Development of an
ELECTRONIC PRODUCT ENVIRONMENTAL ASSESSMENT TOOL (EPEAT)

Development Team
Final Report

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Prepared by
Zero Waste Alliance
One World Trade Center
121 SW Salmon Street, Suite 210
Portland, OR 97204
Tel: 503-279-9383
Fax: 503-279-9381
http://www.zerowaste.org

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The views expressed in this document are those of the ZWA. The EPA does not endorse any products or commercial services mentioned in this document. For more information contact Larry Chalfan at 503-279-9383 or lchalfan@zerowaste.org.

1.0 Executive Summary

The Electronic Product Environmental Assessment Tool (EPEAT) is a tool for evaluating the environmental performance of electronic products throughout their life cycle. It consists of both a set of criteria for assessing products and a management system for their application and maintenance.

The tool was developed to meet the growing demand by large institutional purchasers and manufacturers for a consistent definition of environmentally preferable electronic products. It is expected to gain wide acceptance in IT (information technology) purchasing by federal and state government.

This document describes the process used for the development of the EPEAT criteria and its system for operation. It will also serve as a source of information for anyone wanting to understand EPEAT's background and heritage. In addition, it is intended to provide a full description of the "how and why" EPEAT was successful for those who want to convene other large projects.

EPEAT is the product of a consensus-based process by a multi-stakeholder Development Team of expert stakeholders with balanced viewpoints who met for eighteen months and completed work in November 2004. The stakeholder groups included public & private institutional purchasers, Manufacturers, Non-Profit and Advocacy Organizations, Trade Associations, Government, Electronic Recyclers, and Academics.

Initially a Steering Committee was formed to assess the need and likely acceptance of an environmental assessment procurement tool, select a development team and provide initial guidance. A national meeting was held during which it was decided that the EPEAT tool should be developed and guidance issued.

A development team was then formed by issuing invitations broadly to the many stakeholder groups above. The Team met both in person and by teleconference over an 18-month period to determine basic principles and specific goals to guide its efforts. Examples of the goals include:

- Promote continuous improvement while encouraging innovation;
- Address the life cycle of computers and monitors;
- Inform the decisions of institutional purchasers;
- Provide a market advantage for environmentally preferable electronic products;
- Cause minimal delay in time to market, be low cost and user friendly;
- Produce credible, verifiable outcomes that are accepted by relevant stakeholders; and
- Provide sufficient value in the marketplace to sustain itself.

The resulting EPEAT system will evaluate desktop and laptop computers and monitors according to 55 criteria grouped into eight categories; 1) Reduction/Elimination of Environmentally Sensitive Materials, 2) Materials Selection, 3) Design for End of Life, 4) Life Cycle Extension, 5) Energy Conservation, 6) End of Life Management, 7) Corporate Performance and 8) Packaging.

A set of 55 draft criteria was developed, many of which were drawn from existing US and international standards such as Energy Star, RoHS, IT Eco Declaration, and ECMA. This will ensure that manufacturers who have worked to meet these requirements will receive EPEAT credit. Twenty two of the criteria are mandatory to meet the Bronze level. Thirty-three optional criteria allow differentiating products into two higher tiers of environmental performance – Silver and Gold.

In November 2004, at the end of the development phase, the work of bringing the EPEAT system to life was handed over to an Implementation Team that was a subgroup of the original Development Team. The Implementation team has the charge to select an organization to be the host for the tool and to carry out a final public review of the criteria. Additional information about EPEAT and the progress of the Development Team is available on the EPEAT web site, http://www.epeat.net/development.htm.

2.0 Background

The management of electronic equipment at the end-of-life (EOL) is becoming a problem of increasing urgency. Developing solutions to this challenge is being addressed through multi-stakeholder dialogues whose goal is to create a shared responsibility framework to greatly expand the reuse and recycling of discarded electronic devices.

One of the dialogues, the Western Electronic Product Stewardship Initiative (WEPSI), proposed that methods be explored to provide a marketplace reward for product designs that embody superior environmental attributes. Product design makes a great difference in the cost efficiency and environmental effectiveness of EOL management. Some products retain substantial value at EOL, while others can be costly to manage. More information about WEPSI is available at http://www.wepsi.org/.

Many organizations are working to minimize their environmental impacts and want to purchase products that meet their environmental goals. Unfortunately, purchasing environmentally preferable electronic products is confusing, complex and difficult. Purchasing officials need a clear and easy-to-use method to accurately quantify the characteristics of preferable products.

Public agencies are concerned about the total cost of ownership of their purchases, and they benefit from lower EOL costs. These agencies, through their purchasing, can send a strong market signal, but to do this, purchasing officials need a clear and easy-to-use method to evaluate products. Recognizing the maxim that "what gets measured, gets managed," the focus of this project was to develop an assessment tool that would advise procurement officials regarding the environmental attributes of personal computing devices.

Many manufacturers are also working to minimize the environmental impacts of their operations, and the environmental impacts of their products over their entire life cycle. The assessment tool can lead to a competitive advantage for manufacturers of environmentally preferable products and will provide designers within the company specific guidelines for developing preferable products.

