

- 33 literature (i.e., user manuals, spec sheets, etc.), and on the Partner's Web site where
34 information about ENERGY STAR qualified models is displayed;
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- 36 • provide to EPA on at least an annual basis an updated list of ENERGY STAR qualified
37 H/ERV models. Once the Partner submits its first list of ENERGY STAR qualified H/ERV
38 models, the Partner will be listed as an ENERGY STAR Partner. Partner must provide an
39 update at least annually in order to remain on the list of participating product Partners;
40
 - 41 • provide to EPA, on an annual basis, unit shipment data or other market indicators to
42 assist in determining the market penetration of ENERGY STAR. Specifically, Partner
43 must submit the total number of ENERGY STAR qualified H/ERVs shipped (in units by
44 model) or an equivalent measurement as agreed to in advance by EPA and Partner.
45 Partner is also encouraged to provide ENERGY STAR qualified unit shipment data
46 segmented by meaningful product characteristics, total unit shipments for each model in
47 its product line, and percent of total unit shipments that qualify as ENERGY STAR. The
48 data for each calendar year should be submitted to EPA, preferably in electronic format,
49 no later than the following March and may be provided directly from the Partner or
50 through a third party. The data will be used by EPA only for program evaluation
51 purposes and will be closely controlled. If requested under the Freedom of Information
52 Act (FOIA), EPA will argue that the data is exempt. Any information used will be masked
53 by EPA so as to protect the confidentiality of the Partner;
54
 - 55 • authorize and ensure sharing by certification organizations of verification testing
56 outcomes on an annual basis and challenge testing outcomes when challenge testing is
57 performed to enable EPA to verify data submitted by Partners for ENERGY STAR
58 qualification. Information to be shared in the testing outcome reports shall include a list of
59 the Partner's ENERGY STAR qualified products the ratings of which underwent
60 verification or challenge testing; the SRE (and potentially under Tier 2, TRE) ratings of
61 those products where applicable; the airflow ratings of those products; the fan motor
62 electrical power values of those products; and an indication as to the resolution of any
63 verification or challenge testing failures.
64
 - 65 • notify EPA of a change in the designated responsible party or contacts for H/ERVs within
66 30 days.
67

68 **Performance for Special Distinction**

69 In order to receive additional recognition and/or support from EPA for its efforts within the
70 Partnership, the ENERGY STAR Partner may consider the following voluntary measures and
71 should keep EPA informed on the progress of these efforts:

- 72
- 73 • consider energy efficiency improvements in company facilities and pursue the ENERGY
74 STAR label for buildings;
75
- 76 • purchase ENERGY STAR qualified products. Revise the company purchasing or
77 procurement specifications to include ENERGY STAR. Provide procurement officials'
78 contact information to EPA for periodic updates and coordination. Circulate general
79 ENERGY STAR qualified product information to employees for use when purchasing
80 products for their homes;
81
- 82 • ensure the power management feature is enabled on all ENERGY STAR qualified
83 monitors in use in company facilities, particularly upon installation and after service is
84 performed;
85

