TO: Joint Committee on Environmental Leadership Standard for Servers
FROM: Dr. Matthew Realff, Chairperson of the Joint Committee
DATE: October 6, 2014
SUBJECT: Proposed STRAW BALLOT for 426, Environmental Leadership Standard for Servers

The following straw ballot is based on motions made during the Joint Committee meetings on July 22\textsuperscript{nd}, and September 16\textsuperscript{th} and 30\textsuperscript{th}, 2014. This document contains only those criteria that the Joint Committee motioned to go to ballot and move into the draft standard. The criteria in this ballot are either modifications of, or additions to, the June balloted draft standard. Other criteria are still under development by Task Groups, and are not included in this ballot.

Please review the proposal and return your ballot by the ballot due date of October 20\textsuperscript{th}, 2014 via the online workspace (http://standards.nsf.org).

When adding comments, please identify the section number/name for your comment and add all comments under one comment number where possible. If you need additional space, please upload a word or pdf version of your comments online via the browse function.

**Straw Ballot:**
Changes to the draft standard were recommended by task groups at the July 22\textsuperscript{nd}, and September 16\textsuperscript{th} and 30\textsuperscript{th}, 2014, Joint Committee meetings. Below is a list of the criteria being balloted.

- 4.1.4 Country or Region Specific Criteria (editorial change)
- 5.1.1 Energy Star (editorial change)
- 5.3.1 Energy Efficient Supply Chains
- Deletion of 6.1.3 Non-Mercury Containing Light Sources
- 6.2.1 Further Reduction of Lead - Elimination of Specified Lead Exemptions
- 7.1.1 External Enclosure (Casing) (editorial change)
- 7.3.1. Reduction of surplus parts by default
- 9.1.2 Design for Plastics Recycling
- 9.1.5 Functionality Testing Software Tools
- Deletion of 9.2.1 Single Recyclable Plastic in Each Plastic Part
- 9.3.1 Product Marked to Identify Components and Materials with Special Handling Needs
- 11.2.1 Conduct Life Cycle Assessment
- 12.1.2 End of Service/End of Life Management (Corporate)
- Deletion of 12.2.2 Responsible Processing of Exempt Programs (Corporate)

The meeting summaries and the recommended revisions that were motioned to ballot are available for your review. The sections available for straw ballot and comment are included in the ballot document below. The proposed additions are shown using grey highlight, and deletions are shown through strikethrough.
**Public Health Impact**

The proposed language will have no negative impact on public health.

If you have any questions about the technical content of the ballot, you may contact me in care of:

Dr. Matthew Realf, Chairperson,  
Joint Committee on Environmental Leadership Standard for Servers  
c/o Joint Committee Secretariat,  
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NSF International  
Tel: (734) 214-6219  
E-mail at: jslomka@nsf.org
4.1.4 Country or Region Specific Criteria (JC Straw Balloted June 2014)
With regard to being region or country specific, there are only the three following options for criteria:

- If the criterion is silent does not specify, then requirements must be met globally (i.e., wherever the product is sold); or
- If the criterion specifies, “This requirement is applicable only in countries or regions for which the product is declared to conform to this standard”, then the requirement must be met for conformance in those countries or regions; or
- The criterion may specify, “This criterion may be declared differently by country or region.”

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Sections for Balloting as Motioned by JC

5 Energy Efficiency
5.1 Prerequisites
5.1.1 ENERGY STAR (JC Straw Balloted June 2014)
Products declared to conform to this standard:
- In the U.S., products shall be ENERGY STAR certified, or
- In the countries or regions covered by the international partner European Union ENERGY STAR program, products shall meet the ENERGY STAR Computer Server energy efficiency specifications, or
In other ENERGY STAR international partner countries or regions, products shall meet the ENERGY STAR Computer Server energy efficiency specifications and the program requirements of that ENERGY STAR international partner, or

In non-partner countries or regions, products shall meet the energy efficiency specifications of ENERGY STAR Computer Servers, but are not obligated to meet other program requirements.

Manufacturer shall declare to which of the above the product conforms. This criterion may be declared differently by country or region.

The product shall maintain conformance with any subsequent versions of the ENERGY STAR Computer Servers program, as per the requirements above.

5.3 Systems Energy Efficiency (Optional)

5.3.1 Energy Efficient Supply Chains

Integrated circuits, printed wiring boards (PWB), or PWB assemblies if the facility manufactures the raw board itself, shall be manufactured by at least one supplier at a facility that is certified as Superior Energy Performance™ (SEP) Silver level or higher at the time of manufacture. Demonstration of conformance shall include documentation that the component(s) originated at a facility with SEP certificates provided through ANSI-ANAB-accredited SEP verification bodies.

