

Subject: **Important News on Thermal Envelope Compliance**

Sent: 5/5/2016

The DSPS website has been updated to include information regarding REScheck. Important news on the use of REScheck for determining thermal envelope compliance and minimum furnace and boiler capacity are now posted on the state's [One and Two Family \(UDC\)](#) website.

Effective January 1, 2016, the Wisconsin Uniform Dwelling Code (UDC) updated its energy conservation code to the 2009 International Energy Conservation Code. As before, compliance with the UDC can be shown by use of the federal REScheck program. However, the newest software version available on the federal DOE website no longer has the option to calculate heating plant sizing.

In order to continue to offer that service, here is a [link](#) to the older version of REScheck, build version **4.6.2.0**. (This may be confirmed by looking at "About" under "Help" on the menu bar of the software. Note that you may have problems if you have more than one version of REScheck on your computer). If you use this version, you must first calculate building envelope compliance by selecting the "2009 IECC" under "Code" on the menu bar, even though you may see a warning that your location requires use of the "Wisconsin 2009" code. After printing that out and without exiting REScheck, you may switch your code to "Wisconsin 2009", enter your county location and calculate your heating plant size on the Loads tab, as before.

Alternatively, to size your heating plant by hand calculation after you have calculated building envelope compliance per the 2009 IECC, you would perform the following calculations, ignoring the units of measure:

1. Multiply the value in the "Your UA" field, from the Envelope tab of Rescheck, by the temperature difference for your dwelling location, which is 70 minus the value from the Outdoor Design Temperature of SPS 323.02(1) table and map in Appendix A of the UDC ([link](#)). (Note that subtracting a minus value is the same as adding.)
2. Calculate your conditioned building volume by multiplying your total conditioned floor area including basements in square feet by its average ceiling height in feet.
3. Select an air infiltration rate between 0.2 and 0.5 air changes per hour, based on your estimated dwelling envelope tightness.
4. Multiply the building volume value from step 2 by your selected air infiltration rate from step 3 and by your temperature difference and by the constant 0.018.
5. Add together the values from steps 1 and 4 to obtain your minimum heating plant output capacity, in BTU/hour. (Note that the UDC no longer has an over-sizing limit.)

To navigate to the One and Two Family Program webpage for these programs and other updates, click this [link](#).