- 86 • provide general information about the ENERGY STAR program to employees whose jobs
87 are relevant to the development, marketing, sales, and service of current ENERGY STAR
88 qualified product models;
- 89
90 • feature the ENERGY STAR mark on Partner Web site and in other promotional materials.
91 If information concerning ENERGY STAR is provided on the Partner Web site as
92 specified by the ENERGY STAR Web Linking Policy (this document can be found in the
93 Partner Resources section on the ENERGY STAR Web site at www.energystar.gov),
94 EPA may provide links where appropriate to the Partner Web site;
- 95
96 • provide a simple plan to EPA outlining specific measures Partner plans to undertake
97 beyond the program requirements listed above. By doing so, EPA may be able to
98 coordinate, communicate, and/or promote Partner's activities, provide an EPA
99 representative, or include news about the event in the ENERGY STAR newsletter, on the
100 ENERGY STAR Web pages, etc. The plan may be as simple as providing a list of
101 planned activities or planned milestones that Partner would like EPA to be aware of. For
102 example, activities may include: (1) increase the availability of ENERGY STAR qualified
103 products by converting the entire product line within two years to meet ENERGY STAR
104 guidelines; (2) demonstrate the economic and environmental benefits of energy efficiency
105 through special in-store displays twice a year; (3) provide information to users (via the
106 Web site and user's manual) about energy-saving features and operating characteristics
107 of ENERGY STAR qualified products; and (4) build awareness of the ENERGY STAR
108 Partnership and brand identity by collaborating with EPA on one print advertorial and one
109 live press event;
- 110
111 • provide quarterly, written updates to EPA as to the efforts undertaken by Partner to
112 increase availability of ENERGY STAR qualified products, and to promote awareness of
113 ENERGY STAR and its message;
- 114
115 • join EPA's SmartWay Transport Partnership to improve the environmental performance of
116 the company's shipping operations. SmartWay Transport works with freight carriers,
117 shippers, and other stakeholders in the goods movement industry to reduce fuel
118 consumption, greenhouse gases, and air pollution. For more information on SmartWay,
119 visit www.epa.gov/smartway;
- 120
121 • join EPA's Climate Leaders Partnership to inventory and reduce greenhouse gas
122 emissions. Through participation, companies create a credible record of their
123 accomplishments and receive EPA recognition as corporate environmental leaders. For
124 more information on Climate Leaders, visit www.epa.gov/climateleaders;
- 125
126 • join EPA's Green Power partnership. EPA's Green Power Partnership encourages
127 organizations to buy green power as a way to reduce the environmental impacts
128 associated with traditional fossil fuel-based electricity use. The partnership includes a
129 diverse set of organizations including Fortune 500 companies, small and medium
130 businesses, government institutions as well as a growing number of colleges and
131 universities, visit <http://www.epa.gov/grnpower>.

132 **Eligibility Criteria (Version 1.0)**

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135 Below is the Version 1.0 product specification for ENERGY STAR qualified residential H/ERVs. A
136 product must meet all of the identified criteria to earn the ENERGY STAR.

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138 1) Definitions: Below is a brief description of heat/energy-recovery ventilators and other terms
139 as relevant to ENERGY STAR.

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- A. Heat-recovery ventilator (HRV): A factory-assembled packaged unit including fans or blowers that transfers heat between two isolated airstreams.
 - B. Energy-recovery ventilator (ERV): A heat-recovery ventilator designed to transfer heat and moisture.
 - C. H/ERV: A product that is either an HRV or an ERV as defined in 1A and 1B.
 - D. Sensible heat-recovery efficiency (SRE): The apparent effectiveness adjusted per clause 9.3.3 of CSA C439-09 equation 12 to take into account fan energy, leakage (exhaust air transfer), mass and flow imbalance, frost control, and certain other external and internal energy gains and losses.
 - E. Total energy-recovery efficiency (TRE): The apparent total (enthalpy) effectiveness adjusted per clause 9.3.3 of CSA C439-09 equation 13 to take into account fan energy, leakage (exhaust air transfer), mass and flow imbalance and certain other external and internal gains and losses.
 - F. Net Airflow: The gross airflow during an energy performance test reduced by the measured amount of leakage (identified in C439 as exhaust air transfer ratio (EATR)). Net airflow is the actual amount of outside air supplied by the unit and it is reported in the HVI 911 directory for each energy performance test.
 - G. Test Airflow: The net airflow in cubic feet per minute (cfm) for an energy performance test for which a certified performance rating with -13°F (-25°C), 32°F (0°C), or 95°F (35°C) outdoor air temperature is provided in the current HVI 911 directory of certified performance.
 - H. Power Consumption in Watts (W): The average power consumed during a specific energy performance test as reported in the HVI 911 directory.
 - I. Fan Efficacy (cfm/W): The test airflow listed in the HVI 911 directory during a heating mode energy performance test with 32°F (0°C) supply air temperature divided by the power consumption listed in the HVI 911 directory for the same test. Fan Efficacy in cfm/W shall be rounded to and reported at the nearest one decimal place (tenth) and used to determine compliance with this specification.
 - J. Standby Power (W): The power consumption determined when the HRV/ERV is not in use, measured in accordance with CSA C439-09. CSA C439-09 references IEC 62301.
 - K. Certified data: Performance data published in the current edition of the HVI Publication 911: Certified Home Ventilating Products Directory[®] or an on-line HVI directory of certified products.
 - L. CSA C439-09: "Standard Laboratory Methods of Test for Rating the Performance of Heat/Energy-Recovery Ventilators".
 - M. HVI Publication 920: HVI Product Performance Certification Procedure Including Verification and Challenge[®]. Publication that defines and specifies certain aspects of the procedures, covering such points as the actual testing, the certification process, challenge procedures, etc.
 - N. HVI 911: HVI Publication 911: Certified Home Ventilating Products Directory[®]: The Home Ventilating Institute (HVI) publishes a Certified Products Directory that is updated approximately monthly (www.hvi.org).