The preliminary goal of the project was to develop an electronic product environmental assessment tool that:

- Is simple and clear to a purchasing agent,
- Is voluntary but inviting for manufacturers,
- Is transparent and flexible to a product designer and rewards innovation,
- Is low cost and causes no delay in time-to-market,
- Addresses the significant EOL issues faced by the reuse and recycling community, and
- Effectively measures preferred environmental design.

Funding was received by the Zero Waste Alliance to assist in carrying out the development of the tool through a US Environmental Protection Agency Cooperative Agreement number X1-97045701.

3.0 The Project To Develop EPEAT

3.1 Project Approach

3.1.1 Stakeholder Engagement

The plan to carry out the development and implementation of an electronic product environmental assessment tool included four major steps. One of the most important steps was to ensure the engagement of a broad group of appropriate stakeholders. Equally important was the full engagement of the stakeholders in the planning and development of the tool and selection of the host organization.

Step 1: Engage Stakeholders

The project began with broad, national outreach to stakeholders through interviews and a workshop to learn their perspectives and concerns.

Step 2: Develop an Implementation Plan

A development team made up of a diverse team of stakeholders was assembled to examine approaches to ranking and associated guidelines and to recommend the supporting structure for the tool.

Step 3: Identify a Host Organization

The development team identified characteristics and candidates for an organization to house the EPEAT technical resources and manage product applications.

Step 4: Finalize the Assessment Tool and Host Organization

An implementation team began work in November 2004 to:

- finalize and implement the guidelines and application procedures,
- select the host organization and assist with its startup phase, and
- conduct outreach to procurement officials nationwide to encourage use of the tool.

The project engaged dedicated stakeholders to help examine potential assessment methods, to identify the appropriate organizational structures to implement and operate an assessment tool, and to produce a plan for development and funding. The project used a neutral facilitator, Peter Bonner of ICF Consulting Group, Inc., to ensure that all viewpoints were heard fairly and considered. After the pros and cons of potential options were thoroughly examined, the development team stakeholders made recommendations for the next steps for implementing the tool.

3.1.2 Consensus-Based Process

Even though EPEAT is not meant to be an industry standard, it includes a set of criteria to help procurement professionals determine the environmental characteristics of an electronic product and may have an impact on a wide range of stakeholders. For this reason, a broad group of stakeholders was engaged in a consensus based development approach. This Development Team carefully considered the American National Standards Institute (ANSI) requirements for due process in the development of a consensus-based standard and substantially met them. The approach had several characteristics:

Openness. Prior to the initiation of the project, a convening assessment was conducted to determine the level of interest, key issues and engage a diverse group in the project. People received letters and then were contacted and asked about others who would be interested and might want to be involved. This step

had the effect of announcing the project to a large number of people and assisting in the identification of the appropriate stakeholders. After the initial invitations to key contributors people were allowed to join if they were interested in assisting the development.

Stakeholder Balance. The Development Team was made up of 58 representatives from seven different stakeholder groups with varied interests including industry and industry trade associations, government purchasers, industry suppliers, recyclers and a recycling association, environmental NGO groups, academicians, and government agencies. Thirty people were voting members. The selection process and Development Team membership list is shown below.

Lack of Dominance. The Development Team and all subcommittees were set up so that no single stakeholder group overpowered either membership or the committee work. All parties welcomed this approach because it would help ensure the acceptability of the final product.

Notification of Development. As mentioned in the Openness paragraph above, many contacts were made to individuals involved in the various aspects of electronic products. No general media announcement was made. The industry is relatively small and this process was expected to give adequate coverage.

Consideration of Views and Objections. Starting with the first face-to-face meeting, all calls and meetings were planned to bring out the issues of the various stakeholders. In addition, all calls and meetings were open to guests who sometimes brought in their own special issues such as prison labor or export bans.

Consensus vote. The Development Team established a consensus voting process at its first meeting. Consensus voting was seldom used, as most decisions were unanimous including the final agreement on the specific criteria to be used.

Appeals. Since the draft criteria were unanimously approved, there has been no need for an appeals process. As part of the work of the Implementation Team, the current set of criteria will undergo a public review process that will include the solicitation of input and if needed, appeals.

Written Procedures. Written procedures for the process of developing the criteria were not developed. This document explains the processes and steps.

3.2 Steering Committee Preparation

In July 2003 at the beginning of the EPEAT project, a steering committee was formed to identify a Development Team and to give it initial guidance. The steering committee consisted of Marie Boucher, Christopher Kent, John Katz, Katharine Kaplan and Viccy Salazar of the US EPA, plus Eun-sook Goidel of the Pollution Prevention Resource Center, David Stitzhal of Full Circle Environmental, Inc., Wayne Rifer of Rifer Environmental and Larry Chalfan of the Zero Waste Alliance. With assistance from the US EPA, a facilitator, Adam Saslow of Consensus Solutions, Inc., was provided to assist the group in the process of organizing the EPEAT tool development project.

