Subject 7007

May 11, 2018

SUMMARY OF TOPICS

The following changes in requirements to the Standard for Sustainability for Microwave Oven Appliances, UL 7007, are being proposed:

> ***The Second Edition of AHAM 7007/CSA R7007/UL 7007, Sustainability Standard for Microwave Oven Appliances***

STP BALLOTS AND ALL COMMENTS DUE: June 25, 2018

UL's goal is to have no interest category comprise more than one-third of the STP membership balance. To improve the current balance for STP 7001, UL is looking for participants in the following interest categories: Supply Chain, Commercial/Industrial User, General, AHJ, Government, Testing and Standards and Consumer. Definitions for these interest categories are available on the Standards STP Internet site:

http://www.ul.com/global/eng/pages/solutions/standards/developstandards/participation/interestcategories/

If you are interested in applying for STP 7001 membership or are aware of potential candidates for this STP, please contact the STP Project Manager, Grace.Roh@ul.com.

For your convenience in review, proposed additions to existing requirements are shown underlined and proposed deletions are shown ~~lined-out~~.

The Second Edition of AHAM 7007/CSA R7007/UL 7007, Sustainability Standard for Microwave Oven Appliances

RATIONALE

Proposal submitted by: Task Force on Sustainability Standard for Microwave Oven Appliances

AHAM members have been engaged in environmental performance for decades. Prior to the passage of the National Appliance Energy Conservation Act (NAECA) in 1987, AHAM member companies have encouraged greater energy efficiency in appliances. Since that time, AHAM members have worked with the U.S. Department of Energy and energy regulatory agencies in many countries to reduce the energy demands of household appliances. Beyond energy, AHAM members have also been working to increase appliance recycling, improve the use of materials, reduce the use of materials that have been deemed troublesome to the environment, improve manufacturing operations, and maximize product performance. Household appliances have been on the cutting-edge of development of the U.S. EPA ENERGY STAR® program. Home appliances are a success story in terms of energy efficiency and environmental protection. New appliances often represent the most effective choice a consumer can make to reduce home energy use and costs.

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Through all of these advancements, each area of environmental performance has been viewed independently. Through the measurement of sustainability, the major areas of energy and water efficiency, manufacturing, materials, and end-of-life product management can be viewed as a balanced, holistic approach to product improvement.

AHAM members believe through the development of sustainability standards, we can:

• Assist manufacturers with future product development in environmental performance.

• Allow manufacturers to plan technological and design advancements with regard to the environment.

• Develop energy & water efficiency in a life-cycle balance to other environmental matters.

• Have a consensus measurement tool to demonstrate environmental improvements.

AHAM represents manufacturers of major, portable and floor care home appliances, and suppliers to the industry. AHAM's global membership includes over 150 companies throughout the world. AHAM members produce more than 95% of the household appliances shipped for sale in the United States and Canada and are valued at more than $30 billion annually. The home appliance industry employs tens of thousands of workers and through its products and innovation, is essential to consumer lifestyle, health, safety and convenience. Through its technology, employees and productivity, the industry contributes significantly to jobs and economic security.

AHAM is also a standards development organization and has authored numerous appliance performance testing standards used by manufacturers, consumer organizations and governmental bodies to rate and compare appliances. In partnership with the CSA Group, and UL Environment, AHAM developed the first sustainability standards for home appliances. AHAM's consumer safety education program has educated millions of consumers on ways to properly and safely use appliances such as portable heaters, clothes dryers, and cooking products.

Throughout this sustainability standards process, we have drawn on the product expertise within the AHAM member companies, the environmental knowledge base of PE International Consulting, the research of UL Environment, the international (ISO TC111) standards activities of CSA, and the standards development and writing expertise of UL and CSA.

The initial stages were spent conducting background research, basic understandings of life cycle analysis and development of a common approach. Through research conducted by PE International we were able to draw on the use of Life Cycle Analysis tools.

