**COMMENT #9**

**Page Number:** 7
**Paragraph / Figure / Table / Note:** Section 4 Task 1 Evaluation of the Design
**Comment Intent:** Not an Objection
**Comment Type:** General

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

The ENERGY STAR Rater Checklist or a universal checklist should be designed and made public to evaluate the design of the residential building.

**COMMENT #10**

**Page Number:** 16,18, 29, 35
**Paragraph / Figure / Table / Note:** Section 5.1, Section 6.1, Section 7.1, Section 8.1
**Comment Intent:** Objection
**Comment Type:** Technical

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

We do not agree with allowing the use of an Independent Verification Report.  The language is quite vague about who would be producing such a report and what methods would be required to generate such a report.  Anyone could produce such a report and the approval authority might not have the ability to guage whether any such report is authentic.  We do not feel this report is necessary.

**Proposed Change:**

Remove the definition and any language allowing the use of the Independent Verification Report from Sections 5.1, 6.1, 7.1 and 8.1.

**COMMENT #11**

**Page Number:** 18
**Paragraph / Figure / Table / Note:** Section 6.1
**Comment Intent:** Not an Objection
**Comment Type:** Editorial

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

In the second paragraph, the language mentions the on-board diagnostics systems reporting the volumetric airflow.  We feel that the on-baord system will not be giving any reports, but instead will be displaying the value.  We recommend a simple change from reporting to displaying.

**Proposed Change:**

As an alternative to completing the procedures defined in Sections 6.4 6.3 through 6.7, if the installed equipment contains an on-board diagnostic system that is capable of ~~reporting~~ displaying the Blower Fan volumetric airflow and that is approved for use by an entity adopting and requiring the use of this Standard, then the reported value shall be permitted to be used.

**COMMENT #12**

**Page Number:** 18
**Paragraph / Figure / Table / Note:** Section 6.1
**Comment Intent:** Not an Objection
**Comment Type:** Editorial

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

Simple change to Section numbering in Section 6.1

**Proposed Change:**

As an alternative to completing the procedures defined in Sections ~~6.4~~ 6.3 through 6.7

**COMMENT #13**

**Page Number:** 19-24
**Paragraph / Figure / Table / Note:** Section 6.2-6.5
**Comment Intent:** Not an Objection
**Comment Type:** Editorial

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

Simple editorial changes

**Proposed Change:**

6.2.1. **Eligibility**- make sure Eligibility is bold

6.2.1.1. If the Forced-Air HVAC System has a total amount of supply ductwork or distribution building cavities that does not exceed 10 ft. in length and is entirely in Conditioned Space Volume, then measurement of the airflow shall ~~not be required~~ be exempted and the volumetric airflow grade shall be designated in accordance with Section 6.8.

6.2.1.2. If the Forced-Air HVAC System does not meet the conditions in Section 6.2.1.1 and the total duct leakage has been designated Grade I, the airflow is permitted to be measured using ~~the~~ either Pressure Matching Method (Section 6.4), a Flow Grid

(Section 6.5), a Flow Hood (Section 6.6), or the OEM Static Pressure Table Method (Section 6.7) 26.

6.2.1.3. If the total duct leakage has been designated Grade II, the airflow is permitted to be measured using only Method 1 of the Pressure Matching Method with Method 1 Installation (Section 6.4), a Flow Grid (Section 6.5), or the OEM Static Pressure Table Method (Section 6.7).

6.2.2. Verification of HVAC Components. If the following components are included in the design review / overview of the Forced-Air HVAC System under test, they shall be verified to be present. If these components have not yet ~~been installed~~ made operational, then the test shall not be conducted. The additional requirements defined in Section 6.2.2.1 shall also be met.

6.2.2.1. HVAC equipment. The specified manufacturer(s) and model number(s) of the equipment in the Forced-Air HVAC System under test matches the~~installed equipment~~design review / overview section 4.2.5.3 or supplemental documentation has been collected as defined in Section 4.2.5 and verified in accordance with Section 4.3. If the installed equipment does not match the specified equipment in the original or supplemental documentation, then Blower Fan volumetric airflow shall not be evaluated.

28 (Informative Note) Use of a new clean filter is ~~recommended~~ required to ensure maximum airflow.

