STATE OF WASHINGTON
STATE BUILDING CODE COUNCIL

Washington State Energy Code Development
Standard Energy Code Proposal Form

Code being amended: ☐ Commercial Provisions   X Residential Provisions

Code Section # Table R402.1.1 add to footnote d

Brief Description: The proposal seeks to add a footnote below to Table R402.1.1 that would allow the use of Table R402.1.1 *Insulation and Fenestration Requirements by Component.*   The proposal objective is to provide more flexibility allowing a prescriptive compliance option when existing garages, metal or masonry shops are permitted as converted from unconditioned space to conditioned space for ADU units or non-dwelling buildings such as heated shops. The proposal seeks compliance flexibility to improve compliance with Chapter 5 *Existing Buildings.*

Proposed code change text would add a new footnote (f) to table R402.1.1 related to *Slab R-value and Depth.* Note: This proposed text may also want to be linked to chapter 502.1:

TABLE R402.1.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT

[f] R-10 continuous insulation is required under heated slab on grade floors. See R402.2.9.1.

g. R-7.5 continuous insulation installed over an existing slab is deemed to be equivalent to the required perimeter slab insulation when applied to existing slabs complying with Section R503.1.1. If foam plastic is used, it shall meet the requirements for thermal barriers protecting foam plastics.

Purpose of code change: The proposal seeks to improve energy savings and economics associated with WSEC *Existing Buildings* - Chapter 5 compliance. It is not practical to insulate the existing slab perimeter as required in the current table 402.1.1. This proposal provides greater design flexibility and eliminates the need to conduct a UA tradeoff analysis for existing slabs. The proposal adds a footnote that accepts an R7.5 rigid foam insulation over the existing slab as equal to the R10 slab perimeter insulation requirements. WSU has been using this informally accepted workaround since 2016. (*) A typical example is an existing garage being converted to a bedroom.

The proposal will reduce the current situation that burdens; DIY consumer, contractors, WSU hotline and others trying to comply with Chapter 5, for ADU and shop conversions. The proposal seeks to reduce code enforcement time and confusion associated with the existing slab detail.

☐ Addresses a critical life/safety need.

X The amendment clarifies the intent or application
   of the code.

☐ Addresses a specific state policy or statute.
   (Note that energy conservation is a state policy)

☐ Consistency with state or federal regulations.

☐ Addresses a unique character of the state.

x Corrects errors and omissions.

Check the building types that would be impacted by your code change:

x Single family/duplex/townhome ☐ Multi-family 4 + stories ☐ Institutional

☐ Multi-family 1 – 3 stories ☐ Commercial / Retail ☐ Industrial

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Economic Impact Data Sheet

There is no negative economic impact, if code compliance is assumed in the baseline. The energy saving from this proposal will improve the compliance and enforcement with WSEC chapter 5 ADU and heated shop additions. Currently, some will "go rogue" due to the lack of an available prescriptive or simulated performance path option. The proposal will reduce the current situation that burdens; DIY consumer, contractors, WSU hotline and others trying to comply with Chapter 5, for ADU and shop conversions. It is currently not practical to insulate the slab perimeter as required in table 402.1.1. This proposal reduces code enforcement time for additional plan review. ADU that use existing slabs are problematic and compliance is difficult. WSU believes this footnote will improve the economics of WSEC compliance with chapter 5.

(*) Draft example that could be added to WSU training and Web Page:

Garage Conversion to Conditioned Space
Equivalent Alternative for Under Slab Insulation

Ceiling = R-49

Windows/Doors = U-.30

Fur out wall to accomodate R-21

R-5 foam - assuming 6" stem wall

R-7.5 foam

2 x 4 sleepers

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