As part of the preparation steps in the formation of the development team, Adam Saslow did a ‘convening assessment’ in which he was given many names of people who were stakeholders in the electronics industry and in the environmental impacts of electronics. Adam called and interviewed the people to draw out their suggestions, concerns and interests in the topic and also asked them if they knew of others who should be involved in the assessment process. This step is considered to be one reason the project got off to a good start and has been successful. A report of the convening assessment is available but too lengthy to include here.

3.2.1 National Workshop to Engage Stakeholders and Obtain Guidance

As part of the steering committee work, a kick-off workshop for the EPEAT Project was held June 17, 2003 on the Intel Ocotillo Campus in Chandler Arizona for all interested people. The workshop provided attendees the opportunity to be actively involved and to help set the course for a new vision for the end-of-life of electronic products.

Objectives of the meeting included clarifying the issues, determining the interest of each attendee and identifying people who should be involved in the Development Team. Speakers discussed the current vision of the EPEAT project, procurement perspectives, and the e-recycling industry today and where the present trends are taking it. This led to a discussion of provocative questions concerning the nexus of end-of-life management and the elements of environmental design. Breakout groups discussed the attributes of products designed for end-of-life management and the characteristics of a useful and practical assessment tool.

One of the outcomes of the meeting was a list of visions, guidelines and goals for the final tool as shown in Table 3-1. The group also created the mission statement shown in Table 3-2 for the Development Team who would develop the tool.

Table 3-1

EPEAT Tool Visions, Guidelines and Goals (Statements from kick-off workshop)

- The EPEAT tool should be user friendly to all users
- Tool that large buyers can use to assess environmental soundness and as a way or method to produce innovative design on manufacturing end
- Build on (or use) what's already out there.
- Do not let the "perfect" be the enemy of "the good." Come up with something reasonably strong in the short term.
- Legitimate stakeholders must build the tool.
- Build market development provisions into the process that develops the tool.
- Help to reduce environmental impact of products throughout the lifecycle.
- Design EPEAT in a way that will not only be used but shall influence buying AND, thereby, design decisions.
- Needs to work for ALL stakeholders.
- We need to not only build but also MARKET the tool.
- We need to build a tool that is truly visionary, sustainable for electronics products and find ways to apply those in the practical realities of the day.
- The tool needs to be self-sustaining.
- A tool that promotes continuous improvement in environmental performance (incremental steps that lead us in the right direction are good).
- A tool that encourages flexibility and innovation.
- Robustness, verifiability, and transparency.
- Low cost…and causes no delay in time to market.
- Maintain our focus but still design the model in a way that may be replicable for other product types – and track lessons learned.

Table 3-2

EPEAT Development Team Mission

- To develop, build-on or adopt an existing assessment tool for electronic products and services and to actively disseminate said Assessment Tool. The tool should:
- Promote continuous improvement in the environmental performance without stifling, and while encouraging, innovation;
- Address the lifecycle of electronic products including but not limited to, design, procurement, use, and end-of-life implications;
- Inform purchasing decisions by institutional purchasers regarding the environmental attributes of electronic products;
- Provide market advantage for companies that provide products and services that achieve superior environmental performance;
- Is low cost, user friendly, and causes minimal delay in time to market;
- Produce credible, verifiable outcomes that are accepted by relevant stakeholders; and
- Provide sufficient value in the marketplace to sustain itself.

In addition to the mission, visions, guidelines and goals, the Workshop group debated and agreed upon an initial list of desired characteristics shown in Table 3-3 for the resulting EPEAT tool.

Table 3-3

Initial Desired Characteristics for the EPEAT Tool

1. Should the tool service the procurement of products and/or of recycling services?
   - Consensus: The Tool should include evaluation criteria of recycling services only when take back and recycling services are bundled with a product purchase.
2. Should the product scope be large and inclusive, or, at least to start, more limited?
   - It should be limited
   - It should be scalable, that is, it could start limited but be designed to expand
3. Who represents the primary market for the Tool? (beneficiaries)
   - Purchasers/procurement officials
   - Equipment providers (manufacturers and resellers)
   - Environmental organizations and the environment
4. Method of assuring the accuracy of product claims
   - A range of views were expressed from a strong self-declaration approach to a third-party verified approach
   - Some possible compromise approaches were identified
   - Self-certification for the lowest level of award, and verification for higher
   - Self-certification with after-award verification
5. The degree to which the tools should “push the envelope” or stay within proven territory
   - There were different perspectives on the range of required scientific validation of environmental criteria
   - Some felt that scientific burden of proof for environmental criteria should be high
   - Others that the criteria should take a more precautionary approach even if the science is not fully certain
6. Ease of use of the Tool by procurement officials
   - There was a general consensus that the tool should be easy to use
   - The analysis should be performed by someone other than the procurement official. Procurement should simply be provided the outcome of the evaluation process
   - But the evaluation criteria and process should be transparent

7. The Tool should have minimal impact on:
   - Time to market
   - Product performance
   - Product cost
8. Should elements of the Tool be separable or taken as a whole, i.e. modular or integrated?
   - Some stakeholders felt that procurement agencies might want to consider certain attributes more strongly than others, and should be able to.
   - Others felt that there may be trade-offs between attributes (e.g. between Hg elimination and energy efficiency), and taking them individually would misrepresent a product assessment.