- 197 O. Manufacturer Limited Warranty: Manufacturer limited warranty is an assurance by the
198 ENERGY STAR Participant that purchased system equipment and components are
199 warranted for a certain required period-of-time. The ENERGY STAR Participant is to
200 comply with the warranty requirements as standard for all ENERGY STAR qualified
201 models. ENERGY STAR can request the Participant to submit warranty documentation at
202 any time. The exact terms of the limited warranty, given the minimum requirements, shall
203 be determined by the Participant.
204
- 205 P. Disclaimer Label: The disclaimer label is a label that shall include the ENERGY STAR
206 mark, a textual indication of the climate zones in which the product is ENERGY STAR
207 qualified, and a climate zone map illustrating those zones. The label shall be available for
208 download from the ENERGY STAR Web site.
209
- 210 2) Qualifying Products: In order to qualify as ENERGY STAR, a residential H/ERV must meet
211 the definition in Section 1A or 1B, comply with the testing and minimum performance
212 requirements provided in this specification, and *have a capacity of no greater than 500 cfm*.
213 H/ERVs with electric resistance heaters are ineligible for ENERGY STAR qualification.
214
- 215 Under Tier 1 of this specification, products are eligible for ENERGY STAR qualification only
216 in Canada.

Note: This draft proposes a capacity limit of 500 cfm to ensure that only residential products qualify. The value of 500 cfm was selected to be consistent with the ENERGY STAR Residential Ventilating Fans specification. The word, "residential," has also been added to the draft specification in three locations. Another sentence has been added to emphasize that H/ERVs may not be ENERGY STAR qualified in the US under Tier 1 of this specification.

- 217
- 218 3) ENERGY STAR Criteria for Qualifying Products: Only those products described in Section 2,
219 above, that meet the criteria outlined in Table 1 or Table 2 as applicable may qualify for
220 ENERGY STAR. In addition, all ENERGY STAR H/ERVs must meet all the requirements
221 listed in sections 4 to 13 of this specification.
222
- 223 A. Tier 1
- 224
- 225 Products to be sold as ENERGY STAR qualified must be tested and meet SRE
226 requirements at 32°F (0°C) and -13°F (-25°C). The net supply airflows (in cfm) used

Note: A number of comments were received stating this specification should not include a requirement for net supply airflows (in cfm) used during testing at these two different temperatures to be within 10% of each other.

Without identifying a tolerance, the label would need to be expanded to indicate exactly at which flow the unit complies with the performance specifications for each temperature. In addition, tests might be performed at significantly different flows at each temperature (for example, 0C test data at 150 cfm and -25 data at 20 cfm).

In practice, once an H/ERV is installed it does not automatically change flow rate at different outdoor temperatures; therefore, accepting performance ratings at significantly different flows would be both confusing and misleading.

Removing the ten percent tolerance would slightly increase the number of qualified products; in turn, this would require increasing either the SRE and/or fan efficacy requirements in Tier 1 to maintain a passing rate of nominally 25%.

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during testing at these two different temperatures must be within 10% of each other, and specified in product literature and labeling.