The Standards Development Process

The standards development process was designed to offer the best approach to a new area. AHAM, CSA, and UL have long histories of being outstanding standards development organizations and operating under the American National Standards Institute (ANSI) and Standards Council of Canada (SCC) guidelines for development of consensus standards development. AHAM, CSA and UL decided, in the case of product sustainability standard, to develop these in a two part process. First a collaborative process was designed to give excellent opportunities for all parties to inject comments and suggestions at critical junctures in the standards development process, but to emerge from this process with a standard that could be published and used by manufacturers. Following the publishing of this non-consensus document and following experience with the use of it by all parties, the document would enter the open consensus process under ANSI and SCC guidelines.

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Very early in the process, it was decided to develop a list of outside stakeholders with knowledge and experience in sustainability. We invited and were very pleased to welcome representatives from several major retailers (Lowes, Best Buy, Walmart, Kohl's and Sears), representatives of U.S. Environmental Protection Agency, and Environment Canada, organizations with experience in consumer interest (Consumers Union), and environmental organizations such as Environmental Defense Fund and Carbon Disclosure Project. We have utilized this group of stakeholders at critical junctures in the standards development process to give input, suggestions, and comments on the standards drafts. These comments were factored into the final standards.

The Standards

AHAM intends to develop a series of product sustainability standards. The first standard was for Refrigeration Products, covering household refrigerators, freezers, compact refrigerators and will ultimately be expanded to cover wine coolers and beverage centers.

The second sustainability standard non-microwave kitchen cooking appliances. Other products may be added as necessary.

AHAM, CSA and UL have agreed that the standards should include a significant section in the Informative Annex to the standard to explain how that particular standard was developed and give all relevant research information on the LCA and Hot Spot Analysis for each standard. In this way, the readers of the standards will have access to the rationale behind each standard, the choice of attributes and criteria, and the weighting.

The standards will include several common sections but will also include attributes or criteria that relate directly to that individual product category. For example the standards will likely all include attributes covering materials, energy during use, end-of-life, product performance and manufacturing and operations. Some product standards, where applicable, may include an attribute covering consumables that are used with the appliance. Within each of these attributes, individual criteria will be developed and the criteria will be subdivided by metrics to describe how to measure that particular aspect. Many of the criteria will be repeated throughout standards to maintain similarities for appliances and the processes under which they are evaluated for their environmental performance. These attributes and criteria are based on Life Cycle Analysis, Hot Spot Analysis, interviews with stakeholders, experiences of the product task forces who have written the standards, and available literature covering the environmental performance.

Measurement

While we believe the standards should explain how to measure the particular product, we recognize that the standards will have multiple uses. The standards can be used internal to manufacturers to plan product development. They can be used to see environmental growth of the product. They can be used to work with suppliers to reduce the environmental burden of their operations and materials. They can be used in marketing to give definitive evidence of the environmental impact of the appliance. We do not believe aspects of these standards should be made mandatory. We believe companies should be able to voluntarily use self-assessment to these standards. We also recognize that companies may wish to contact third-party assessment or Certification Bodies for a more formal review of the product and manufacturing. Because of this, we have included information on a common rating scale for measuring and displaying the sustainability level of the products within each standard.

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PROPOSAL

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1 Scope

1.1 This Standard covers microwave oven appliances for households included within the scope of the U.S. Department of Energy (DoE) and Natural Resources Canada (NRCan) minimum energy performance requirements. This includes the following product category: electric microwave oven (see Clause 4 for a definition of "electric microwave oven").

1.2 This Standard does not include directions for conformity assessment or the use of a mark/seal of conformity assessment.

2 General

2.1 In this Standard, "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the Standard; "should" is used to express a recommendation or that which is advised but not required; and "may" is used to express an option or that which is permissible within the limits of the Standard. Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material. Notes to tables and figures are considered part of the table or figure and may be written as requirements. Annexes are designated normative (mandatory) or informative (nonmandatory) to define their application.

3 References

3.1 Normative references

3.1.1 Where reference is made to any Standards, such reference shall be considered to refer to the latest editions and revisions thereto available at the time of printing, unless otherwise specified.