Finally, the Steering Committee group also developed an initial direction for the Development Team as shown in Table 3-4.

Table 3-4

Steering Committee Direction to the Development Team

- Membership
  - Should have multiple stakeholder representation
- Challenge
  - Assume responsibility for EPEAT
  - Examine options thoroughly and openly
  - Decide on:
    - The product and attribute scope of the Tool
    - A desired structure for the Tool
    - A host organization
  - Prepare a Development and Funding Plan
- Weigh merits of creating an Assessment Tool in a go/no-go decision

3.2.2 Development Team Selection Process

The steering committee considered the results of the convening assessment along with their collective personal knowledge and established a list of potential members to recruit to be on the Development Team. In the selection, care was taken to ensure that all appropriate stakeholders would be involved and to achieve an adequate balance of viewpoints. The original target was to have the following make up plus others who may self-select to join the Team:

Stakeholder Group	Representation
Product Designers	2 members
Industry/Associations	2 members
Government Purchasers	2 members
Suppliers/Retailers	2 members
Recyclers and Reuse Organizations	2 members
Academicians	2 members
NGOs	2 members
Government Agencies	2 members
Grantee	1 member

After the potential members were identified, steering committee members called each person to further determine their interest and to attempt to recruit them to be on the Development Team. Formal invitation

letters were sent to the people who expressed an interest. The final Development Team stakeholder makeup was 10% Recyclers, 20%, Industry, 30% Procurement, 20% Environment, 7% Associations, 7% Government and 7% Academic. The final list of Development Team members, alternates, observers and supporters is shown below.

Final Development Team Membership

NAME	ORGANIZATION	Role
• Joe Aho	Recycle America Alliance – eCycling	Member
• John Burkitt	Hewlett Packard	Member
• Reggie Caudill	New Jersey Institute of Technology	Member
• Catherine Cesnik	US Department of the Interior	Member
• Larry Chalfan	Zero Waste Alliance	Member
• Sheila Davis	Silicon Valley Toxics Coalition	Member
• Patricia Dillon	Dillon Environmental Associates	Member
• Holly Evans	Strategic Counsel, LLC	Member
• Eric Friedman	State of Massachusetts	Member
• Naomi Friedman	The Center for a New American Dream	Member
• Dave Gallaer	Pitney Bowes Corporation	Member
• Garth Hickle	State of Minnesota	Member
• Frank Marella	Sharp Electronics Corp.	Member
• David Matthews	City of Seattle	Member
• Ronalda Meson	GATX Technology	Member
• Gayle Montgomery	State of Oregon	Member
• Peter Muscanelli	International Assn of Electronics Recyclers	Member
• Sarah O'Brien	Hospitals for a Healthy Environment (H2E)	Member
• Terri Persons	California Integrated Waste Management Board	Member
• Ed Pinero	US Government	Member
• Lauren Roman	United Recycling Industries, Inc.	Member
• Lynn Rubinstein	Northeast Recycling Council, Inc.	Member
• Viccy Salazar	US EPA	Member
• Mark Schaffer	Dell Computer	Member
• Steve Skurnac	Noranda Recycling Inc.	Member
• Maria Leet Socolof	ABT Associates	Member
• David Thompson	Panasonic Matsushita Electronics Corp.	Member
• Oliver Voss	US EPA	Member
• Allen R. Wilson	Intel Corporation	Member
• Andrew Baynes	Apple Computer	Member
• Rudolf Auer	Apple Computer	Alternate
• Peter Bennison	International Assn of Electronics Recyclers	Alternate
• Dave Cassano	Apple Computer	Alternate
• Soma Kassambara	US Government	Alternate
• Neal McDonald	Electronic Industries Alliance	Alternate
• Scott O'Connell	Dell Computer	Alternate
• Michael Smith	Noranda Magnesium Inc.	Alternate
• Peter Bonner	ICF, Inc.	Facilitator
• Marie Boucher	US EPA	Observer
• Ann Brinkley	IBM	Observer
• Eun-Sook Goidel	Pacific NW Pollution Prevention Resource Ctr	Observer
• Christopher Kent	US EPA	Observer
• Elena Krikanova	IBM Corporation	Observer
• Susan Landry	Albemarle Corp.	Observer
• Clare Lindsay	US EPA	Observer
• Juan Lopez	US Government	Observer
• Julia Love	Fort Bragg	Observer
• Tim Mann	IBM	Observer
• Katharine Osdoba	US EPA	Observer
• Kelly Panciera	The Center for a New American Dream	Observer
• Joe Rinkevich	JPR LLC	Observer
• Luis Rodriguez	GATX Technology Services Corp.	Observer
• David Stitzhal	Full Circle Environmental, Inc.	Observer
• Beverly Thorpe	Clean Production Action	Observer
• James Weiner	US Department of the Interior	Observer
• John Katz	US EPA Region 9	Support
• Jennifer McNeil	US EPA Region 10	Support
• Wayne Rifer	Rifer Environmental	Support

3.2.3 Steering Committee Closure

The final Steering Committee action was to basically disband itself and turn over the development of the EPEAT tool completely to the Development Team. Some steering committee members and many attendees of the workshop became members of the Development Team and provided continuity. The decision to not have a steering committee to manage the Development Team had the effect of empowering the Development Team and is considered another key reason for success of the project.

