

EPEAT WEBINAR

Servers 2019 and Computers and Displays 2020 Criteria Amendments

September 22, 2021

Welcome

Today's webinar:

 Review of Servers 2019 and Computers and Displays 2020 amendments.



 Minor amendments were published to the Servers Criteria in December 2019 and the Computers and Displays Criteria in April 2020.

 GEC originally planned to implement these revisions in 2020, but due to ongoing impacts and constraints from the COVID-19 pandemic, GEC decided to delay the implementation process.

 GEC sought feedback on the implementation of these revisions during a Technical Conformity Assurance Committee (T-CAC) in June 2021.



The EPEAT Program seeks technical guidance and expertise from the T-CAC. The purpose of the T-CAC is to provide input about specific technical issues about the criteria that EPEAT uses in its various product categories, including when and how updated criteria should be implemented in EPEAT.

 The T-CAC meeting was open to all stakeholders. There are no standing members.



 Based on feedback, the EPEAT Program is implementing the 2019 Servers and 2020 Computers and Displays amendments.

 The EPEAT Program has determined that both amendments are Minor Criteria Revisions.

 Participating Manufacturers must ensure all EPEAT-registered products come into conformance with the minor criteria revisions by December 31, 2021.



• <u>P66 EPEAT Conformity Assurance Implementation Manual identifies</u> requirements for Minor Criteria Revisions:

Type of Revision	Overview of Revision	
Minor Criteria Revisions	The scope of this revision is limited to corrections, changes, and updates to text to further clarify existing requirements.	
	 The revisions are typically editorial changes with no obvious significant reduction of points for EPEAT-registered products. 	
	The estimated timeframe for implementation is one to two months after publication of the revisions.	



Implementation and Documentation Review

Priority Verification Pathway:

- The EPEAT Program provides a timeline for when the revisions will be implemented and when Participating Manufacturers must come into conformance with the revisions.
- Participating Manufacturers are responsible for reviewing applicable changes to Criteria, ensuring continued conformance with selected Criteria and unselecting Criteria or archiving products that are no longer conformant.
- CABs are responsible for completing Ongoing Documentation Review activities for Participating Manufacturer clients before the date specified by EPEAT.

*Deadline is December 31, 2021

Implementation and Documentation Review

Certification Pathway:

- As part of Continuous Monitoring and Annual Renewal activities (see Section 7.3), CABs are responsible for assessing the impacts of Minor and Major Criteria Revisions on Participating Manufacturer clients.
- Participating Manufacturers are responsible for reviewing applicable changes to Criteria, ensuring continued conformance with selected Criteria and unselecting Criteria or archiving products that are no longer conformant.
 Participating Manufacturers may be required to submit documentation to CABs for review to demonstrate conformance to Criterion changes.
- Where applicable, CABs obtain and review new evidence from Participating Manufacturers to ensure ongoing conformance with the revisions.

 CABs have been informed of all criteria changes and will be reaching out to Participating Manufacturers to review additional evidence, as needed.

 Participating Manufacturers must work with CABs on Documentation Review.

 Participating Manufacturers are responsible for reviewing criteria changes as well. If you realize the amendment impacts conformance, please work with your CAB to resolve it.



Review of Changes

- In general, the amendment updated all references to Energy Star, so that the current version of Energy Star is always referenced.
- **3.1.8 computer server**: Hardware system providing services and manage networked resources for client devices (e.g., desktop computers, notebook computers, thin clients, wireless devices, PDAs, IP telephones, other computer servers, or other network devices).
 - NOTE 1 For the purposes of this Standard, the definition of computer server aligns with the most <u>current</u> <u>version of the ENERGY STAR</u> *Program Requirements for Computer Servers.*³ A computer server:
- **3.1.49 product**: A computer server:
 - within the scope of the most <u>current version of the ENERGY STAR Program Requirements</u> for Computer Servers, ³ including managed servers and blade servers, and



Annexes were also renumbered:

Annexes		
Previously known as:	Now known as:	
Annex A	Normative Annex 1 (N-1)	
Annex B	Normative Annex 2 (N-2)	
Annex C	Normative Annex 3 (N-3)	
Annex D	Normative Annex 4 (N-4)	
Annex E	Informative Annex 1 (I-1)	



• Summary of two updated criteria:

Criterion	Documentation Review Required to Address Amendment?
5.5.2	No
5.5.3	No



 Updated to confirm the product must be tested using the methodology specified in the current version of Energy Star.

5.5.2 Optional – Reduce energy lost from power conversion

The product shall operate at high voltage AC power, 400/230 V or 480/277 V to reduce energy loss from power conversion during distribution and provide an overall higher system efficiency. The product shall be tested using the methodology specified in the most current version of the ENERGY STAR *Program Requirements for Computer Servers*.³



• Criterion 5.1.1 already requires the product to meet the current version of Energy Star, so all registered products will have been tested per the current version.

• This means products will also still be conformant with 5.5.2 and additional Documentation Review is not required.



- 5.5.2 is about ensuring the product operates at a high voltage AC power (400/230 V or 480/277V).
 - To show this, our Conformity Guidance Materials confirm that in addition to providing the Energy Star report, Participating Manufacturers can provide product documentation and the 80 Plus report for the power supply showing the product can operate at the higher voltages.



 Therefore, the supplementary evidence provided for this criterion is not impacted by the amendment, further Documentation Review is not required.

• If you provided other evidence other than product documentation or an 80 Plus test report during Initial Documentation Review, please review your evidence and notify your CAB if you may need to review this criterion again.



5.5.3 Optional – Logged server activity metrics

Product shall have the capability to log the metrics specified in the Standard Performance Data Measurements and Output Requirements section of the most current version of the ENERGY STAR Program Requirements for Computer Servers.³

• The criterion used to reference Energy Star Version 2.1. Energy Star now has Version 3 for Servers.

Requires product to have capability to log metrics identified in Energy Star.



5.5.3 Optional – Logged server activity metrics

Product shall have the capability to log the metrics specified in the Standard Performance Data Measurements and Output Requirements section of the most current version of the ENERGY STAR Program Requirements for Computer Servers.³

• Energy Star V2.1, V3, and Annex N-2 in the Criteria Document all require the same metrics to be logged.

