/27/22		
4/8/2022	Mike Lubliner	Table 406.3; Option 3.5	HSPF of 11.0	21-GP2-024		unan	As Modified, 5/27/22		
4/8/2022	Mike Lubliner	Table 406.3; Option 3.6	HSPF of 10	21-GP2-025		unan	As Submitted, 5/27/22		
3/21/2022	Carolyn Roos	R406 Option 3.2, 3.5	COP, HSPF	21-GP2-050	Proponent Revision 6/02/22	17-0-1	As Modified 6/10/22		
4/8/2022	Dan Wildenhaus	R406.3; Option 5.6	Compact Hot Water Distribution Systems	21-GP2-047	Proponent Revision 5/13/22	unan	As Modified 6/10/22		
4/8/2022	WSU Energy Program	R502	Additions	21-GP2-035		unan	As Modified, 6/03/22		
4/8/2022	WSU Energy Program	R503	Alterations	21-GP2-036		unan	Disapproved 6/03/22		
4/8/2022	Sonja O'Claire	R408	Built Green certification	21-GP2-045		8-3-8	Disapproved 6/03/22		
4/8/2022	Jonathan P. Jones	R406 AKA R408	ERI Compliance	21-GP2-097		9-8-2	Disapproved 6/03/22		