CDP (Carbon Disclosure Project)

Investor Initiatives

Supply Chain Program

Water Program

CSA Group

CAN/CSA-ISO 14001:16
Environmental management systems – Requirements with guidance for use

European Commission

Regulation (EC) No. 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organizations in a community eco-management and audit scheme (EMAS)

European RoHS Directive (Restriction on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment)

Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

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Directive 2005/618/EC of 18 August 2005 amending Directive 2002/95/EC of the European Parliament and of the Council for the purpose of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment

Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

GRI (Global Reporting Initiative)

Sustainable Reporting Guidelines, version G4 (2013)

IPC (Association Connecting Electronics Industries)

1752A-2010
Materials Declaration Management

IPCC (Intergovernmental Panel on Climate Change)

IPCC Fifth Assessment Report: Climate Change (AR5)
https://www.ipcc.ch/report/ar5/

ISO (International Organization for Standardization)

11469
Plastics – Generic identification and marking of plastics products

14001
Environmental management systems – Requirements with guidance for use

14021
Self-declared environmental labels and declarations

14024
Environmental labels and declarations – Type I environmental labelling - Principles and procedures

14025
Environmental labels and declarations – Type III environmental declarations – Principles and procedures

14026
Environmental labels and declarations – Principles, requirements and guidelines for communication of footprint information

14040
Environmental management – Life cycle assessment – Principles and framework

14044
Environmental management – Life cycle assessment – Requirements and guidelines

14050
Environmental management – Vocabulary

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14064–1
Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

14064–2
Greenhouse gases – Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements

ISO/IEC (International Organization for Standardization/International Electrotechnical Commission)

17000
Conformity assessment – Vocabulary and general principles

Guide 67
Conformity assessment – Fundamentals of product certification

SAE (Society of Automotive Engineers)

J 1344
Marking of Plastic Parts

TCR (The Climate Registry)

General Reporting Protocol, Version 2.1, January 2016

UL (Underwriters Laboratories)

113
Procedure for the Preparation of a Toxicological Assessment

2789
Environmental Claim Validation Procedure for Calculation of Estimated Recyclability Rate

United Nations World Commission on Environment and Development

Report of the World Commission on Environment and Development: Our Common Future (1987)

US Government

CFR Part 430
Energy Conservation Program for Consumer Products

CFR Part 260 (2012)
Federal Trade Commission's Guides for the Use of Environmental Marketing Claims
https://www.ftc.gov/sites/default/files/attachments/press-releases/ftc-issues-revised-green-guides/greenguides.pdf

WRI (World Resource Institute)

Aqueduct Water Risk Atlas (available at http://www.wri.org/resources/maps/aqueduct-water-risk-atlas)

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WRI and WBCSD (World Resource Institute and World Business Council on Sustainable Development)

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard

WTO (World Trade Organization)

World Trade Organization Barriers to Trade (WTO/TBT) Agreement

3.2 Informative references

3.2.1 A list of informative references to laws and regulations for microwave oven appliances is provided in Annex B.

4 Definitions

4.1 The following definitions shall apply in this Standard:

Note: *For consistency, where possible the definitions in this Standard are taken from existing standards and guidance documents listed as Normative References. Source documents are noted in brackets following the definition.*

4.2 **Accreditation** – third-party attestation related to a conformity assessment body conveying a formal demonstration of its competence to carry out specific conformity assessment tasks.

Note: *These tasks include sampling and testing, inspection, certification, and registration.* [ISO/IEC 17000]

4.3 **Attestation** – issue of a statement, based on a decision following review, that fulfillment of specified requirements have been demonstrated. [ISO/IEC 17000]

4.4 **Attribute** – a characteristic of a product that has a direct influence on the environmental performance of the product.

4.5 **Brand owner** – a company that manages a brand name.

Note: *This company might or might not have engineering, manufacturing, or quality assurance activities. This company might be an original equipment manufacturer (OEM), but might also purchase a finished product from an OEM and conduct sales, marketing, and management of the brand name.*

4.6 **Certification** – third-party attestation related to products, processes, or persons that convey assurance that specified requirements have been demonstrated. [ISO/IEC 17000]

4.7 **Conformity assessment** – demonstration that specified requirements relating to a product, process, system, person, or body are fulfilled. [ISO/IEC 17000]

Note: *For this Standard, conformity assessment includes*

a) sampling and testing;

b) inspection;

c) first-party declaration of conformity;

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d) certification;

e) registration;

f) accreditation of the competence of those activities by a third-party; and

g) recognition (usually by a government agency) of an accreditation program's capability.