3.4 Development Team Process

3.4.1 Process Overview

Throughout the course of the project, the Development Team had five face-to-face meetings, monthly calls and innumerable subcommittee calls. The members of the Development Team spent untold hours working on the system structure, attributes and criteria, and the characteristics and identification of the eventual host organization. Even with the diversity of environmentalists, corporations and academics the cooperation and effectiveness of the team was excellent because each group could see that the success of EPEAT would provide a "win" for their viewpoint.

Following the successful formation of the EPEAT Development Team, a kick-off meeting was held November 4-5, 2003 at the offices of ICF Consulting, 9300 Lee Highway, Fairfax, VA. The goals of the meeting were to develop a charter, work plan, list of desired outcomes and the process for achieving the objectives. Guided by the direction from the workshop output, the team discussed and identified the desirable characteristics of the assessment tool in the eyes of the purchasers. This led to an agreement on a preliminary listing of desired characteristics for the electronic product environmental assessment tool.

At the first meeting an exercise was conducted for four individual stakeholder groups to identify what qualities they most want in an Assessment Tool. The stakeholder groups were procurement officials, recyclers, OEMs and, overseers and promoters. Individuals were free to select the stakeholder group that they wanted to be a part of. This exercise enabled each group to clearly express how they would like to see the tool used, what they thought were the most important issues, what specific characteristics they felt were necessary and what obstacles they anticipated. The exercise is one of the keys to the project's success because it was an effective tool to provide all groups with a clear understanding of the critical issues as seen by the other stakeholder groups. As a result, when the Development Team work began all members were able to begin to work to find compromises instead of haggling on an ideological basis, as is often the case in stakeholder processes.

Additional meetings were held January 27-29, 2004 at the Dell campus in Austin TX; April 27-28, 2004 at the United Recycling facility in Chicago, IL; July 28-30 at the Intel facility in Hillsboro, OR; and November 8-10, 2004 at the EPA facility in Washington, DC. These meetings were instrumental in building good personal relationships and maintaining good communications among the members and convening the entire group to make formal decisions. In addition to the in-person meetings, monthly Development Team calls were held to disseminate information and to make decisions. Finally, there were innumerable weekly or bi-weekly committee and sub-committee call meetings held throughout the development period.

3.4.2 Development Team Mission

At its first meeting, the Development Team reconfirmed its mission statement as shown on page 9. In addition, the team identified the following listing of some key characteristics that it wanted in the final EPEAT tool. These items are individual comments and not consensus statements.

- A creative process, but not one that 'reinvents the wheel'
- A tool that is easy to use, simple and practical
- Flexibility

- Ability to track continuous improvement
- Scientific validity
- Many efforts are tackling this. Lets do it once right so it becomes the de facto standard.
- Tool should address a wide range of environmental issues, toxics elimination, etc.
- It should be consistent and strong.

3.4.3 Development Team Work and Timeline

The Development Team members decided to handle the development of the critical characteristics of the tool by dividing the work to be done among several committees and subcommittees. The team identified an approach and timeline to guide the work over the next year. The three main committees were:

- **Attributes and Criteria**, led by Sheila Davis, Silicon Valley Toxics Coalition and John Katz, USEPA, Region 10
- **Structure**, led by Eric Friedman, Commonwealth of Massachusetts
- **Host Organization**, led by Holly Evans, Electronic Industries Association

3.4.3 Attributes Committee

The Attributes committee was charged with identifying the important product attributes to use to determine the environmental performance of the EPEAT tool. The committee began by determining the set of principles shown in Table 3-5 to use to guide their work and ensure that the resulting attributes and criteria would achieve the desired goals.

Table 3-5

Principles for the Attribute Subcommittee

These principles are intended to guide the EPEAT Development Team in its selection of attributes for the EPEAT tool, which will measure a product's environmental achievement. These principles set the goals for what the whole of the EPEAT attributes will do, not what any one specific attribute is expected to accomplish. It is our intention that the EPEAT tool will:

Promote Toxics Reduction/Phase Out

- EPEAT should motivate and reward manufacturers towards eliminating the use of toxic chemicals in products and in the manufacture of products when such changes do not result in increased environmental impacts across the life cycle stages of those products or manufacturing operations.

Promote Materials Efficiency

- EPEAT should promote and reward the selection of materials so they maintain value throughout their lifecycle and material choices should reflect the goal of minimizing material quantity, toxicity and impact on the environment. Products should be designed for feasible material recovery and material reuse and to significantly and sustainably increase the use of recycled materials.

Promote Energy Efficiency

- EPEAT should motivate and reward manufacturers for achieving product designs which minimize the energy consumption of products throughout their lifecycle.

Promote Extended Product Life and Sustainable EOL Management

- EPEAT should motivate manufacturers to design products and components to extend their lifespan and to enable material recovery and reuse in an environmentally sound manner, i.e., to result in an overall reduction of waste. EPEAT should reward manufacturers who upfront in the product cycle, identify or establish environmentally sound management programs to handle products at end of life.