Point value: 2
6.2 Further Reduction of Substances of Concern (Optional)

6.2.1 Further Reduction of Lead - Elimination of Specified Lead Exemptions

The product shall not utilize contain lead in excess of __ (502) ppm by weight in homogeneous materials as defined by European Union RoHS Directive lead exemptions as listed below in Table 6.X.

<table>
<thead>
<tr>
<th>Lead Exemption</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead exemptions 6a, 6b, 6c, and 7b</td>
<td>X point(s)</td>
</tr>
<tr>
<td>Any lead exemptions</td>
<td>Y point(s)</td>
</tr>
</tbody>
</table>

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Sections for Balloting as Motioned by JC

7 Preferable Materials Use

7.1 Prerequisites

7.1.1 External Enclosure (Casing) (JC Straw Balloted June 2014)

External enclosure (casing) shall consist of:

- steel or aluminum alloys, or
- if the enclosure contains plastic, the plastic shall containing a minimum of 20% postconsumer recycled plastic, or
- a material demonstrated to have lower environmental impact than those listed above based on an LCA conducted in accordance with Criterion XXX

Manufacturer shall declare the materials used in the enclosure. If plastic, manufacturer shall demonstrate conformance by providing a supplier letter stating the following: minimum percentage of postconsumer recycled plastic in the materials supplied to the manufacturer or to the manufacturer’s part supplier. If steel or aluminum alloys, no recycled content documentation is required.
7.3 Material Efficiency/Dematerialization (Optional)

[placeholder]

7.3.1. Reduction of surplus parts by default
The manufacturer shall document and implement a customization program to reduce surplus parts. The program shall identify the minimal product configuration, as determined by the manufacturer and outlined below:

- Keyboards/mice – zero by default; 1 keyboard and/or 1 mouse as options. Indicate connector required (e.g. PS/2, USB, specific).
- Power cables (where appropriate) – zero by default; 1 for each power supply as option.
- Mounting hardware – zero by default; specific mounting hardware as an option.
- Documentation and advertising – zero by default; 1 per server type in order as option.
- Installation media – zero by default; 1 per server type in order as option.
- Cosmetic blanks/dummies – option of not receiving un-required parts.
- Fans – include option of ordering minimum as determined by manufacturer.

The manufacturer shall declare whether there is additional cost to the purchaser for the above customization options.

X point(s)

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Sections for Balloting as Motioned by JC

9.1.2 Design for Plastics Recycling
All plastic parts >100 g shall meet the following requirements be designed to facilitate plastics recycling, as follows:

- Clearly marked with material type in accordance with ISO 11469/1043, with the exception of printed circuit boards, wire and cables.
- Separable by hand or with commonly available tools, such that plastic parts could be separated into parts with the same material type into compatible recycling streams.

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Material coded in accordance with ISO 11469 and ISO 1043, with the exception of printed circuit boards, wire and cables.

“Not Applicable” may be declared by manufacturer if the product does not contain plastic parts weighing >100 g.

Note: For components containing plastic parts, the 100g threshold applies to the plastic part only.

9.1.5 Functionality Testing Software Tools
The manufacturer shall make publicly available and readily accessible, and provide access to the necessary hardware functionality testing software tools and applicable updates to ensure the product meets operating specifications and can be returned to service as provided by the manufacturer’s repair/authorized service centers. Manufacturer shall also make available and provide access to any system or peripheral firmware (BIOS, etc.) and drivers for the server hardware.

The manufacturer shall have a written procedure that makes all of these items available for a minimum of 7 years following the end of production of the product. The manufacturer shall declare if there will be any cost associated with the provision of the functionality testing software tool.

9.2 Design for Plastics Recycling (Optional)

9.2.1 Single Recyclable Plastic in Each Plastic Part
A single type or marketed blend (such as PC/ABS) of recyclable plastic shall be used in each plastic part >100 g, with the exception of printed circuit boards.

“Not Applicable” may be declared on the Product Registry by manufacturer if the product does not contain plastic parts weighing >100 g.

9.3 Identification of Components with Special Handling Needs (Optional)

9.3.1 Product Marked to Identify Components and Materials with Special Handling Needs (JC Straw Balloted June 2014)
The product shall visually display information on the presence and location of all components and materials with special handling needs as identified in the European WEEE Directive 2012/19/EU Annex VII. The information shall be provided on a label or other permanent marking located on the product itself or visible upon removal of the external housing in order to clearly identify the presence before any
treatment. The label, or permanent marking, shall contain a QR code, linked to the required information, and is not required to be co-located with other labels.