 Therefore, currently no change, and additional Documentation Review is not required. However, future revisions to Energy Star may require additional metrics to be logged.



Review of Changes

References and Definition Updates:

- All references to EICC updated to RBA.
- SEP 50001 references updated to Superior Energy Performance 50001.

Delete the following reference from Clause 2:

Electronics Industry Citizenship Coalition (EICC), Validated Audit Process

Insert the following reference into Clause 2 in alphanumeric order:

Responsible Business Alliance (RBA), Validated Audit Process⁴

Change the following reference in Clause 2 as shown:



• Criteria with significant changes that require review:

Criterion	What Evidence is Needed?
4.1.10.1	 Declaration for verification requirement a) Updated supplier declarations for verification requirement c) 2) i)



- "Supplier letter" changed to "letter(s)" throughout the criterion.
- b) Supplier letter(s) or documentation that indicates the following:
- c) Supplier letter(s) indicating which reduction approach(es) was used to achieve the performance in Table 4. Supplier letter(s) shall also include one or more of the following (based on which reduction approach(es) is used):
 - If calculating the 90% F-GHG emission reduction, the supplier letter(s) shall include all of the following:
 - ii) If gases with a GWP of 2300 or less are used toward the achievement of this criterion, the supplier letter(s) shall include the following information:
 - iii) If supplier utilizes NF₃ remote plasma for CVD chamber clean toward the achievement of this criterion (in combination with other reduction methods), the supplier letter(s) shall include the following information:



• Update the language for selecting "Not Applicable" to align with the criterion being a corporate criterion.

A maximum of two optional points may be claimed for this criterion. If the product does not contain flat panel display, manufacturers shall declare "Not Applicable."



A maximum of two optional points may be claimed for this criterion. If all products declared by the manufacturer to conform to this standard do not contain flat panel displays, manufacturers shall declare "Not Applicable."



- Updated language for verification requirement a)
- a) Documentation of the calculation that demonstrates that manufacturer met the requirements of this criterion for 75% of flat panel display suppliers by annual spend (fiscal or calendar) that produce flat panel displays in products declared to conform to this standard for the manufacturer.



a) Declaration that manufacturer met the requirements of this criterion for 75% of suppliers of flat panel displays in products declared to conform to this standard, by annual spend (fiscal or calendar).

Updated Documentation Review required – need to supply a declaration to your CAB. Can turn previously provided calculation into a declaration.

Participating Manufacturers still need to provide the list of suppliers making up 75% of spend – this can be in the declaration.



25

Computers Inc. 123 Computers Drive

We declare that Computers Inc. meets the requirements of 4.1.10.1 for 75% of suppliers of flat panel displays products in products declared to confirm to this criterion

Supplier name	This supplier makes up a portion of 75% of the manufacturer's annual spend	This supplier has met criterion requirements
Supplier 1	Yes – Spend: 37%	Yes
Supplier 2	Yes – Spend: 2%	Yes
Supplier 3	Yes – Spend: 25%	Yes
Supplier 4	No – Spend: 5%	No
Supplier 5	Yes – Spend: 31%	Yes

Signed John Smith May 01, 0202 A list of suppliers is required for the remainder of the criterion

Manufacturer must provide a declaration that they meet the requirements of this criterion for 75% of suppliers of flat panel displays in products declared to conform to this criterion, by annual spend (fiscal or calendar).

- Updated verification requirement c) 2) i) to align with criterion text.
- 2) If excluding manufacturing tools and ancillary equipment from the calculation by using one or more reduction approaches a), b) or c), supplier shall demonstrate that all excluded tools and equipment are equipped as defined below, based on the reduction approach(es) used:
 - i) If emission control technology is used toward the achievement of this criterion, the supplier letter shall include the following information:
 - The percentage of impacted manufacturing and ancillary operations tools that have emission control technology installed.
 - The destruction or removal efficiency (DRE) values used and the source of those values. This may include publicly available sources, (e.g., Table 6.6 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.)
 - If a measured DRE does not come from a citable source, provide a certified statement and test report from an independent third party. The statement shall include a summary of the independent third party's qualifications as they relate to conducting the testing, or demonstration of accreditation to ISO 14065 and ISO 14066. The test report shall include a description of how the DRE was achieved and how dilution was accounted for, a summary of the test set-up and testing results, and the accuracy of the measured values.
 - Maintenance plan and most recent maintenance report or record with information on the amount or fraction of the time the emission control technology was operating properly (i.e., "uptime factor").
 - Demonstration of the percentage of F-GHG emissions avoided using emission control technology.
- Will need updated supplier letters.
- Updated documentation review required.



-) If excluding manufacturing tools and ancillary equipment from the calculation by using one or more reduction approaches a), b), or c), supplier shall demonstrate that all excluded tools and equipment are equipped as defined below, based on the reduction approach(es) used:
 - i) If abatement equipment is used to achieve this criterion, a statement certifying that the abatement equipment meets the following requirements:
 - For U.S. EPA Greenhouse Gas Reporting Rule, Subpart I, the abatement equipment has been installed, maintained, and operated in accordance with the site maintenance plan for abatement systems that is developed and maintained in records as specified in 98.97(d)(9).
 - For IPCC Tier 2a, 2b, or 3 methodology, the abatement equipment is any combination of electrically heated, fuelled-combustion, plasma, and/or catalytic devices that are specifically designed to abate F-GHGs and are used within the manufacturer's specified process window and in accordance with specified maintenance schedules. Also, the DREs of these abatement devices have been measured and confirmed under actual process conditions, using a technically sound protocol, which accounts for known measurement errors including, for example, CF₄ by-product formation during C₂F₆ abatement as well as the effect of dilution, the use of oxygen, or both, in combustion abatement systems.

Supplier name	
Fab covered by this declaration	
Date	

Abatement equipment is used to achieve this criterion.

We certify that the abatement equipment meets the following requirements:

X For U.S. EPA Greenhouse Gas Reporting Rule, Subpart I, the abatement equipment has been installed, maintained, and operated in accordance with the site maintenance plan for abatement systems that is developed and maintained in records as specified in 98.97(d)(9).