Promote Environmentally Sound Manufacturing

- EPEAT should promote environmentally sound manufacturing and recycling through the use of

strategies and programs such as EMS, ISO 14001, greening the supply chain, conserving manufacturing resources and energy, reducing the toxicity of manufacturing processes, and reducing the generation of manufacturing waste, especially hazardous waste.

The committee established a group of eight categories of product performance. Subcommittees were selected to determine specific attributes within each category that were then brought to the Attributes Committee for approval before being presented to the entire Development Team for final approval.

1. Environmentally Sensitive Materials
2. Materials Selection
3. Design for End of Life
4. Life Cycle Extension
5. Energy Conservation
6. End of Life Management
7. Corporate Performance
8. Packaging

Through dozens of committee and sub-committee call meetings; attributes were selected for each category. Many of the criteria were drawn from international standards. See Section 4 for details. One or more specific criterion, numeric or otherwise, was established for each attribute. The commitment of all parties showed well in this work as the committee members held divergent views. Although all parties held divergent views, a commitment to successfully complete the project and to "not let the perfect be the enemy of the good" prevailed and the group achieved a very strong set of attributes and criteria.

3.4.4 Structure Committee

The Structure committee was charged to develop the overall framework and some of the details of how the EPEAT rating system would work. The committee divided its work among several subcommittees:

- Tool Structure, – led by Eric Friedman, Commonwealth of Massachusetts
- Application and Approval Process – led by Eric Friedman, Commonwealth of Massachusetts
- Scoring System, led by Patty Dillon
- Verification Process, led by Wayne Rifer, Rifer Environmental
- Web Software Application System – led by David Matthews, City of Seattle
- Host/OEM Memorandum of Understanding – led by Larry Chalfan, Zero Waste Alliance

Through numerous meeting calls, consensus was reached on each of the above topics.

Tool Structure - The committee examined and learned from the many other standards and label tools, for electronics and other products. Systems that were studied included ECMA, LEED, Energy Star, TCO, Panasonic's Factor X, and IT Eco Declaration (formerly NITO-Nordic Information Tech. Org). Aspects investigated included the intended audience, direct comparison vs. relative standard, verification method, product scope, scope of criteria, innovations permitted, level of scientific validation, impact on market, cost, modularity, and rating levels if any. The final EPEAT tool structure is modeled on the tiered levels system of LEED and the IT Eco Declaration system of self-declaration with after-market verification.

Application and Approval process - The Application and Approval process committee was charged with determining how the EPEAT rating system would work. Many important issues were studied and decided. One example was whether EPEAT would require third-party certification for the products or if it would be adequate for manufacturers to declare the product performance to the attributes and criteria. The former gave full assurance that the products met the requirements, but would extend the time to get new products to market, a major problem for manufacturers. Another key consideration was ease of use

for both the manufacturers and procurement officials that would use EPEAT to help select more environmentally friendly products.

Scoring System Committee - The Scoring System committee was charged with designing a system that would provide easy product evaluation using the attributes and criteria. This system needed to allow the purchaser to easily determine the general level of environmental product performance and to also allow determination of specific performance in categories of interest. The committee studied other national and international rating systems in use as well as systems of attribute weighting and developed a system with three levels: Bronze, Silver, and Gold.

Verification Process Committee - The Verification Process committee was charged with developing a process to verify that product attribute claims were accurate. The committee began by developing principles to guide its work.

Table 3-6

VERIFICATION PRINCIPLES

Principle One: Telling the Truth - The EPEAT system for validation of product environmental claims is based first on the principle that manufacturers will accurately and faithfully represent valid information about the product characteristics in product declarations. The company's MOU with the EPEAT host organization, to be signed by executive management, will make a strong and enforceable commitment to provide accurate information in all product declarations.

Principle Two: Clear Requirements - Each criterion will include a clear, detailed listing of the data and information that will be necessary and, for the most part, sufficient to verify the accuracy of a product claim. This supporting evidence will be made available to the EPEAT host organization within 30 days of a request.

Principle Three: Trust but Verify - The EPEAT host organization will annually conduct spot checks to verify claims. Over time spot checking will be well distributed across the range of products and attributes. The number of spot checks will be based on a measure of what is needed to maintain the integrity of, and trust in, EPEAT ratings. In most cases spot checks may be satisfied by review of the supporting evidence. In some cases it may be necessary for the EPEAT host organization to obtain further independent verifying information.

Principle Four: Users Can Initiate Verification - Purchasing entities who are using and relying on EPEAT, and other interested entities, may request a spot check. EPEAT staff will select requests for verification if a credible source documents a specific concern that, by available evidence, appears to have merit. Priority will be given to requests from purchasing entities.

Principle Five: Resolution by Independent Experts - A Review Committee that is made up of independent and knowledgeable professional experts will have final authority on spot check determinations.

Principle Six: Correction before Consequence - The EPEAT host organization will first and foremost work with the manufacturer to correct the shortcoming within a reasonable amount of time. If this fails the product rating will be rescinded and EPEAT users notified. Several non-compliances will result in exclusion of the company from EPEAT.