Note: A number of comments were received stating that this specification should not include an SRE test at -13°F (-25°C). The comments included claims that this operating condition never occurs in the majority of the North American market and that the specific test method and metric does not reliably indicate the relative energy efficiency of different models under general winter conditions

A low temperature test was developed by the CSA C439 Technical Sub-Committee (TSC) over 20 years ago. At that time, the CSA C439 TSC had been notified by installers and regulators that a number of installed H/ERVs were not performing adequately during Canadian winters. The low temperature test was incorporated into the CSA Standard specifically to provide a standard method to determine whether the test unit operated correctly with very low supply air (i.e., outdoor air) temperature and high indoor humidity, as well as to provide independent information that would enable end users or contractors to assess whether products' defrost mechanisms worked. A low temperature test for H/ERVs may be considered analogous to the maximum high temperature and low temperature tests that are included in the CSA C656-05 performance standard for split-system and single-package central air conditioners. Those tests are required before heat pump equipment can be certified and marketed, even though those abnormal operating conditions rarely, if ever, occur in the majority of the North American market.

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B. Products to be sold as ENERGY STAR qualified must meet fan efficacy requirements at 32°F (0°C).

Note: Several comments on Draft 1 of this specification suggested that cfm per watt not be included in the specification because, to cite a representative explanation, "electrical energy use of H/ERVs is taken into account in the [SRE] calculation."

While it is true that the thermal impact of the electrical energy use is accounted for in the SRE calculation, H/ERVs require electricity to operate. The power consumption of H/ERVs increases overall electricity consumption, represents an incremental electrical load, and is of great interest to home owners and utilities. Analysis of the HVI certified data indicates there is a range of more than five-to-one in the calculated cfm per watt (ranging from less than 0.4 to over 2). Data also indicate there is little or no correlation between cfm per watt and SRE. To address concerns that a cfm per watt requirement might eliminate the best performing H/ERVs from ENERGY STAR, an exemption from the cfm per watt criterion has been included in the Tier 1 requirements for H/ERVs with SRE values over a certain percentage at 32°F (0°C). The Tier 2 specification includes reduced cfm per watt requirements for H/ERVs with SRE values over a certain percentage at 32°F (0°C).

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C. Tier 2

For qualification under Tier 2, please see the climate zone map on the last page of this specification to determine the supply temperatures at which your product must be tested, and thereby which minimum SRE and/or TRE requirements it must meet. Products to be sold as ENERGY STAR qualified only in heating zones (climate zones ≥ 6 (for the purpose of this specification, Canada is deemed to be in zone 6 or greater)) must be tested and meet SRE requirements at 32°F (0°C) and -13°F (-25°C). The net supply airflows (in cfm) used during testing at these two different temperatures must be within 10% of each other, and specified in product literature and labeling.

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Products to be sold as ENERGY STAR qualified only in neutral zones (climate zones 2 B&C, 3 B&C, 4, and 5) must be tested and meet SRE requirements at 32°F (0°C).

Note: This draft proposes that under Tier 2, products to be sold in climate zones 2 B&C, 3 B&C, 4, or 5 be tested and meet SRE requirements at 32°F (0°C), with the understanding that these zones experience neither extreme cold nor extreme heat and humidity often enough to justify including efficiency requirements for such conditions.

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Products to be sold as ENERGY STAR qualified only in cooling zones (climate zones 1, 2A, and 3A) must be tested and meet SRE and TRE requirements at 32°F (0°C) and 95°F (35°C). The net supply airflows (in cfm) used during testing at these two different temperatures must be within 10% of each other, and specified in product literature and labeling.

Note: This draft proposes that under Tier 2, products to be sold in climate zones 1, 2A, or 3A be tested and meet SRE and TRE requirements at 95°F (35°C), with the understanding that these zones experience that temperature often enough to justify including efficiency requirements for that temperature.

Note: Several comments on Draft 3 of this specification suggested that the three climate zones be identified numerically as zones 1, 2 and 3 rather than “heating”, “neutral” and “cooling”. The descriptive terms are more informative and are used in this final draft specification to avoid potential for confusion between the three zone boundaries that are used in this specification and the numbered zones that are identified on the attached climate zone map.

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Products to be sold as ENERGY STAR qualified in any climate must meet fan efficacy requirements at 32°F (0°C).