6.3.5. Settings for HVAC System. If the Forced-Air HVAC System contains an Air

Conditioner, then the test shall be conducted in highest design speed of cooling mode. If the Forced-Air HVAC System contains a Heat Pump, then the test shall either be conducted in the mode with the higher design airflow, as reported in Section 4.2.5.5.1, or in both the heating and cooling mode. Highest design speed requirements do not necessarily apply to method 6.7, OEM static pressure table method.

6.3.5.1.3. If the Forced-Air HVAC System serves multiple zones, as reported in Section 4.2.5.2, then manufacturer instructions shall be followed to ensure that all zones in the Forced-Air HVAC System are simultaneously calling for the required mode ~~for~~ during testing.

6.3.5.2.2. If the Forced-Air HVAC System serves multiple zones, as reported in Section 4.2.5.2, then manufacturer instructions shall be followed to ensure that all zones in the Forced-Air HVAC System are simultaneously calling for the required mode ~~for~~ during testing.

6.4.1.3. Fan Flowmeter. A tool comprised of a variable speed fan and a Manometer that can convert fan pressure differentials into volumetric airflow.  The fan shall be capable of moving air into the Forced-Air HVAC System to achieve ~~or approach~~ the pressure of its operating conditions, and measure volumetric airflow with an accuracy equal to or better than ± 3% of the measured flow + 7 CFM (3.3 L/s or 0.0033 CMS).

6.4.2.1. A test hole shall be created or located in the supply side of the Forced-Air HVAC System for the placement of the Static Pressure Probe. Moving in the direction of airflow the hole shall be located after any heating and/or cooling equipment but before the first supply duct run. All zone dampers shall be confirmed open. The hole shall not be in flexible ductwork. If the hole cannot be located or created in the supply side, then one of the other airflow test procedures shall be used if airflow is to be measured.

6.4.2.2. The Static Pressure Probe shall be inserted into the test hole, positioned according to its manufacturer’s instructions, affixed in place so it will not move during the test 35,connected to the Manometer, and then the Manometer shall be turned on.

6.4.2.5. One of two methods shall be used to attach the Fan Flowmeter to the Forced- Air HVAC System. Section 6.4.2.5.1 is permitted to be used for all Forced-Air HVAC Systems. Section 6.4.2.5.2 is only permitted to be used for a Forced-Air HVAC System with a duct system that has a single return grille and Gr.1 total duct leakage.

6.4.2.9. The Fan Flowmeter shall be turned off and removed; the air barrier removed, if inserted; the blower access panel replaced, if removed; and the supply side hole shall be sealed per 6.4.1.4

6.5.2.1. A test hole shall be created or located in the supply side of the Forced-Air HVAC System for the placement of the Static Pressure Probe. Moving in the direction of airflow the hole shall be located after any heating and/or cooling equipment but before the first supply duct run. The hole shall not be in flexible ductwork. If the hole cannot be located or created in the supply side, then one of the other airflow test procedures shall be used if airflow is to be measured.

6.5.2.2. The Static Pressure Probe shall be inserted into the test hole, positioned according to its manufacturer’s instructions, affixed in place so it will not move during the test 37, connected to the Manometer, and then the Manometer shall be turned on.

6.5.2.6. The average static pressure at the test hole, Ptest, shall be measured over at least a 10-second period.

6.5.2.9. The Flow Grid shall be removed and the filter replaced; and the supply side test hole shall be sealed, per 6.5.1.4

**COMMENT #14**

**Page Number:** Section 6.7 - 6.8
**Paragraph / Figure / Table / Note:** 26-28
**Comment Intent:** Not an Objection
**Comment Type:** Editorial

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

Simple Editorial Edits

**Proposed Change:**

6.7.3.3. A test hole shall be located or created in the return-side of the Forced-Air HVAC system for the placement of the Static Pressure Probe. Moving in the direction of airflow, the return-side hole shall be located after the filter but before the Blower Fan. The hole shall not be in flexible ductwork. If the hole cannot be located or created in the return side, then one of the other airflow test procedures shall be used if airflow is to be measured.

6.7.3.4.  A test hole shall be located or created in the supply-side of the Forced-Air HVAC System for the placement of the Static Pressure Probe. For Furnaces, moving in the direction of airflow the supply-side hole shall be located after the Furnace but before the evaporator coil, if a coil is present. For Heat Pumps, moving in the direction of airflow the hole shall be located after the fan-coil but before the presence of any other components not accounted for in the OEM Static Pressure Table 42. The hole shall not be in flexible ductwork. If the hole cannot be located or created in the supply side, then one of the other airflow test procedures shall be used if airflow is to be measured.