Subsequent work by the committee established a model for spot-checks and consequences to provide adequate assurance to all stakeholders that all EPEAT products would meet the claims made by manufacturers. Details are in section 5 below.

Web Software Application System - The Web Software Application System committee was charged with establishing the requirements for the web-based software that manufacturers would use to submit their product declarations and that procurement officials would use to access information on products, both by their rating level and if desired by the details of their performance to the attributes and specific criteria such as energy use or toxics content.

Host/OEM Memorandum of Understanding - The Host/OEM Memorandum of Understanding committee was charged to develop a draft MOU for use between the EPEAT host organization and the equipment manufacturer. The draft stated the responsibilities and expectations of the parties as they relate to the requirements of the overall EPEAT system design.

3.4.5 Host Organization Committee

The Host Organization committee was charged with identifying an organization to manage the EPEAT tool after the development is completed. This organization will have the responsibility to sign the memorandums of understanding with the manufacturers, maintain the web-based database of information, market EPEAT to procurement personnel and perform verification activities. The committee identified the basic requirements for an organization to host the EPEAT tool. The committee made a study of organizations currently hosting standards and created a Request for Information (RFI) that was made available on the web and circulated broadly to the entire EPEAT contact list of 130 plus individuals that had been identified during the Steering Committee and Development Team phases.

When the RFI responses were evaluated, no organization stood out as clearly the one to engage. A group of possible scenarios was created including selection of a single organization or a group of organizations selected for their individual administrative and technical abilities working together to handle the EPEAT system. Final recommendations were made to the Development Team and the final selection task was passed to the Implementation Team.

3.4.6 Lessons learned

The work of the Development Team went very smoothly. There were several reasons for this. The first is win-win. All stakeholders could see a successful outcome both as a benefit to the environment and as a win from their individual point of view.

Win-Win - In most organizations including the federal government, directives exist to procure environmentally preferable products. Procurement people often do not have time or expertise to determine the technical complexities of the environmental preferability of the products they buy. A successful EPEAT development promised a user-friendly tool that would assist purchasers make these determinations and avoid the difficulty of trying to become an expert in each of the issues.

Environmentalists saw that the selection of appropriate attributes and criteria promised to significantly reduce the impacts of computing equipment on the environment. Those who were concerned with product stewardship over the entire life cycle of the products could see this as a system that would identify issues that are important to the marketplace and provide feedback to the manufacturer's design efforts and eventually reward design of products with lowered environmental impacts.

For manufacturers, a successful widely adopted EPEAT tool would reduce or eliminate the need for each individual federal and state government entity to have its own environmental contract requirements. In addition, a successful volunteer effort may preempt the need for government regulations. US and international standards such as Energy Star, RoHS, IT Eco Declaration, and ECMA are already influencing the market. Most companies want to "do the right thing" but in a fair and equal marketplace where they wouldn't be punished for taking the extra steps. Recyclers saw that increased focus on end-of-life issues would help create a more stable stream of materials into their recycling systems.

Market as a Driver - Market demands send powerful signals to corporations. EPEAT is a tool to identify the market demands and communicate them to manufacturers. Corporations naturally want and need to design and produce the products that the market wants to buy. The Federal government's Federal Electronics Challenge (FEC)[1] that was being developed in parallel to EPEAT helped bring procurement

[1] http://www.federalelectronicschallenge.net/

officials representing billions of dollars of potential sales into the discussion. This helped identify their requirements and gave the project immediate credibility. Corporations could see that there would be a ready market for products with improved designs.

Effective Process - The open, consensus-based development process ensured that the needs of all stakeholders were met. The process of identification and selection of members was carefully done to ensure broad representation of all viewpoints. The convening assessment and the initial workshop for concerned individuals effectively identified appropriate individuals and organizations.

The decision to not have a steering committee or other organization manage the Development Team provided assurance that a higher body wouldn't negate its work. This had the effect of empowering the Development Team with the knowledge that its work would truly be recognized.

The stakeholder issue identification exercise held at the first workshop was instrumental in enabling all stakeholders to understand each other's concerns and "hot buttons." It resulted in the members of the Development Team being able to immediately begin to work to find compromises instead of haggling on an ideological basis, as is often the case in stakeholder processes.

A neutral facilitator, Peter Bonner of ICF Consulting, was selected to assist the Development Team in its deliberations and decisions. The use of a neutral party avoided any feeling that one stakeholder group was controlling the process.

Effective Support - The development of the EPEAT tool was done in a series of calls, meetings, subcommittee calls and draft documents. A support team made up representatives from the EPA, the grantee and its contractor provided oversight of the process of the project. It assisted in the start of the project by identifying major tasks to be accomplished and assisting in the organization of committees to work on them. It also supported communication, meeting and call schedules and their associated logistics. The team also stepped in when Development Team members needed extra support.

Participant Final Comments - At the final Development Team meeting the attendees were asked for their comments on the nearly 1.5 year long EPEAT development process. The following is a listing of the comments.