Table 1. Tier 1 SRE and Fan Efficacy Minimum Requirements

Climate Zone	Zone Definition	Minimum SRE at 32°F (0°C)	Minimum SRE at -13°F (-25°C)	Minimum Fan Efficacy with 32°F (0°C) supply temperature	
Heating	Canada	60%	55%	SRE < 75%	1 cfm/W
				SRE ≥ 75%	any cfm/W

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Table 2. Tier 2 SRE, TRE and Fan Efficacy Minimum Requirements

Climate Zone	Zone Definition	Minimum SRE at 32°F (0°C)	Minimum SRE at -13°F (-25°C)	Minimum TRE at 95°F (35°C)	Minimum Fan Efficacy with 32°F (0°C) supply temperature	
Heating	≥ 6, Canada	65%	60%	N/A	SRE < 75%	1.2 cfm/W
					SRE ≥ 75%	0.8 cfm/W
Neutral	2 B&C, 3 B&C, 4, 5	TBD	TBD	TBD	SRE < TBD	TBD cfm/W
					SRE ≥ TBD	TBD cfm/W
Cooling	1, 2A, 3A	TBD	TBD	TBD	SRE < TBD	TBD cfm/W
					SRE ≥ TBD	TBD cfm/W

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Note: Judging from an analysis of the H/ERV models in HVI’s product directory, Tier 1 requirements result in a pass rate of 28% of base models intended for sale in heating zones (i.e., Canada, where the 32°F (0°C) and -13°F (-25°C) tests would need to be performed). Tier 2 provisional requirements result in a pass rate of 12% of base models intended for sale in heating zones. It is anticipated that by July 1, 2012, the pass rate under Tier 2 will be closer to 25%.

For products intended for sale in neutral and/or cooling zones under Tier 2, requirements are to be determined (TBD), pending extension of this specification to the US.

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- 4) Quality Assurance Requirements: To assure the quality of ENERGY STAR qualified H/ERVs, the following quality assurance requirements must be met for an H/ERV to qualify as ENERGY STAR:

Warranty: Partner shall provide a minimum one-year warranty.

- 5) Inclusion of Installation Instructions: Picture diagram-type installation instructions shall be included with each qualified H/ERV. The instructions shall indicate the following:
- A. How to properly seal the openings to the exterior of the thermal envelope of the building with caulk or other similar material to inhibit air leakage.
 - B. Recommended ductwork installation including type, impact of elbows, terminations, sealants, and lengths that will minimize static pressure losses and promote adequate airflow.
 - C. Proper installation of vibration deadening materials such as short pieces of flexible duct.
 - D. Proper installation of thermal insulation and connecting ducts to minimize heat loss and gain.
- 6) Consumer Information: Manufacturers must include the following information on the product or in product literature and on the Partner's Web site:
- A. "To ensure quiet operation of ENERGY STAR qualified HRV/ERVs, each product should be installed using sound attenuation techniques appropriate for the installation."
 - B. "The way that your Heat/Energy-recovery ventilator is installed may make a significant difference to the electrical energy that you will use. To minimize the electricity use of the Heat/Energy-recovery ventilator, a stand-alone fully ducted installation is recommended. If you choose a simplified installation that operates your furnace airhandler for room-to-room ventilation, an electrically efficient furnace that has an electronically commutated (EC) variable speed blower motor will minimize your electrical energy consumption and operating cost."
 - C. "Installation of a user-accessible control with your product will improve comfort and may significantly reduce the product's energy use."
 - D. Disclaimer Label: The content of the ENERGY STAR disclaimer label shall be contingent upon the climate zone(s) in which it is to be marketed as ENERGY STAR qualified, as described in Tables 1 and 2, and detailed as follows:.

1. Tier 1

The label shall read:

"This product earned the ENERGY STAR by meeting strict energy efficiency guidelines set by Natural Resources Canada and the US EPA. It meets ENERGY STAR requirements only when used in Canada."