4.8 **Criteria** – the environmental requirements that the product needs to meet in order to be awarded an environmental label. [ISO 14024]

4.9 **Dematerialization** – the reduction of the mass of and/or number of materials used in the production of the final product.

Note: *In the Task Force's opinion, for appliances, a more appropriate measure is the more efficient use of raw materials. For example, reintroducing scrap materials into the production process might not result in a reduction in mass, but would constitute a more efficient use of raw materials*

4.10 **Electric microwave oven** – a class of kitchen ranges and ovens comprising household cooking appliances consisting of a compartment designed to cook or heat food by means of microwave energy, including microwave ovens with or without thermal elements designed for surface browning of food and combination ovens. [10 CFR 430.2]

4.11 **Environmental management system (EMS)** – part of an organization's management system used to develop and implement its environmental policy and manage its environmental aspects. [ISO 14050]

4.12 **EU eco-management and audit scheme (EMAS)** – an environmental performance management tool covered in Regulation (EC) No. 1221/2009 of the European Parliament and of the Council of 25 November 2009, based on an environmental management system (EMS) guided by ISO 14001.

Note: *EMAS provides a methodology for environmental audit, policy development, system implementation, and requires independent third-party verification and validation of the EMAS and results in a registry listing and certified eco-label: http://ec.europa.eu/environment/emas/index_en.htm*

4.13 **First, second, and third party** –

First party – generally the person or organization that provides the object.

Note: *In the case of this Standard, the first party is the appliance manufacturer.*

Second party – generally the person or organization that has a user interest in the product, such as the customer.

Third party – the person or body that is recognized as being independent of the person or organization that provides the object, as well as the user or customer of the object. [ISO/IEC 17000]

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4.14 **First-party declaration** – a procedure by which a first party conveys assurance that the object of conformity fulfills specified requirements. [ISO/IEC 17000]

4.15 **Global warming potential (GWP)** – a factor describing the radiative forcing impact of one mass-based unit of a given GHG relative to an equivalent unit of carbon dioxide over a given period of time.

4.16 **Greenhouse gas (GHG)** – the gaseous constituent of the atmosphere, both natural and anthropogenic, that absorbs and emits radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere, and clouds. [ISO 14050]

4.17 **Greenhouse gas (GHG) scopes** –

Direct greenhouse gas emission (scope I) – GHG emission from greenhouse gas sources owned or controlled by the organization.

Energy indirect greenhouse gas emission (scope II) – GHG emission from the generation of imported electricity, heat, or steam consumed by the organization.

Other indirect greenhouse gas emission (scope III) – GHG emission, other than energy indirect GHG emission, that is a consequence of an organization's activities but arises from greenhouse gas sources that are owned or controlled by other organizations. [ISO 14064-1]

4.18 **Impact category** – a class representing environmental issues of concern to which LCA results can be assigned.

Note: *Commonly accepted LCA impact categories include*

a) climate change potential (also known as global warming potential – GWP);

b) acidification potential (AP);

c) ozone depletion potential (ODP); and

d) eutrophication potential (EP).

For some impact categories, LCA might not be the most appropriate quantification tool. For example, the ecotoxicity (ET) and human toxicity (HT) impact categories are more commonly determined using chemical risk assessment.

4.19 **Industrial scrap** – materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it.

4.20 **Interested party** – a person or group that has a stake in the success or performance of this Standard and that might be influenced by the development and use of this Standard or that might have an influence over it.