For IPCC Tier 2a, 2b, or 3 methodology, the abatement equipment is any combination of electrically heated, <u>fuelled</u>-combustion, plasma, and/or catalytic devices that are specifically designed to abate F-GHGs and are used within the manufacturer's specified process window and in accordance with specified maintenance schedules. Also, the DREs of these abatement devices have been measured and confirmed under actual process conditions, using a technically sound protocol, which accounts for known measurement errors including, for example, CF4 by-product formation during C2F6 abatement as well as the effect of dilution, the use of oxygen, or both, in combustion abatement systems.

*This example only covers verification requirement c) 2) i). Each supplier must provide a letter(s) that addresses remainder of criterion.

Criteria that may require updated Documentation Review:

Criterion	What Evidence is Needed?
4.4.2.2	 Manufacturers transferring information required for the criterion to a video format should inform their CAB so the CAB can ensure continued conformance.
4.6.2.1	 If Initial Documentation Review was originally conducted following the text in the verification requirements as opposed to the criterion text, additional Documentation Review is required.
4.9.3.1	• If manufacturers use a new scope for "facilities in scope" for Part B, CAB can review to ensure still conformant.



• Criteria that may require updated Documentation Review:

Criterion	What Evidence is Needed?
4.9.3.2	 For Parts A/C: If the manufacturer has been disclosing a list of suppliers instead of certificates, a small Documentation Review is required to ensure the list is conformant. For Part B: If manufacturers would like to update their public disclosure to make energy performance improvement data available upon request instead of directly disclosed, manufacturers must inform their CAB so that their CAB can ensure it is clear the information is available upon request and conformant.



This information shall be available as PDF, HTML (including video available online), and/or IEEE Std 1874. Information shall be provided, at a minimum, in the dominant language(s) local to the region(s) or country(ies) in which the product is declared to conform to this criterion.

- If you were already providing this information in a video format on an html webpage, this is acceptable.
 - Additional Documentation Review is not required.

• However, if you would like to transition some of the information you are using to demonstrate conformance to this criterion from a pdf, html or IEEE 1874 format to video, we recommend informing your CAB so that they can ensure all necessary information to meet the criterion was included.

 Removed "IEEE Standard for Documentation Schema for Repair and Assembly of Electronic Devices" from the criterion text.

This information shall be available as PDF, HTML, and/or IEEE Std 1874, IEEE Standard for Documentation Schema for Repair and Assembly of Electronic Devices. Information shall be provided, at a minimum, in the dominant language(s) local to the region(s) or country(ies) in which the product is declared to conform to this criterion.

Additional documentation review not required.



- The criterion previously used the terms "user-removable rechargable battery" and "removable rechargable battery" interchangeably throughout the text.
- The criterion name and text were updated to remove these terms and call it a "rechargable battery" take back program throughout the criterion.
- Criterion always included the below language that clarified the scope, so these changes do not impact conformance:

Corporate criterion: Manufacturer shall provide a take-back program for user-removable rechargeable batteries in declared products. ¹⁵

No additional Documentation Review required.



Also added this clarifying language again in the text:

The manufacturer shall demonstrate that the rechargeable battery take-back program (which shall be inclusive of user-removable rechargeable batteries) meets one of the following options:

And updated the statement for "Not Applicable"

If all products declared by the manufacturer to conform to this standard do not contain user-removable rechargeable batteries, the manufacturer may declare "Not Applicable" to this criterion.

 The criterion scope is the same between the 2018 and 2020 versions, the language has just been clarified, so additional Documentation Review is not needed.

Added below footnote:

¹⁶ External communications regarding the name of the take-back program may or may not specify user-removable rechargeable batteries.

- No additional documentation review needed.
 - External communication of the battery take back program was and is always required.
 - Now it's more flexible in whether communication specifically identifies userremovable batteries.



- Updated verification requirements b) and c to reference requirements a) through
 e) in the criterion text.
- b) If fulfilling the requirements of this criterion using Option 1, documentation of the removable rechargeable battery return and recycling process, including:
 - 1) Number of drop off locations, if applicable.
 - 2) In jurisdictions where a voluntary collective scheme is also in operation, an independent take-back program shall offer proof that at least 10% of the number drop-off locations as compared to the voluntary collective scheme are offered by the time of declaration of conformity to the standard.
 - 3) In jurisdictions where a voluntary collective scheme is also in operation, an independent take-back program shall offer proof that 50% or more drop-off locations as compared to the voluntary collective scheme within a year from when the product was declared to confirm to this criterion and 70% within two years.
 - Evidence of transportation contract, specification, or equivalent in legal transport of shipments from collection to final disposition.
 - 5) Evidence of having received data on removable rechargeable ba manufacturer take-back program, including chemistry, weight, and
 - 6) Type of processing technology used to extract and recover chemic
 - Evidence that the initial service providers associated with the n certifications to internationally recognized environmental, and available.



- If fulfilling the requirements of this criterion using Option 1, documentation that:
- 1) The rechargeable battery take-back program meets the "conditions [a) through e)]" outlined in the criterion.
- 2) In jurisdictions where a voluntary collective scheme is also in operation, an independent take-back program shall offer proof that at least 10% of the number drop-off locations as compared to the voluntary collective scheme are offered by the time of declaration of conformity to the standard and 50% or more drop-off locations as compared to the voluntary collective scheme within a year from when the product was declared to confirm to this criterion and 70% within two years.

- This edit clarifies the exact requirements if manufacturer is using option 1.
- The criterion text includes additional requirements that were not included in the original verification requirements.
- a) The program documentation shall require that the collection, transportation, and processing of the batteries be in accordance with all applicable laws, including international trans-boundary shipment regulations.



- Also includes more specific details for these requirements than what was in the original verification requirements:
- d) Data collection: The manufacturer shall require service providers associated with the program to provide information on the batteries collected, including their chemistry, weight, and type.
- e) Process and recovery: The program requires batteries and processing by-product to be:
 - Processed for extraction and recycling of selected chemicals, metals, and materials.
 - Responsibly and safely managed and disposed of according to recognized and certifiable international environmental and occupational health and safety (OHS) standards from the point of collection to final disposition.