2. Tier 2

The label shall begin:

"This product earned the ENERGY STAR by meeting strict energy efficiency

315 *guidelines set by Natural Resources Canada and the US EPA. It meets ENERGY*
316 *STAR requirements only when used in”*
317
318 and depending on the climate zone(s) in which the product is intended to be sold,
319 continue:
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321 – Heating zones: *“Canada and/or climate zones ≥ 6 on the adjacent map.”*
322
323 – Neutral zones: *“climate zones 2 B&C, 3 B&C, 4, or 5 on the adjacent map.”*
324
325 – Cooling zones: *“climate zones 1, 2A, or 3A on the adjacent map.”*
326
327 – Heating and neutral zones: *“climate zones ≥ 4 , or zones 2 B&C or 3 B&C on the*
328 *adjacent map.”*
329
330 – Heating and cooling zones: *“Canada and/or climate zones ≥ 6 , or zones 1, 2A, or 3A*
331 *on the adjacent map.”*
332
333 – Neutral and cooling zones: *“climate zones ≤ 5 on the adjacent map (excluding*
334 *Canada).”*
335
336 – Heating, neutral, and cooling zones: The term, “only” should be removed, such that
337 the disclaimer reads, *“This product earned the ENERGY STAR by meeting strict*
338 *energy efficiency guidelines set by the Natural Resources Canada and the US EPA.*
339 *It meets ENERGY STAR requirements when used in any zone on the adjacent map.”*
340
341 3. Tiers 1 and 2
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343 The placement of this statement must be adjacent to the ENERGY STAR mark and
344 any text describing the ENERGY STAR program and/or qualified products.
345
346 The disclaimer label will be available for Partners to download from the ENERGY
347 STAR Web site with other ENERGY STAR marks. It shall be at least 3” x 2” in size,
348 and may be vertical or horizontal. The Partner may enlarge it for larger product
349 packaging surfaces if so desired.
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351 The disclaimer label shall be clearly displayed on the same side as the ENERGY
352 STAR mark on the product and product packaging, in the installation/instruction
353 manual, and on the Partner’s Web site where information about ENERGY STAR

Note: Given the inclusion of climate-zone-based requirements in this draft of the H/ERV specification, it is possible under Tier 2 for an H/ERV model to be qualified in one or more climate zones but unqualified in one or more other climate zones. To help avoid confusion in the marketplace and assist the end user or contractor to identify H/ERV models that are ENERGY STAR qualified for the climate zone in which the product will be used, proposed in this draft is the inclusion of a disclaimer label on the front of the product and product packaging, in the installation/instruction manual, and on the Partner’s Web site where information about ENERGY STAR qualified models is displayed. This label will include the ENERGY STAR mark, a textual indication of where the product is ENERGY STAR qualified, and a climate zone map.

This strategy is in keeping with Version 4.0 of the ENERGY STAR Residential Windows, Doors, and Skylights specification. This specification also employs a climate-based approach to ENERGY STAR qualification, relying upon a modified ENERGY STAR mark to indicate where a given product is qualified.

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qualified models is displayed.

Note: EPA and NRCan would like to note that it is their intention that the information to be included with ENERGY STAR qualified H/ERVs as described in sections 4 – 6, above, will be presented clearly, consistently, and openly, such that the consumer and/or installer is able to make informed decisions regarding the purchase, installation, and operation of the product.

In order to avoid confusion in the marketplace, Partners may not market their qualified products as meeting the requirements of any particular tier of this specification. In other words, the ENERGY STAR mark may not be amended to refer to any particular specification tier. For example, Partners may not market their products as qualified to Tier 2 of this specification, before or while Tier 2 is in effect, even if they meet Tier 2 requirements. ENERGY STAR qualified products may only be marketed as ENERGY STAR qualified, without amendment, which is intended to indicate that such products are qualified to the specification version and tier that are currently in effect, and none other.