Note: *Examples of interested parties include customers, suppliers, NGOs, government, consumer groups, or members of the general public. Interested parties are also referred to as "stakeholders".*

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4.21 **Life cycle assessment (LCA)** – compilation and evaluation of the inputs, outputs, and potential environmental impacts of a product system throughout its life cycle. [ISO 14040]

4.22 **Life cycle inventory (LCI)** – the step in conducting a life cycle assessment that involves data collection and modeling of the product system, as well as description and verification of data. This encompasses all data related to environmental (e.g., CO_2) and technical (e.g., intermediate chemicals) quantities for all relevant unit processes within the study boundaries that compose the product system.

Note: *Examples of input and output quantities include inputs of materials, energy, chemicals, and "other" and outputs of air emissions, water emissions, or solid waste. Other types of exchanges or interventions such as radiation or land use can also be included. [ISO 14040 and ISO 14044]*

4.23 **Mapping** – developing a methodology to easily identify the location of recyclable materials within the product.

4.24 **Metric** – quantification of the criteria that can be measured.

4.25 **Original equipment manufacturer (OEM)** – the manufacturer or assembler of the complete appliance.

Note: *The OEM could include fabrication of components, molded or stamped parts, or partial assemblies. The OEM also refers to the location where the completed microwave oven is assembled for shipment to the retailer or end customer.*

4.26 **Packaging** – a coordinated system of preparing goods for transport, warehousing, logistics, sale, and end use.

Note: *Packaging includes the material that contains, protects, preserves, and transports the product, and which also provides information about the product to the customer. Packaging includes the customized containment intended for storage and protection of the appliance during its useful life.*

4.27 **Post-consumer material** – material generated by households or by commercial, industrial, and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose. This includes returns of material from the distribution chain. See Annex D. [ISO 14021]

4.28 **Pre-consumer material** – material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it. See Annex D. [ISO 14021]

4.29 **Product certification** – an activity by which a third-party gives written assurance that a product fulfils specified requirements. [ISO/IEC Guide 67]

4.30 **Product stewardship** – product stewardship is a product-centered approach to environmental protection. It calls on those in the product lifecycle – manufacturers, retailers, users, and disposers – to share responsibility for reducing the environmental impacts of products.

Note: *Product stewardship is described by the U.S. EPA at https://archive.epa.gov/wastes/conserve/tools/stewardship/web/html/index.html*

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4.31 **Progress** – the ability to show, based on empirical data, an increase or decrease in the relevant measurement over a specified time period. The specified time period will be defined as the term is used in the individual clauses of the Standard.

4.32 **Recycle** – the series of activities, including collection, separation, and processing, by which products or other materials are recovered from the solid waste stream for use in the form of raw materials for the manufacture of new products (other than fuel).

4.33 **Registration** – third-party attestation related to systems that convey assurance that specified requirements have been demonstrated.

Note: *Such systems include those established for the management of product, process, or service quality and environmental performance. [ISO/IEC 17000]*

4.34 **Stakeholder (see Interested party)** – those groups or individuals

a) who can reasonably be expected to be significantly affected by the organization's activities, products, and/or services; or

b) whose actions can reasonably be expected to affect the ability of the organization to successfully implement its strategies and achieve its objectives. [GRI]

4.35 **Standard** – a document approved by a recognized body, that provides, for common and repeated use, rules, guidelines, or characteristics for products or related processes and production methods, with which compliance is not mandatory. [TBT Agreement]

4.36 **Sustainable development** – development that meets the needs of the present without compromising the ability of future generations to meet their own needs. [Report of the UN World Commission on the Environment and Development].

4.37 **Task force** – the AHAM-CSA Group-UL Task Force responsible for the development of and revisions to this Standard.

4.38 **Test** – a technical operation that consists of the determination of one or more characteristics of a given product, material, equipment, organism, person's qualification, physical phenomenon, process, or service in accordance with a specified technical procedure (test method). [ISO/IEC 17000]

4.39 **Tier-one supplier** – a top-level supplier that provides components or parts to the original equipment manufacturer for integration into the final consumer product.

4.40 **Weighting** – converting and possibly aggregating indicator results across impact categories using numerical factors based on value-choices.

5 General requirements

5.1 Units of measurement

5.1.1 For the purposes of this Standard, metrics shall be reported in accordance with the requirements of the individual criterion and shall be in SI units, where they exist.