- If you originally conducted Initial Documentation Review following the text in the verification requirements as opposed to the criterion text, additional documentation review is required.
- Please review initial documentation review files and ensure all items in a)-e) are covered and work with you CAB to submit data.



The scope of this criterion shall include either:

- All manufacturer's facilities that have significant responsibility (as determined by the manufacturer) for the design and/or manufacture of products declared to conform to this standard, or
- One, or multiple facilities of any type, including office buildings, that add up to a total on-site energy consumption of at least 70 million kilowatt-hours (kWh) per year or account for 50% of the manufacturer's total on-site energy consumption.

Any facility, building or operation owned or leased by the manufacturer may be included in the scope of this criterion.

The scope shall include products declared to conform to this standard. The manufacturer may include additional products in the scope.



The scope of this criterion shall include either:

- All manufacturer's facilities that have significant responsibility (as determined by the manufacturer) for the design and/or manufacture of products declared to conform to this standard, or
- One, or multiple facilities of any type, including office buildings, that add up to a total on-site energy consumption of at least 70 million kilowatt-hours (kWh) per year or account for 50% of the manufacturer's total on-site energy consumption.

Any facility, building, or operation owned or leased by the manufacturer may be included in the scope of this criterion. The manufacturer may include additional products in the scope.

• So, for option 2, this clarifies that any building owned or leased by the manufacturer can be included in the 70M kWh/50% of energy consumption.



- EPEAT has already clarified to CABs that if the facility, building or operation is owned or leased by the manufacturer, it can be included in the calculation for option 2.
- We also already clarified that products outside the scope of this criterion could be included with the caveat that the facility, building or operation is owned or leased by the manufacturer.
- Therefore, updated Documentation Review is not required. If you originally used option 2 and calculated 70M kWh/50% only using facilities that produced EPEAT products, you have more flexibility. The criterion requires manufacturers to calculate the energy improvement annually, so if you've changed your facilities in scope, you can ask your CAB to re-review it.

- URL changed to URL(s) in verification requirement b).
- b) URL(s) for public disclosure as per the requirements of the criterion.

- Document changed to document(s) in verification requirement d).
- d) If claiming Part B: Annual verification document(s) of normalized energy performance improvements by 1) or 2):
 - Updated Documentation Review not required.



- Updated SEP 50001 protocol name in text and footnote.
- An accredited U.S. DOE Superior Energy Performance 50001 (SEP 50001) Verification Body¹⁹ using the SEP 50001 Program Measurement and Verification Protocol to demonstrate normalized energy performance improvement in the most recent three years (calendar or fiscal) or most recent year, or

Updated Documentation Review not required.



- As mentioned earlier, SEP references updated.
- Updated references to "Korea SEP KSEP program" to "Korea Superior Energy Management System".
- Additional documentation review is not required for any of these changes.



- URL changed to URL(s) in verification requirement b).
- b) URL(s) for public disclosure as per the requirements of the criterion.

No additional documentation review required.



Supplier facilities in scope shall be 10 manufacturing or assembly facilities from a minimum of 5 suppliers out of the top 50 suppliers (based on annual spend and using calendar or fiscal year) for products declared to conform to this standard. The supplier facilities may include other components and products not covered by this standard.

Supplier facilities in scope shall be 10 manufacturing or assembly facilities from a minimum of 5 suppliers out of the top 50 suppliers [based on annual spend (fiscal or calendar)] for products declared to conform to this standard. The supplier facilities may include other components and products not covered by this standard.



- c) If claiming Part A: ISO 50001 certification document(s) or certification document(s) to a nationally adopted version of the standard for all supplier facilities in scope. Certification(s) shall be obtained from a certification body for which the specified standard is in the scope of their accreditation. If certification is achieved by a supplier as a multi-site organization (enterprise) certification, the certificate shall include all facilities identified in the scope.
- c) If claiming Part A: ISO 50001 certification document(s) or certification document(s) to a nationally adopted version of the standard for all supplier facilities in scope. Certification(s) shall be obtained from a certification body for which the specified standard is in the scope of their accreditation. A supplier facility will be considered ISO 50001 certified if the facility is certified as a standalone facility or as part of an ISO 50001 multi-site organization (enterprise) certification.
 - Rewords/clarifies that multi-site certification are acceptable (same as other criteria). Additional documentation review is not required.



- Updated text around disclosure requirements.
- Original text:

Each year, the manufacturer or supplier shall publicly disclose one, or a combination of the following:

- The certificate(s) for facilities in scope from Part A and/or Part C.
- The percentage energy performance improvement over the most recent three-year period (calendar or fiscal) or most recent year (calendar or fiscal) for the facilities in scope from Part B and Part C.

It is acceptable for the disclosure to be at the enterprise level, including instances where this criterion is achieved for those parts of the company within scope that have significant responsibility for the manufacture and assembly of the product. The manufacturer shall make the above referenced supplier public disclosures available upon request.



New text:

Each year, one, or a combination, of the following actions shall be taken:

- The manufacturer or supplier publicly discloses a listing of the certified facilities by city, state, province/territory, and country; or a copy of the certificate(s) for facilities in scope from Part A and/or Part C.
- The manufacturer makes available upon request the percentage energy performance improvement over the most recent three-year period (calendar or fiscal) or most recent year for the facilities in scope from Part B and Part C.

It is acceptable for the disclosure to be at the enterprise level, including instances where this criterion is achieved for those parts of the company within scope that have significant responsibility for the manufacture and assembly of the product.



- The change allows the manufacturer to choose to provide information upon request or publicly on their website. Manufacturers who previously made certificates and improvement values available in their public disclosure are still conformant.
- EPEAT did previously indicate that manufacturers could disclose a list of certified facilities and provide certificates upon request, however, EPEAT's clarification did not confirm that the listing must include the city, state, province/territory and country.

Each year, one, or a combination, of the following actions shall be taken:

— The manufacturer or supplier publicly discloses a listing of the certified facilities by <u>city</u>, <u>state</u>, <u>province/territory</u>, and <u>country</u>; or a copy of the certificate(s) for facilities in scope from Part A and/or Part C.