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- 7) Product Testing and Certification: Manufacturers are required to perform tests, according to the requirements included in this specification, and then submit qualifying model information for approval. Each qualifying model must be tested in accordance with CSA C439 and certified by HVI, or another such organization as approved by EPA (see Section 9, Requirements of Organizations Certifying Products for ENERGY STAR). Certification testing includes both initial qualification testing, as well as ongoing verification testing.
- 8) Verification and Challenge Testing: The Partner shall be subject to the verification and challenge testing procedures of the organization that certifies its H/ERV products, and ensure that the certification organization shares with EPA the results of this testing, as described in the Commitments section of this specification. If as a result of this testing the Partner chooses to certify the ratings of the tested product at a value that differs from the product's value as originally used for ENERGY STAR qualification, the Partner shall report the new ratings to EPA. If the new SRE/TRE or cfm/W values do not permit the product to qualify for ENERGY STAR, the Partner shall provide EPA with a corrective action plan. EPA will remove the product from the Qualified Product List and the Partner will be asked to cease using the ENERGY STAR mark until the violation can be resolved. If the Partner chooses to delist a product following verification or challenge testing, the Partner shall report this to EPA, along with a corrective action plan that addresses the removal of the ENERGY STAR mark from products, company Web site(s), and product literature.
- 9) Requirements of Organizations Certifying Products for ENERGY STAR Qualification: This specification does not grant any organization the exclusive right to certify the performance of an H/ERV product for ENERGY STAR qualification. EPA will maintain a list of organizations authorized under this specification. As EPA approves certification organizations, it will add them to this list. EPA will consider the following elements when reviewing a certification organization for inclusion on this list:
- A. Laboratory Requirements:
- Laboratory accreditation: To test H/ERV products under this specification, the certification organization must ensure that all ENERGY STAR models are tested by an independent 3rd party laboratory that is accredited by an accreditation body that is a signatory, in good standing, to a mutual recognition arrangement of a laboratory accreditation cooperation (i.e. ILAC, APLAC, etc.) that verifies, by evaluation and peer assessment, that its signatory members are in full compliance with ISO/IEC 17011 and that their accredited

393 laboratories comply with ISO/IEC 17025 or CAN-P-4E. Laboratories must be specifically
394 qualified to carry out tests to determine whether H/ERVs meet key product criteria as
395 outlined in this document. A laboratory's Scope of Accreditation must reflect its specific
396 competence to carry out the applicable test procedures referenced in CSA C439.

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398 B. Verification procedure requirements:
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- 400 1. The organization shall have in place a verification testing procedure.
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402 2. Product procurement: Products to undergo verification testing shall be procured from
403 the marketplace. In order to ensure the organization's ability to procure a production
404 unit, the organization shall not inform the Partner which models will be tested or
405 where they will be obtained. Where this is not possible, and the products must be
406 procured from the Partner, the organization shall ensure the samples are randomly
407 selected from the production line.
408
409 3. Frequency of testing, and number of products to be tested: The organization shall
410 ensure that 100% of each Partner's certified base model products that are ENERGY
411 STAR qualified undergo verification testing every five years. The proportion or
412 number of a Partner's products to be tested annually may be determined by the
413 certification organization.

Note: Comments were received suggesting that the three year window for verification proposed in draft 3.0 be extended because of concerns relating to cost and laboratory testing capacity. Recognizing those concerns, the time period for verification has been revised to 5 years from 3 years. Note that ENERGY STAR verification requirements apply only to qualified products, not to all certified models.

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415 4. Resolution of failures: The organization shall have in place a procedure to resolve
416 product failures, and provide EPA with details of this procedure.
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418 C. Challenge procedure requirements:
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- 420 1. The organization shall have in place a challenge testing procedure.
421
422 2. Product procurement and resolution of failures shall follow Section 9.B, Verification
423 procedure requirements.
424

425 D. Certification of base-derived or similar products: The certification organization shall not
426 certify an ENERGY STAR qualified product based on the ratings of another product
427 unless the differences between the two products are limited to those that do not
428 adversely affect product performance. Examples of acceptable differences include but
429 are not limited to color, finish, and nameplate.

430 E. Membership requirements: The organization shall not require that a party seeking
431 product certification be a member of the organization. Product verification and challenge
432 testing shall only require that the product has been certified by the organization.
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435 F. Consideration of the organization's procedures: The certification, verification, and
436 challenge testing procedures, as well as all other relevant aspects of any certification
437 organization, must be available in written format to current or prospective ENERGY
438 STAR H/ERV program Partners, and must be submitted in this format to EPA for its
439 review.

