

Hello energy aficionados,

Here are a couple of items worth noting. We have recently received questions about how to use the exception to Washington State Energy Code (WSEC) section 101.3.2.1 which states:

101.3.2.1 Additions to Existing Buildings: *Additions to existing buildings or structures may be made to such buildings or structures without making the entire building or structure comply, provided that the new additions shall conform to the provisions of this Code.*

EXCEPTION: *New additions which do not fully comply with the requirements of this Code and which have a floor area which is less than 750 square feet shall be approved provided that improvements are made to the existing occupancy to compensate for any deficiencies in the new addition. Compliance shall be demonstrated by either systems analysis or component performance calculations. The nonconforming addition and upgraded existing occupancy shall have an energy budget or Target UA which is less than or equal to the unimproved existing building (minus any elements which are no longer part of the building envelope once the addition is added), with the addition designed to comply with this Code.*

This exception allows you to upgrade a component(s) in the existing building to compensate for code deficiencies in an addition. Although the WSEC states this section applies to additions, it also works for attached garage conversions to habitable space.

To use this method, you must first calculate how far the addition is out of compliance (expressed in UA) using the component performance approach. Component Performance worksheets are located at: <http://www.energy.wsu.edu/code/>. Once you know the UA deficit of the addition you can use the Residential Additions Worksheet (attached) to demonstrate where you be upgrading the existing structure to compensate.

Get your ducts in a row and inside the heated space

WSU Extension Energy Program staff recently presented findings from a US DOE Building America sponsored study on duct leakage and the benefits of moving them inside the house at the ACEEE 2008 Summer Study on Energy Efficiency. The work presents the WSU RD&D efforts working with Building America production builder partners such as Quadrant Homes and New Traditions Homes as well as Habitat for Humanity. This research suggests moving ducts out of crawlspaces, attics and garages with proper pre-construction planning between builder, designer HVAC contractor, and on-site coordination is about the greenest thing one can do and very cost effective for the new homebuyer. As part of the RD&D effort the regional utilities have determined deemed savings of a WSEC home with a heat pump with ducts inside to average 1,902 kWh per year in Seattle and 4,785 kWh per year in Spokane. There may be utility

incentives to builders who move ducts inside. Check with your local energy provider. Builders who work with their HVAC subs to move ducts inside have also qualified their Energy Star homes and have been eligible for a \$2000 federal energy tax credit.

This presentation is attached.

Coming next: Conditioned crawlspaces – whose idea was that?

Gary Nordeen
WSU Extension Energy Program
nordeeng@energy.wsu.edu