- For Parts A/C: Therefore, if manufacturer is disclosing a list of suppliers instead
 of certificates, a small Documentation Review is required to ensure the list is
 conformant.
- For Parts B: If manufacturers would like to update their public disclosure to make energy performance improvement data available upon request instead of directly disclosed, manufacturers must inform their CAB so that their CAB can ensure it is clear the information is available upon request and conformant.



Computers and Displays 2020 Amendment

• Amended criteria that do not require updated Documentation Review:

Criteria		
4.1.5.1	4.3.2.1	4.9.2.2
4.1.10.2	4.4.1.2	4.9.4.1
4.2.1.1	4.5.1.3	4.9.4.2
4.2.1.2	4.6.1.1	4.10.1.1
4.2.1.3	4.6.3.1	4.10.1.2
4.3.2.1	4.9.1.2	4.10.2.2



4.1.5.1 Required—Reduction of bromine and chlorine content in plastic parts >25 g

Replace the text of 4.1.5.1 with the following:

Product criterion: Each plastic part in the product exceeding 25 g shall not contain greater than 1000 ppm chlorine or greater than 1000 ppm bromine at the homogeneous level, with the following exceptions:

- a) For parts that exceed the specified concentrations of bromine and chlorine, the manufacturer shall perform a hazard assessment in accordance with criterion 4.1.8.1 on the substance(s) responsible for exceeding the bromine and chlorine levels and the viable alternative substance(s) being considered. The manufacturer shall demonstrate either:
 - 1) The brominated and chlorinated compounds used in the product received a GreenScreen® for Safer Chemicals Benchmark score of 2, 3, and/or 4 or
 - 2) No viable alternatives to the brominated or chlorinated compounds can achieve a GreenScreen Benchmark score of 2, 3, and/or 4.



- "Supplier letter" changed to "letter(s)" throughout the criterion.
- Requirements for Part A: a)
 - Declaration that manufacturer met the requirements of this criterion for 75% of suppliers of semiconductors in products declared to conform to this standard, by annual spend (fiscal or calendar).
 - Supplier letter(s) or declaration with the following information:
- Requirements for Part B: b)
 - Supplier letter(s) or declaration including the following:



• Update the language for selecting "Not Applicable" to align with the criterion being a corporate criterion.

A maximum of two optional points may be claimed for this criterion. If the product does not contain flat panel display, manufacturers shall declare "Not Applicable."



A maximum of two optional points may be claimed for this criterion. If all products declared by the manufacturer to conform to this standard do not contain flat panel displays, manufacturers shall declare "Not Applicable."



Manufacturers already make appropriate declaration on EPEAT Registry. Additional Documentation Review is not required.

- Updated language for verification requirement a):
- Declaration that manufacturer met the requirements of this criterion for 75% of suppliers by annual spend (fiscal or calendar).



1) Declaration that manufacturer met the requirements of this criterion for 75% of suppliers of semiconductors in products declared to conform to this standard, by annual spend (fiscal or calendar).



Aligns the verification requirement text with the criterion. However, no change to the intent or what was required by the criterion. Additional Documentation Review is not required.

- Rewording of verification requirement b) iii).
- For IPCC Tier 2a, 2b, or 3 methodology the abatement equipment is electrically heated, fuelled-combustion, plasma, and catalytic devices that are specifically designed to abate F-GHGs, are used within the manufacturer's specified process window and in accordance with specified maintenance schedules, and whose DREs have been measured and confirmed under actual process conditions, using a technically sound protocol, which accounts for known measurement errors including, for example, CF₄ by-product formation during C₂F₆ abatement as well as the effect of dilution, the use of oxygen or both in combustion abatement systems.
- While the wording is slightly different, the overall requirement is the same, a new letter is not required.



For IPCC Tier 2a, 2b, or 3 methodology the abatement equipment is any combination of electrically heated, fuelled-combustion, plasma, and/or catalytic devices that are specifically designed to abate F-GHGs and are used within the manufacturer's specified process window and in accordance with specified maintenance schedules. Also, the DREs of these abatement devices have been measured and confirmed under actual process conditions, using a technically sound protocol, which accounts for known measurement errors including, for example, CF₄ by-product formation during C₂F₆ abatement as well as the effect of dilution, the use of oxygen or both in combustion abatement systems.



Computers and Displays 2020 Amendment – 4.2.1.1, 4.2.1.2, 4.2.1.3

 Removed "integral to the operation of the product" from external components exemption.

External components integral to the operation of the product and sold with the product



c) External components sold with the product



In additional details, the word "comprised" was changed to "composed" of plastic.

Additional details: A discrete plastic part refers to a piece that is originally formed (e.g., molded) as an individual plastic piece. The 25 g and 100 g thresholds apply only to the portion of the part comprised of plastic.



Additional details: A discrete plastic part refers to a piece that is originally formed (e.g., molded) as an individual plastic piece. The 25 g and 100 g thresholds apply only to the portion of the part composed of plastic.



GLOBAL ELECTRONICS Additional documentation review not required.

- Word "comprised" was changed to "composed" of a single resin.
- Comprised of a single resin, or a combination of resins (e.g., a blend) that are compatible for recycling, and



 Composed of a single resin, or a combination of resins (e.g., a blend), that are compatible for recycling, and



Removed reference to 100g plastic parts in the additional details section.

Additional details: A discrete plastic part refers to a piece that is originally formed (e.g., molded) as an individual plastic piece. The 25 g and 100 g thresholds apply only to the portion of the part comprised of plastic.



Additional details: A discrete plastic part refers to a piece that is originally formed (e.g., molded) as an individual plastic piece. The 25 g threshold applies only to the portion of the part composed of plastic.



- Updated criterion text to confirm criterion applies to battery(ies) that provides primary power to the product: "
- Updated criterion text to clarify: "when tested in accordance with IEC 61960 and as modified by the criterion".

A long-life rechargeable battery is a battery pack, including the battery cell(s), an enclosure and control circuitry, that is capable of providing primary power to the product, and when tested in accordance with IEC 61960 and as modified by this criterion, is chargeable to > 65% of its original design capacity after 1000 cycles. A battery that is tested to a shorter cycle count with a greater capacity, e.g., 80% capacity after 300 cycles, does not meet the requirements of this criterion.