440 G. Reporting results to EPA: The certification organization shall report to EPA on an annual
441 basis the outcomes of verification and challenge testing for all ENERGY STAR qualified

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products certified by the organization.

Note: The above section, Requirements of Organizations Certifying Products for ENERGY STAR Qualification, has been added to the specification to clarify that NRCAN has not granted exclusive rights to any organization to certify ENERGY STAR qualified products or products applying for ENERGY STAR qualification. At the same time, NRCAN has maintained the requirement on the part of the Partner to have its ENERGY STAR qualified products' ratings certified by an organization that regularly carries out verification and challenge testing. This will allow NRCAN to verify that products meet ENERGY STAR requirements, and provide the consumer with the most reliable measure available of the performance of ENERGY STAR qualified products.

Recognizing there are certain standards a certification organization must meet in order for its program to prove rigorous enough to meet expectations in terms of the reliability of its certified ratings, NRCAN has, in addition to upholding the requirement that a Partner certify its products' ratings, outlined in the section above those factors it believes are the most essential in demonstrating a certification organization's ability to meet the expectations of the ENERGY STAR H/ERV program. These factors include laboratory, verification testing, and challenge testing requirements; a limitation on the products that may be rated from the test results of other products to only those products that perform identically; membership requirements; availability of a certification organization's procedures in written format; and, the requirement that the certification organization must share the results of verification and challenge testing with NRCAN.

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- 10) Effective Date: The date from which products must meet the requirements specified under the Version 1.0 H/ERV specification will be defined as the effective date of the agreement.
- A. Qualifying and Marking products under the Tier 1 Version 1.0 specification: The effective date of the Tier 1 Version 1.0 ENERGY STAR Program Requirements for H/ERVs is **January 1, 2010**. All products with a date of manufacture on or after the applicable Tier 1 Version 1.0 effective date must meet Tier 1 Version 1.0 requirements to qualify for ENERGY STAR. The date of manufacture is specific to each unit and is the date (e.g., month and year) on which a unit is considered to be completely assembled.
- B. Qualifying and Marking products under the Tier 2 Version 2.0 specification: The effective date of the Tier 2 Version 1.0 ENERGY STAR Program Requirements for H/ERVs is **July 1, 2012**. All products with a date of manufacture on or after the applicable Tier 2 Version 1.0 effective date must meet Tier 2 Version 1.0 requirements to qualify for ENERGY STAR. The date of manufacture is specific to each unit and is the date (e.g., month and year) on which a unit is considered to be completely assembled.

Note: The proposed effective dates in this Final Draft remain unchanged from Draft 3.

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- 11) Exclusion of Automatic Grandfathering: ENERGY STAR qualification will not automatically be granted for the life of the product model. Therefore, any product sold, marketed, or identified by the manufacturing Partner as ENERGY STAR must meet the current specification that is in effect at that time.
- 12) Lab Accreditation: All third party laboratories testing for certification programs authorized by EPA to test H/ERVs for ENERGY STAR qualification will have until January 1, 2011 to meet the laboratory accreditation requirements described in Section 9.A, above, to continue testing these products for the purpose of ENERGY STAR qualification.

Note: Section 9.A. of this specification describes the accreditation requirements a lab must meet in order to test H/ERVs for ENERGY STAR qualification. The paragraph above, in order to accommodate labs not currently in compliance with these requirements, establishes a one-year grace period for labs to meet them. That said, the lab HVI currently uses to certify the performance of H/ERVs already meets the accreditation requirements described in Section 9.A.

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13) Future Specification Revisions: The US EPA reserves the right to change the criteria should technological and/or market changes affect the usefulness of this specification to consumers, industry, or the environment. It is anticipated that a more stringent H/ERV Specification will be developed within five years of the effective date of this Specification. This will provide H/ERV ENERGY STAR Partners with some lead-time to improve the overall performance of their products while allowing them to benefit from ENERGY STAR market development programs.

For the purpose of this specification, Canada is deemed to be in zone 6 or higher.