6.7.3.13. The supply side and return side holes shall be sealed per 6.7.1.3.

6.8.1. If Grade I total duct leakage has been designated ~~and the Forced-Air HVAC System has a total amount of supply ductwork or distribution building cavities that does not exceed 10 ft. in length and is entirely in Conditioned Space Volume,~~ then Qdev shall equal zero. Otherwise, Qdev, the deviation between the design-specified and field-measured Blower Fan volumetric airflow shall be calculated using Equation 10.

**COMMENT #15**

**Page Number:** Section 7.3.1
**Paragraph / Figure / Table / Note:** 30
**Comment Intent:** Objection
**Comment Type:** Technical

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

Remove Section 7.3.1 in entirety and renumber sections.  The Independent Verification Report should not be allowed.

**Proposed Change:**

~~7.3.1. If an Independent Verification Report was used to determine the Blower Fan volumetric airflow, then the procedure to prepare the Dwelling and Forced-Air HVAC System for testing defined in Section 6.3 shall be completed.~~

**COMMENT #16**

**Page Number:** 7.3.2
**Paragraph / Figure / Table / Note:** 30
**Comment Intent:** Objection
**Comment Type:** Technical

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

We recommend the Ventilation Mode testing be removed as it cannot be used for grading purposes.

**Proposed Change:**

7.3.2. Settings for HVAC System. If the Forced-Air HVAC System contains an Air Conditioner, then the test shall be conducted in cooling mode. If the Forced-Air HVAC System contains a Heat Pump, then the test shall either be conducted in the mode with the higher design airflow, as reported in Section 4.2.5.5.1, or in both the heating and cooling mode. ~~If the Blower Fan watt draw in Ventilation Mode is being verified, then Section 7.3.2.3 shall be followed. Blower Fan watt draw in Ventilation Mode shall not be used to designate the Blower Fan watt draw grade per Section 7.8.~~

**COMMENT #17**

**Page Number:** 7.3.2
**Paragraph / Figure / Table / Note:** 30
**Comment Intent:** Objection
**Comment Type:** Technical

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

We recommend the Ventilation Mode testing be removed as it cannot be used for grading purposes.

**Proposed Change:**

7.3.2. Settings for HVAC System. If the Forced-Air HVAC System contains an Air Conditioner, then the test shall be conducted in cooling mode. If the Forced-Air HVAC System contains a Heat Pump, then the test shall either be conducted in the mode with the higher design airflow, as reported in Section 4.2.5.5.1, or in both the heating and cooling mode. ~~If the Blower Fan watt draw in Ventilation Mode is being verified, then Section 7.3.2.3 shall be followed. Blower Fan watt draw in Ventilation Mode shall not be used to designate the Blower Fan watt draw grade per Section 7.8.~~

**COMMENT #18**

**Page Number:** 7.3.2.3
**Paragraph / Figure / Table / Note:** 30
**Comment Intent:** Objection
**Comment Type:** Technical

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

Continuing changes from Comment #17

Ventilation mode should not be allowed here as it cannot be used for grading.

**Proposed Change:**

~~7.3.2.3. Ventilation Mode.~~

~~7.3.2.3.1. The thermostat shall be set to Ventilation Mode 51.~~

~~51 (Informative Note) Ventilation Mode may be indicated on the thermostat as “Fan-On”.~~

**COMMENT #19**

**Page Number:** 7.3.2.3
**Paragraph / Figure / Table / Note:** 30
**Comment Intent:** Objection
**Comment Type:** Technical

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

Continuing changes from Comment #17

Ventilation mode should not be allowed here as it cannot be used for grading.

**Proposed Change:**

~~7.3.2.3. Ventilation Mode.~~

~~7.3.2.3.1. The thermostat shall be set to Ventilation Mode 51.~~

~~51 (Informative Note) Ventilation Mode may be indicated on the thermostat as “Fan-On”.~~

**COMMENT #20**

**Page Number:** 31
**Paragraph / Figure / Table / Note:** 7.4.1
**Comment Intent:** Not an Objection
**Comment Type:** General

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

Equipment calibration language should be removed or define procedure as manufacturers probably do not do this.