 Added statement: "This criterion does not apply to separate batteries that provide power to external components."

This criterion does not apply to separate batteries that provide power to external components.



Updated reference to IEC 61960 test method.

IEC 61960-3:2017 Secondary cells and batteries containing alkaline or other non-acid electrolytes— Secondary lithium cells and batteries for portable applications—Part 3: Prismatic and cylindrical lithium secondary cells and batteries made from them.



See Part 3 of IEC 61960.13



Revised criterion text to match criterion intent:

Product criterion: The internal power supply(ies) used by the product shall meet 80 Plus efficiency levels greater than the minimum efficiency requirements as specified in the U.S. ENERGY STAR specification in effect at the time of declaration to this standard, and as per Table 8. Testing of the internal power supply shall be done at 115 V or 230 V using the EPRI/ecova Generalized Internal Power Supply Efficiency Test Protocol, or a test method with identical testing requirements. Test results shall be validated or the internal power supply shall be tested by an entity whose scope of accreditation includes the standard or test method for which it is supplying data, and that is accredited to ISO/IEC 17025 or witnessed or supervised by a certification body accredited to ISO/IEC 17065. The manufacturer shall determine which of the three voltage/frequency level combinations the internal power supply shall be tested at based on product type (reference Additional details).



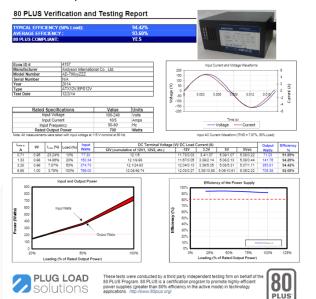
Verification requirements also updated to match:

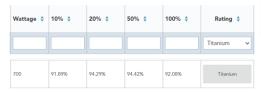
Verification requirements:

- a) Test report(s) demonstrating that results were validated or the internal power supply tested by an entity whose scope of accreditation includes the standard or test method for which it is supplying data, and that is one of the following:
 - A testing laboratory accredited to ISO/IEC 17025 or
 - A manufacturer's testing laboratory in which the testing is witnessed or supervised by a certification body accredited to ISO/IEC 17065
- b) Demonstration that the internal power supply has achieved required performance



Test Reports from EPRI or Accredited Laboratory





This is an example of a test report from EPRI which shows the internal power supply used by the product meets the 80 Plus efficiency levels greater than the minimum efficiency requirements as specified in the U.S. ENERGY STAR specification in effect at the time of declaration to this standard.

This shows the IPS is more than <u>1 efficiency level</u> higher than the minimum requirements in the current version of Energy Star.

EPRI is considered by EPEAT to be an acceptable lab to conduct testing.

Conformity Guidance for this criterion has already clarified that EPRI 80 Plus laboratory reports are acceptable for this criterion.

This evidence, or lab reports that meet the ISO 17025/17065 requirements are still accepted – no additional Documentation Review required.

¹ The EPRI/ecova Generalized Internal Power Supply Efficiency Test Protocol provides a methodology for testing the energy efficiency of power supplies and is available online.

² ISO/IEC 17025 and ISO/IEC 17065 are specifications for bodies carrying out testing or calibrations and both are available online. EPRI is considered by EPEAT to be an acceptable lab to conduct testing.



- Reordered verification requirements.
- a) Demonstration that product take-back service is offered nationwide in countries where the product is registered, by any combination of the following to span each region:
 - Demonstration of compliance with laws and/or regulations that establish and/or sanction a regional system for collecting and recycling registered products in countries or regions where the product is registered (if applicable); for example: invoices, registration forms, government-issued letters of compliance; or
 - Demonstration of a takeback program offered by the manufacturer or an agent of the manufacturer.
- b) Demonstration of the public availability of information describing the product take-back service, including how to utilize the service.
- c) Demonstration of the public availability of information identifying any direct costs associated with use of the product take-back service. If there are no direct costs, disclosure is not required.



- Criterion always has required the manufacturer to offer a take-back program.
- Criterion has always included following statement:

In jurisdictions where there are existing laws and/or regulations, which establish, sanction, or require the establishment of a program for the collection and recycling of registered products, demonstration of compliance with those legal requirements meets the requirements of this criterion.¹⁴

- Therefore, same as before, if the manufacturer participates in a government approved program, they meet the criterion and don't need to provide evidence for VRs b) and c) (Must just demonstrate a) 1)).
- If they provide their own program, always demonstrated conformance to a) 2), b) and c).



- Updated verification requirement d) 2) to clarify that residual equipment and components can be processed by a recycler that meets the criterion through a government approved program (not just a certified recycler).
- 2) Documentation that any residual equipment and components (including unrepairable equipment/components or equipment/components with no reuse value or market), scrap, and materials derived from equipment that result from these exempt programs are processed by a Government-approved program(s) utilized by the manufacturer, or a recycler certified to a Qualified Electronics Recycling Standard and that any transboundary trade to the certified recycler meets the legal requirements of importing, exporting and transit countries.
 - EPEAT had already determined this to be acceptable. No additional documentation review required.



Added below footnote.

Examples of Qualified Electronics Recycling Standards at the date of publication of this standard include "e-Stewards Standard for Responsible Recycling and Reuse of Electronic Equipment," "The Responsible Recycling (R2) Standard for Electronics Recyclers," EN50625, and WEEELABEX v10.¹⁸

¹⁸ WEEELABEX v10 has been replaced by EN-50625 series.

- EN-50625 was always acceptable.
- Participating Manufacturers must maintain conformance over time. This includes updating expired certifications. Documentation Review is not required, but recommend manufacturers proactively check with recyclers who were WEELABEX certified to ensure they are now EN-50625.



- Rewords annual spend (fiscal or calendar) requirement for clarity:
- a) Assess the suppliers in scope as follows: 80% of suppliers (by number) from 80% of directly contracted suppliers (based on annual spend and using fiscal or calendar year) for products declared to conform to this standard.

- a) Assess the suppliers in scope as follows: 80% of suppliers (by number) from 80% of directly contracted suppliers [based on annual spend (fiscal or calendar)] for products declared to conform to this standard.
 - No additional documentation review required.