Products that contain no components with special handling needs may claim this point. A label or other permanent marking located on the product itself shall indicate the absence of components with special handling needs.

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Sections for Balloting as Motioned by JC

11.2 Product Life Cycle Assessment (Optional)

11.2.1 Conduct Life Cycle Assessment (JC Straw Balloted June 2014)
The manufacturer shall conduct a life cycle assessment (LCA) of the product declared to this standard in accordance with ISO 14040/14044. The LCA shall include all life-cycle stages (see Annex F) from the product life-cycle, from extraction of raw materials through end-of-life (i.e. cradle to grave), and shall address, at a minimum, the following impact assessment categories using either U.S. EPA TRACI 2.1, or CML 2001 (Nov 09)², or ILCD 2011³ impact assessment methodologies:

1. Global warming potential (GWP 100 years)
2. Acidification potential (AP)
3. Photochemical ozone creation potential (POCP, or “Smog”)
4. Eutrophication potential (EP)
5. Ozone depletion potential (ODP)
6. Abiotic depletion potential (ADP)- or fossil fuels depletion when using TRACI

To qualify under this criterion, the LCA must have been reviewed in accordance with ISO 14044 Section 6.1 by an independent third party external to the manufacturer, and must have been conducted no

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¹ US EPA, Tool for the Reduction and Assessment of Chemical and other Environmental Impacts (http://www.epa.gov/nrmrl/std/sab/traci/)
² University of Leiden Institute of Environmental Sciences (CML), Handbook on LCA (http://cml.leiden.edu)
³ ILCD 2011- Recommendation

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more than within 3 years prior to of product registration or certification. The LCA may be conducted on a group of products, but the declared product shall be listed on the LCA.

A new LCA will be required if:
- The previously submitted LCA is greater than 5 years old or
- Changes have been made to the product manufacturing or design and a sensitivity analysis indicates that those changes have resulted in a significant difference. A significant difference is when there have been changes or updates in the product that resulted in a change in environmental performance of the product entailing either an increase or decrease of 10% or more on any one of the impact assessment categories from the list above.

NSF 426 TG 12
Sections for Balloting as Motioned by JC

12 Responsible End-of-Service/End of Life Management

12.1 Prerequisites

12.1.2 Responsible End of Service/End of Life Management Processing (Corporate)

All equipment collected in accordance with prerequisite 12.1.1 shall be processed by a recycler certified to one of the following standards, current at the time of verification, or equivalent: The Responsible Recycling (“R2™”) Standard for Electronics Recyclers, e-Stewards Standard for Responsible Recycling and Reuse of Electronic Equipment, or WEEE LABEX. Equivalent standards are those identified as Qualified Recycling Standards by the Product Registry. Certifications shall be current at the time of product registration and maintained while the manufacturer has products declared to this standard.

In jurisdictions where manufacturer can control the selection of the initial re-use or treatment operator, manufacturer shall ensure that all equipment and, or components (including lease returns, warranty returns, trade-ins) forming the whole or part of the product covered by criterion 12.1.1 are prepared for re-use and / or initially treated at a re-use or treatment facility, which is independently certified by an accredited certification body to one or more of the following recognized standards: The Responsible Recycling (“R2™”) Standard for Electronics Recyclers, the e-Stewards Standard for Responsible Recycling and Reuse of Electronic Equipment, the WEEE LABEX Treatment Standard, or the CENELEC - EN 50625 ‘Collection, logistics & Treatment requirements for WEEE’. Certification bodies shall be accredited by an
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[Note – the changes seen below use strikeout for removal of old text and gray highlights to show the suggested text. ONLY the highlighted text is within the scope of this ballot]

International Accreditation Forum member accreditation body (http://www.iaf.nu/) to certify to the specific standard identified.

The NSF Joint Committee on the Environmental Leadership Standard for Servers may add standards to the above list of recognized standards, provided the standard meets requirements a) through i) in criterion 4.6.1.2 of the IEEE 1680.2-2012 Standard for the Environmental Assessment of Imaging Equipment.

These requirements apply to any products returned under 12.1.1 to any facility/operator whether owned by the manufacturer or an agent acting on behalf of the manufacturer.

To demonstrate conformance with this criterion, manufacturer shall provide valid certificates held by initial re-use or treatment facilities utilized at the time of product registration, and on an on-going basis (whether facilities are owned by manufacturer or an agent of manufacturer.)

This requirement is applicable only in countries or regions for which the product is declared to conform to this standard.

[JC to discuss possible exempted programs]

12.2 End of Life Management (Optional)

12.2.2 Responsible Processing of Exempt Programs (Corporate)

[JC to develop if exemptions are included in 12.1.2]