



Setting the Standards for
Home Energy Efficiency

Final Standard Amendment

Title: MINHERS Chapter 1-2013, Addendum 35, Software Accreditation
Date Approved: October 12, 2018
Date Effective: November 11, 2018
Committee: Standard Development Committee 300 (SDC 300)

Justification:

Part One:

The software accreditation process is referenced in MINHERS in a few places including:

- Section 103, “Rating Software”
- Section 302 Definitions “Approved Software Rating Tool”
- Under “Approved Software Rating Tool” in Appendix B- Glossary of Terms

The first simply states that “All HERS Software Tools shall be accredited by RESNET.” The latter two references indicate the HERS Rating Tool shall be tested and approved in accordance with RESNET Publication 002.

In the absence of the guidance provided by this amendment, software vendors are being asked by RESNET to comply with requirements for which no clear compliance criteria has been provided. It is unreasonable to demand software to comply with a requirement when the criteria for passing has not been clearly established. Clear requirements should be established by the consensus of RESNET’s expert technical committees and subcommittees.

Part Two:

The meaning of the phrase, “in accordance with ASHRAE Standard 152-2004,” requires clarification. An Interpretation Request to clarify it was redirected to be handled as an amendment to Standard 301.

The current standard requires a clarifying amendment to address three issues:

1. Standard 301 requires the use of TMY3 data for calculation of the ERI. In contrast, the calculations prescribed by ASHRAE Standard 152 require seasonal temperature and humidity values that are derived from TMY and TMY2 data using an undocumented methodology.
2. While the general methodology of ASHRAE Standard 152 is relevant to ERI simulations, the standard cannot be used directly for this purpose.
 - Stating it simply, while simulation software determines temperatures throughout a home by considering the home's thermal characteristics, Standard 152 does not. Instead, Standard 152-2004 prescribes a simplistic calculation method to determine the temperature and humidity that ducts experience in each part of a home they traverse. The actual thermal conductivities of the building envelope components are not considered by Standard 152 when determining duct location temperatures, and are only included in the supply and return regain factors.
 - Furthermore, Standard 152-2004 does not address a number of building configurations which are fairly common in practice (e.g. crawlspaces with insulation only on the crawlspace walls, sealed unvented attics, etc.).
3. Even though the stated purpose of ASHRAE Standard 152 is a “method of test,” and even though it specifies methods for determining duct leakage and natural infiltration of the home, the requirements of Standard 301 should prevail (i.e. to follow ANSI/RESNET/ICC Standard 380) for determining these measurements.

Regardless of the calculation engine (e.g., hourly or seasonal), all buffer and boundary space conditions within the building structure should be evaluated based on actual thermal and infiltration characteristics of the building, using the same weather data that is used for the rest of the analysis. This latter point, i.e. internal consistency within a simulation using that tool's calculation engine, represents best practice for simulation software.

Modifications to the chapter are given below in underline/strikeout format

Chapter One

RESNET Standards

RESNET National Standard for Quality Assurance

103 Rating Software, Rating Software and Third Party Energy Efficiency Programs

103.1 Accreditation

All HERS Software Tools shall be accredited by RESNET based on compliance with the test criteria specified in the most current approved version of RESNET Publication 002 and Chapter 3 of MINHERS.

103.1.1 Changes to the requirements of Publication 002 shall be governed by RESNET's Standards Development Committee 300.

103.2 Version Requirement

For the purposes of conducting Home Energy Ratings, as defined in these Standards, all users of RESNET Accredited Software shall use the most current version of one of the RESNET Accredited Software Tools listed in the “National Registry of Accredited Rating Software Programs” posted on the RESNET website.

103.3 Rating Software Changes

When RESNET Accredited Software programs release a new version users of RESNET Accredited Software, shall be required to transition to the new version based on the following schedule:

103.3.1 Confirmed or Sampled Ratings on homes with a building permit date that is on or after the 6 month anniversary of the release of the software must utilize the newly released software.

103.3.2 Homes with a building permit date before the 6 month anniversary of the release of the software shall be allowed to complete a Confirmed or Sampled Rating based on the previous version of the software that was utilized for the Projected Rating.

103.3.3 The RESNET Board of Directors may stipulate a timeframe other than the 6 month anniversary of the building permit date.

103.4 Software Technical Appeals

Technical appeals for software tools shall be submitted to the RESNET Standing Software Consistency Committee (SCC) for resolution. Software accreditation shall not be delayed due to a Software Technical Appeal.