**Proposed Change:**

7.4.1. Equipment Needed. The equipment listed in this section shall have its calibrations checked at the manufacturer's recommended interval~~, and at least annually if no time is specified.~~

**COMMENT #21**

**Page Number:** Section 8.3.2
**Paragraph / Figure / Table / Note:** 36
**Comment Intent:** Objection
**Comment Type:** Technical

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

The weigh-in method is reasonable and could be implemented with a good relationship between the rater and the HVAC contractor.  This appears to be the most practical, if the standard could be modified to allow this method to be used under all conditions, not just when the non-invasive method can’t be used.

Also removing the language on Independent Verification Report

**Proposed Change:**

8.3.2.1. The Weigh-In Method, per Section 8.5, is permitted to be used ~~when the following conditions are met~~ in all conditions

~~8.3.2.1.1. Outdoor air temperatures do not meet the requirements of the Non-Invasive method in Section 8.3.2.2; or,~~

~~8.3.2.1.2. The Forced-Air HVAC System is a Mini-Split Air Conditioner, Mini-Split Heat Pump, Multi-Split Air Conditioner, or a Multi-Split Heat Pump.~~

~~8.4.1.1. If an Independent Verification Report was used to determine the Blower Fan volumetric airflow, then the procedure to prepare the Dwelling and Forced-Air HVAC System for testing defined in Section 6.3 shall be completed.~~

**COMMENT #22**

**Page Number:** Section 8.5
**Paragraph / Figure / Table / Note:** 43
**Comment Intent:** Not an Objection
**Comment Type:** Technical

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

We feel that a pipe caliper should also be allowed for measuring pipe diameter.

**Proposed Change:**

8.5.1.1. Measuring Tape. A device that can determine length with an accuracy of ± 1/16 inch (1.6 mm).

8.5.1.2. Pipe Caliper. A measuring device for the purpose of measuring pipe diameter to an accuracy of +- 1/8", either directly or with a conversion scale printed on the device.

**COMMENT #23**

**Page Number:** 44
**Paragraph / Figure / Table / Note:** Section 8.5.3
**Comment Intent:** Not an Objection
**Comment Type:** Technical

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

Adding a new section for using pipe caliper for circumference of liquid line.

**Proposed Change:**

8.5.3.2. Using the Measuring Tape, the circumference of the liquid line shall be measured to the nearest 1/16th of an inch (1.6 mm) and divided by 3.14 to calculate the outer diameter, and recorded.

8.5.3.3 Using the Pipe caliper, the diameter of the liquid line shall be measured to the nearest 1/8" and recorded.

Renumber sections 8.5.3.3 through 8.5.3.7

**COMMENT #24**

**Page Number:** 44
**Paragraph / Figure / Table / Note:** Section 8.5.3
**Comment Intent:** Not an Objection
**Comment Type:** Technical

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

Adding a new section for using pipe caliper for circumference of liquid line.

**Proposed Change:**

8.5.3.2. Using the Measuring Tape, the circumference of the liquid line shall be measured to the nearest 1/16th of an inch (1.6 mm) and divided by 3.14 to calculate the outer diameter, and recorded.

8.5.3.3 Using the Pipe caliper, the diameter of the liquid line shall be measured to the nearest 1/8" and recorded.

Renumber sections 8.5.3.3 through 8.5.3.7

**COMMENT #25**

**Page Number:** 45
**Paragraph / Figure / Table / Note:** Section 8.6.1
**Comment Intent:** Not an Objection
**Comment Type:** Technical

**Comment:**

This comment is being issued on behalf of the Standards Committee of the North East Home Energy Rating Alliance, which represents more than 340 Raters and 11 Providers from New Jersey to Maine.

Referencing another standard for establishing the grade is logistically problematic.  The deviations from ACCA Standard 5 need to be listed here.

**Proposed Change:**

8.6.1. If the superheat or subcooling of the Forced-Air HVAC System under test was reported using an on-board diagnostic system ~~or through an Independent Verification Report~~, then Grade I shall be designated if the superheat or subcooling deviation is ~~within the limits specified within ANSI/ACCA QI 5 Section 4.3.1.~~+/- 3F for subcooling and +/- 5F for superheat.