- Rewords/clarifies that multi-site certifications are acceptable.
- d) Demonstration of current ISO 14001 certification(s), EU EMAS certification(s), or certification(s) to a nationally adopted version of either standard (e.g., certificate, a URL on the supplier website, or a URL on the accredited third-party certification body website) for supplier facilities in a). If a multi-site organization (enterprise) certification is achieved, demonstration that the certificate includes all facilities identified in a).
- d) Demonstration of current ISO 14001 certification(s), EU EMAS certification(s), or certification(s) to a nationally adopted version of either standard (e.g., certificate, a URL on the supplier website, or a URL on the accredited third-party certification body website) for supplier facilities in a). A supplier facility will be considered ISO 14001 certified if the facility is certified as a standalone facility or as part of an ISO 14001 multi-site organization (enterprise) certification.



 Same [based on annual spend (fiscal or calendar)] wording as previous criterion.

- URL updated to URL(s).
- b) URL(s) for the public disclosure(s) covering the required environmental aspects by the manufacturer and/or by the suppliers (e.g., link to manufacturer and/or supplier website).



If hydroelectric power is used to meet the requirements of this criterion, manufacturer shall provide documentation that each source has been certified to the Low Impact Hydro Institute Standard.



- If hydroelectric power is used to meet the requirements of this criterion, manufacturer shall provide documentation that each source has been certified to the Low Impact Hydro Institute Standard, if such certification was available in the country(ies) in which the hydropower was generated, as of the date of publication of the standard.
 - Criterion text has always said "Hydropower generating facilities used to meet this criterion shall be certified to the LIHI, where available as of the date of publication of this standard." This just added it to the VR. Additional documentation is not required.

- Same the Low Impact Hydro Institute Standard (LIHI) update as 4.9.4.1.
- Same [based on annual spend (fiscal or calendar)] language update as previous criterion.



Corporate criterion: The manufacturer shall demonstrate that supplier facilities within the scope of this criterion have each achieved the percentage of renewable energy use reflected in Table 16, utilizing any one, or a combination, of the eligible renewable energy supply options listed in Table 17. This percentage for each facility shall be calculated and achieved once annually for a 12-month reporting period.

 This was the initial intent of the criterion (because each supplier facility in scope needed to meet the thresholds), and the verification requirements always required this.

A list of all facilities in scope and for each, the following:

- (a) Geographic location of the facility.
- 2) A list of the renewable energy supply option(s) used from Table 17.
- 3) The annual total kWh (renewable plus non-renewable) electricity used.
- 4) The annual kWh renewable electricity used.
- Demonstration of calculation(s) used to determine how the percentage(s) of renewable energy use was achieved.



- Verification requirements a) and b) were combined and requirements clarified:
- a) Declaration of the 12-month reporting period.
- b) A list of all facilities in scope and for each:
 - 1) Geographic location of the facility,
 - 2) A list of the renewable energy supply option(s) used from Table 17,
 - 3) The annual total kWh (renewable plus non-renewable) electricity used, and
 - 4) The annual kWh renewable electricity used.
 - a) A list of all facilities in scope and for each, the following:
 - 1) Geographic location of the facility.
 - 2) A list of the renewable energy supply option(s) used from Table 17.
 - 3) The annual total kWh (renewable plus non-renewable) electricity used.
 - The annual kWh renewable electricity used.
 - 5) Demonstration of calculation(s) used to determine how the percentage(s) of renewable energy use was achieved.
 - 6) Declaration of the 12-month reporting period.

- The percentage for <u>each</u>
 facility shall be calculated and
 achieved once annually for a
 12-month reporting period.
- Manufacturer still figures out suppliers in scope based on their annual spend.
 - Updated DR not required.



 Fixed title of criterion: "Socially responsible manufacturing: Labor" (removed word "supplier" because criterion applies to both the EPEAT manufacturer and their suppliers.

4.10.1.1 Optional—Socially responsible manufacturing: Labor

- EICC references updated to RBA.
- Comprising" changed to "composing":

Supplier Facilities in Scope

Supplier facilities in scope shall include manufacturing and assembly facilities for the materials, components, and parts contained in or composing the products declared to conform to this standard, and that have been assessed as resulting in a finding other than acceptable risk through either prioritization method a) or b). Supplier facility prioritization shall be performed by the manufacturer annually using either a) or b). Additional supplier facilities may be included.



- Bullet lettering was corrected: d) and e) changed to a) and b). manufacturer annually using either a) or b). Additional supplier facilities may be included.
- a) The manufacturer shall use two out of the three methods below to perform the prioritization assessment. The facility shall be considered a Supplier Facility in Scope if any of the assessment results find the facility as not having an acceptable risk:
 - 1) Risk assessment based on information that was not self-reported by the supplier
 - 2) Self-identification by the supplier of risk
 - 3) Results of the most recent third-party audit that covers all Labor topics listed in Part A contained in one of the following:
 - i) SA 8000, or
 - ii) RBA Validated Audit Process (VAP)
- b) The manufacturer shall assess whether a supplier facility meets any of the following factors; if yes, the facility shall be considered a Supplier Facility in Scope:

• Clarifies requirements for facilities in scope so that criterion text matches verification requirements.

Requirements for Facilities in Scope

The manufacturer shall demonstrate that each facility in scope (based on the prioritization assessment of the relevant percentages in Table 19) meets one, or a combination, of the following:

- a) Is RBA Validated Audit Process (VAP) recognized, or
- b) Is included in an audit program²¹ that covers topics listed in Part A and that meets both of the following requirements:
 - 1) Requires full audits to be performed every two years by one of the following:
 - i) An SA 8000 Certified Lead Auditor
 - ii) An RBA Lead Auditor
- GLC ELECTROTATES COUNCIL

Includes corrective action identification and resolution.

- Verification requirement f) always required the supplier audit program to evaluate all labor topics of this criterion. Therefore, additional Documentation Review is not required.
- f) If using a supplier audit program to meet the requirements for Part B, demonstration of the following:
 - 1) The auditing program evaluates Labor topics of this criterion, and incorporates corrective action identification and resolution.