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5.1.2 If SI units of measurement are not available, the units used shall be documented and justified as to the reason and relevance for that change.

5.2 Undated references

5.2.1 Any undated reference to a code or standard appearing in the requirements of this Standard shall be interpreted as referring to the latest edition of that code or standard. The exception shall be in the case where the criteria explicitly state a certain edition or date to be used.

5.3 Attributes

5.3.1 Eligible microwave oven products shall be evaluated for their sustainability on all of the five following attributes [the first four attributes are required; Item e), innovation, is a bonus attribute and is therefore not required]:

(a) materials;

(b) energy consumption during use;

(c) manufacturing and operations;

(d) end-of-life; and

(e) innovation (bonus attribute).

5.3.2 The choice of the above five attributes is explained in Annex A. Product evaluations shall be conducted using the attribute evaluation criteria for each of the attributes outlined in this Standard.

5.3.3 Products shall receive points from the attribute categories in Items (a) to (d), according to the results of the evaluations, and may receive points from the innovation attribute category (see Clause 6.1 for clarification).

5.4 Assessment

5.4.1 Assessment of product attributes and criteria shall be based on the year the candidate product is produced.

6 Point allocation system

6.1 Products shall be allocated points for meeting criteria in each of the attribute categories in accordance with the point system. The points from all attributes shall be added together to produce a total score. A product can achieve a maximum score of 100 points from the sum of points when evaluated against the required four attributes.

6.2 The innovation attribute is a bonus attribute. A maximum of 10 points may be added to the product score if it has less than 100 points, but the product score shall not receive innovation points that take the total score above 100 points.

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6.3 In instances where points are awarded for demonstrating progress, reduction, or some equivalent language that implies a reduction in the product's overall environmental burden, the points shall not be awarded unless that progress or reduction is significant.

Note: *The interpretation of whether or not an action is significant should be in keeping with the General Principles of the Federal Trade Commission's Guides for the Use of Environmental Marketing Claims (October 1, 2012). In 16 CFR 260.3, the Guides provide examples of claims that overstate an environmental attribute. Section 260.3(c) states, "[a]n environmental marketing claim should not overstate, directly or by implication, an environmental attribute or benefit. Marketers should not state or imply environmental benefits if the benefits are negligible." Further, Section 260.4(c) states that to "avoid deception, marketers should use clear and prominent qualifying language that limits the claim to a specific benefit or benefits. Marketers should not imply that any specific benefit is significant if it is, in fact, negligible." The interpretation of whether or not an action is significant should also be in keeping with the Canadian Competition Bureau's guidelines on environmental labels and claims in Canada.*

6.4 For products to be considered as having some level of recognized sustainability under this Standard, such products shall

a) have received a minimum of 60 points;

b) meet ENERGY STAR® criteria for energy consumption during use;

c) have some points in each of the required attributes [i.e., Items a) to d) in Clause 6.5];

Note: *Note: An example of a balanced manner for the product to achieve the 60 point level is for it to receive 30 points in the energy consumption during use attribute, 10 points in the materials attribute, 10 points in the end-of-life attribute, and 10 points in the manufacturing and operations attribute.*

d) have satisfied the applicable prerequisites and received at least 1 point in one or more of the following clauses under the materials attribute: Clauses 9.1.2.2.2 e), 9.1.3.2.2 a), 9.1.3.2.2 b), 9.1.4.2.2 a), 9.1.4.2.2 b), and 9.1.5.2.1 b);

e) have satisfied the applicable prerequisites and received at least 1 point in one or more of the following clauses under the manufacturing and operations attribute: Clauses 9.3.4.2.1 c), 9.3.5.3.1 c), 9.3.6.2.1 b),9.3.6.2.1 d), and 9.3.6.2.1 f); and

f) have satisfied the applicable prerequisites and received at least 1 point in one or more of the following clauses under the end-of-life attribute: Clauses 9.4.2.1 b), 9.4.2.1 c), and 9.4.3.2 b).