• Changes verification requirement d) 3) i) to d 4) and updates it to match criterion text.

d) Demonstration of:

- How the manufacturer determined the percentages in Table 19.
- 2) How manufacturer defined geographic area.
- The methodology for evaluating supplier prioritization and how it was validated during the most recent prioritization evaluation.
- 4) If not using SA 8000 or RBA VAP, demonstration of how the audit maps to each provision listed in Part A.



- Changes verification requirement d) 3) i) to d 4) and updates it to match criterion text – criterion text always required this. Documentation Review not required.
- d) The manufacturer shall use two out of the three methods below to perform the prioritization assessment. The facility shall be considered a Supplier Facility in Scope if any of the assessment results find the facility as not having an acceptable risk:
 - 1) Risk assessment based on information that was not self-reported by the supplier
 - 2) Self-identification by the supplier of risk
 - 3) Results of the most recent third party audit which covers all Labor topics listed in Part A contained in one of the following:
 - SA 8000, or
- EICC Validated Audit Process (VAP)



 Footnote confirms that certification to SA8000 meets requirements for facilities in scope.

Requirements for Facilities in Scope

The manufacturer shall demonstrate that each facility in scope (based on the prioritization assessment of the relevant percentages in Table 19) meets one, or a combination, of the following:

- a) Is RBA Validated Audit Process (VAP) recognized, or
- b) Is included in an audit program²¹ that covers topics listed in Part A and that meets both of the following requirements:
 - 1) Requires full audits to be performed every two years by one of the following:
 - i) An SA 8000 Certified Lead Auditor
 - ii) An RBA Lead Auditor
 - 2) Includes corrective action identification and resolution.



- Criterion previously did not explicitly allow for SA 8000 certification but now it is acceptable for the audit program.
- Criterion requires an annual supplier prioritization assessment.
 Manufacturers must conduct this assessment regardless of whether the criterion is being reviewed as part of Continuous Monitoring, Ongoing Documentation Review or Annual Renewal.
- Additional documentation review is not required due to the amendments, but EPEAT recommends manufacturers reach out to their CABs if they have questions.



- URL changed to URL(s) in verification requirement a).
- URL(s) on the manufacturer website for the supplier requirements document (e.g., manufacturer supplier code of conduct).
 - No additional documentation review is required.



- Similar to 4.10.1.1 –
- References to EICC updated to RBA.
- "Comprising" changed to "composing" for "components and parts contained in or composing the products declared to conform..." in supplier facilities in scope section.

Supplier Facilities in Scope

Supplier facilities in scope shall include manufacturing and assembly facilities for the materials, components and parts contained in or composing the products declared to conform to this standard, and that have been assessed as resulting in a finding other than acceptable risk through either prioritization method a) or b). Supplier facility prioritization shall be performed by the manufacturer annually using either a) or b). Additional supplier facilities may be included.

Bullet lettering was corrected: h) and i) changed to a) and b).

manufacturer annually using either a) or b). Additional supplier facilities may be included.

- a) The manufacturer shall use two out of the three methods below to perform the prioritization assessment. The facility shall be considered a Supplier Facility in Scope if any of the assessment results find the facility as not having an acceptable risk:
 - 1) Risk-assessment-based information that was not self-reported by the supplier
 - 2) Self-identification by the supplier of risk
 - 3) Results of the most recent third-party audit that covers all topics contained in one of the following:
 - i) OHSAS 18001, or
 - ii) ISO 45001, or
 - iii) RBA Validated Audit Process (VAP)
- The manufacturer shall assess whether a supplier facility meets any of the following factors; if yes, the facility shall be considered a Supplier Facility in Scope:
 - 1) Has received a major nonconformance from the certification body, if certified to OHSAS 18001 or ISO 45001.



- Updates criterion text for requirements for facilities in scope to match verification requirement g)
- c) Is included in an audit program that covers the major categories listed in Part A and that meets both of the following requirements:
 - 1) Requires full audits to be performed every two years by one of the following:
 - i) An OHSAS 18001 or ISO 45001 Certified Lead Auditor
 - ii) An RBA Lead Auditor
 - g) If using a supplier audit program to meet the requirements for Part B, demonstration of the following:
 - 1) The auditing program evaluates OHS topics of this criterion, and incorporates corrective action identification and resolution.

 Because verification requirement g) always required this, additional documentation review should not be necessary.



• Changes verification requirement d) 3) i) to d 4) and updates it to match criterion text – criterion text always required this.

d) Demonstration of:

- 1) How the manufacturer determined the percentages in Table 20.
- 2) How manufacturer defined geographic area.
- 3) The methodology for evaluating supplier prioritization and how it was validated during the most recent prioritization evaluation.
- 4) If not using OHSAS 18001, ISO 45001, or RBA VAP, demonstration of how the audit maps to each major category listed in Part A.



- Criterion text below always required that the if using results of third-party audits for the prioritization assessment, the it needed to include all topics covered in one of these standards (which covers the major categories in Part A).
 - a) The manufacturer shall use two out of the three methods below to perform the prioritization assessment. The facility shall be considered a Supplier Facility in Scope if any of the assessment results find the facility as not having an acceptable risk:
 - 1) Risk-assessment-based information that was not self-reported by the supplier
 - 2) Self-identification by the supplier of risk
 - 3) Results of the most recent third-party audit that covers all topics contained in one of the following:
 - OHSAS 18001, or
 - ii) ISO 45001, or
 - iii) RBA Validated Audit Process (VAP)



 In Part A and verification requirement a), "document" changed to "document(s)" and URL changed to URL(s) in verification requirement a).

Part A: Manufacturer shall have publicly available supplier requirements document(s) (e.g., Supplier Code of Conduct) that addresses the following major categories of occupational health and safety (OHS) management systems (as defined in OHSAS 18001 and ISO 45001):

- a) URL(s) on the manufacturer website for the supplier requirements document(s) (e.g., manufacturer supplier code of conduct).
 - No additional documentation reviewed required.



Adds "and/or" to the sentence below.

Additional details: Responsible sourcing programs address capacity building and/or improve formalization, access to markets, or conditions for miners (e.g., through worker training programs, formation of labor unions, cooperatives, registration of miners).

No additional documentation review required.



Thank you for your participation



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