6.5 Points are awarded on each attribute through a combination of prerequisites and optional points. The maximum points achievable for each attribute are as follows:

a) materials (33 points);

b) energy consumption during use (27 points);

c) manufacturing and operations (23 points);

d) end-of-life (17 points); and

e) innovation (10 points).

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7 Prerequisites

7.1 Manufacturers shall take reasonable steps to ensure that product performance is not unduly degraded in order to qualify for points under this Standard.

7.2 Prerequisites shall be met if provided. There are the following two types of prerequisites:

a) attribute level; and

b) criteria level prerequisites.

7.3 Prerequisites are defined under each attribute heading.

7.4 Products shall meet all prerequisites in a particular attribute in order to be eligible for evaluation using the points system in that attribute. Products shall meet all prerequisites in a particular criterion to be eligible for evaluation using the points system in that criterion. If a product does not meet all of the prerequisites in a particular attribute or criteria level, it shall not be evaluated against that attribute or criteria, or receive any points from that attribute or criteria. The product may still be assessed and receive points against the other attributes or criteria, provided their associated prerequisites are met.

8 Audit scope and boundaries

8.1 Regardless of whether a manufacturer owns a brand or controls the manufacturing process, the company bringing forward a product for evaluation shall apply sustainability principles to the production process. In addition, the sustainability of the product includes properties of the product and the life cycle history of the component parts.

Note: *There can be significant differences in the term "manufacturer" with regard to vertical integration. Some companies purchase products and have no manufacturing facilities. Other companies control the design and production through to the level of component production. It is obvious that the manufacturer that actually operates a manufacturing factory might exert more control over its sustainability-related activities compared to one that is only a brand owner and has no direct control on how its products are manufactured.*

8.2 Several organizational constructs can exist in the market, and their impact is described below:

(a) A brand owner sources a finished good from an OEM for design and manufacture and the brand owner conducts or arranges to conduct the sustainability audit:

(i) In this case, the sustainability analysis is performed for all attributes by the OEM's engineering organization.

(ii) The analysis includes the assembly process at the OEM's manufacturing operation. Full documentation is provided to the brand owner for all criteria.

(iii) The sustainability score(s) are provided to the OEM manufacturing operation to apply to the product.

(b) The design, engineering, and testing are performed by the brand owner, at a location that is separate from the OEM's manufacturing operation:

(i) In this case, the sustainability analysis is performed for all attributes by the brand owner's engineering organization.

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(ii) The analysis includes the assembly process at the OEM's manufacturing operation. The point value earned for the attributes is either evaluated by the brand owner or evaluated by the OEM with full documentation provided to the brand owner for all criteria.

(iii) The sustainability score(s) are provided to the OEM manufacturing operation to apply to the product.

(c) The brand owner provides the design, testing, and manufacture of the product:

(i) In this case, the sustainability analysis is performed for all attributes by the brand owner's engineering organization.

(ii) The analysis includes the assembly process at the manufacturing operation. The point value earned for the attributes is evaluated by the brand owner with full documentation provided for all criteria.

(iii) The sustainability score is provided to the manufacturing operation to apply to the product.

8.3 The manufacturer controls the process of ordering, engineering, assembling, and quality control of the parts that make up the product at the point where assembly is complete. The manufacturer shall provide all necessary documents to support the points allocated to the certifier.

8.4 If the documentation on the analysis is not available, the points shall not be awarded.

8.5 In the case of multiple manufacturing locations for the same model, the analysis for each product shall include the assembly process at the manufacturing operations where the model is produced. The point value earned for the attributes shall be evaluated by the engineering organization for each manufacturing location as a shipment weighted average based on the production volume at each location.

9 Attributes, criteria, and metrics

9.1 Materials attribute

9.1.1 General

9.1.1.1 A maximum of 33 points are available under the materials attribute.

9.1.1.2 Products shall be evaluated on the basis of the environmental and human health impact of materials used during the production phase, within the final product, and in the packaging of the product.

9.1.1.3 The product shall be evaluated based on the following criteria with the following maximum points available:

(a) materials of concern: 17 points;

(b) product recycled content: 4 points;

(c) packaging recycled content: 3 points; and

(d) de-materialization/efficient use of raw materials: 9 points.

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