Keys to Success

- The use of sub-subcommittees spread the vast amount of work around
- Openness of the subgroups
- Clearly defined timeline
- Dedicated project support from the EPA, grantee and contractor
- Flexibility to change by all participants
- Independent third-party facilitator on Development Team calls and meetings
- Additional facilitator on subcommittee calls when needed
- The interactions were never personal
- Web site with documents on-line was good, but not used as effectively as possible
- Created a real "need" at the beginning
- The Pre-development team workshop to engage stakeholders
- The opportunity to make money from more environmentally friendly products
- Face-to-face meetings kept us recharged
- Returned frequently to the mission statement when needed
- Clear agendas that were a push, but achievable
- Solid commitment of all participants
- Good food at face-to-face meetings
- The opportunity to learn at each interaction
- Having meetings hosted by participants with the opportunity for tours
- Good to be part of something big, opportunity to make a difference

- It matched the interests of all stakeholders
- Toll-free telephone numbers
- Fairly short time frame
- Consistent group of people

Challenges observed

- Openness to new people slowed progress
- Voting process of 70% to pass vs. 70% to fail could have been more clear
- Waited too long to bring in experts
- Information on the market was missing
- Some discussions lingered on too long (or was it the right balance?)

Suggestions

- Capture decisions in a running spreadsheet document
- Better clarify the voting process
- More money for NGOs. (Some travel support was provided, but no funding for time spent.)
- More information about how purchasing, markets, manufacturing work
- Notes on calls not facilitated
- Predictable call times

3.4.6 Results

The project was sufficiently successful in developing a consensus that the final vote on the attributes, criteria and host management system structure was unanimous. There was one letter of dissention to the set of attributes and criteria from the Silicon Valley Toxics Coalition. The letter did not disagree with the criteria in general, but suggested that they did not go far enough in dealing with prison labor and exports. The letter is shown in Attachment C. The system as it has been developed includes the requirement that the attributes and criteria be reviewed periodically and upgraded as appropriate. The issues in the dissention letter can be included in the periodic reviews.

4.0 The EPEAT Product – A Design for an Environmental Assessment Tool

4.1 Tool Characteristics

The Development Team began its process by agreeing on the fundamental characteristics that they sought in an environmental assessment tool for electronic products. The chief characteristics they decided on are presented in Table 4-1.

Table 4-1

Desired Characteristics of the Assessment Tool

1. ***Should the tool service the procurement of products and/or of recycling services?***
   - Consensus: The Tool should include evaluation criteria of recycling services only when take back and recycling services are bundled with a product purchase.
2. ***Should the product scope be large and inclusive, or, at least to start, more limited?***
   - It should be limited
   - It should be scalable, that is, it could start limited but be designed to expand
3. ***Who represents the primary market for the tool? (beneficiaries)***
   - Purchasers/procurement officials
   - Equipment providers (manufacturers and resellers)
   - Environmental organizations and the environment
4. ***Method of assuring the accuracy of product claims.***
   - A range of views were expressed from a strong self-declaration approach to a third-party verified approach
   - Some possible compromise approaches were identified
     - Self-certification for the lowest level of award, and verification for higher
     - Self-certification with after-award verification
5. ***The degree to which the tool should "push the envelope" or stay within proven territory***
   - There were different perspectives on the range of required scientific validation of environmental criteria
     - Some felt that scientific burden of proof for environmental criteria should be high
     - Others that the criteria should take a more precautionary approach even if the science is not fully certain
   - There was consensus that the standards should be challenging but attainable
6. ***Ease of use of the tool by procurement officials***
   - There was a general consensus that the tool should be easy to use
   - The analysis should be performed by someone other than the procurement official. Procurement should simply be provided the outcome of the evaluation process
   - But the evaluation criteria and process should be transparent
7. ***The tool should have minimal impact on***
   - Time to market
   - Product performance
   - Product cost
8. ***Should elements of the tool be separable or taken as a whole, i.e. modular or integrated?***
   - Some stakeholders felt that procurement agencies might want to consider certain attributes more strongly than others, and should be able to
   - Others felt that there may be trade-offs between attributes (e.g. between Hg elimination and energy efficiency), and taking them individually would misrepresent a product assessment

Most of these characteristics were achieved in the final design of the tool, which is described in this section. However, there are three characteristics of the tool in Table 4-1 for which an easy consensus was not available, but which were worked out during the tool design phase:

4. The method of assuring the accuracy of product claims presented a difficult challenge for EPEAT because the method of assuring accuracy used by most eco-labels involves third-party verification. But this method was not deemed appropriate for electronic products because it can entail significant time and cost, and cause a delay in the time to market for new products. Innovation and change in the electronics industry is exceptionally rapid. But a pure self-declaration system, as used by a few environmental rating systems such as the European Computer Manufacturers Association (ECMA) system, does not provide the degree of assurance desired by the stakeholders representing government purchasing and environmental advocacy. This issue was resolved by a creative tool structure as presented in section 4.2.

5. The degree to which the tool should "push the envelope" or stay within proven territory The question is whether all environmental criteria should be supported by an unassailable basis of scientific validation. Must a prohibited toxic substance, for example, be scientifically demonstrated beyond doubt to cause harm, or if there are good indications that it would, should the criteria be more precautionary? There were different perspectives regarding this issue and they were resolved through compromise on a case-by-case basis in the product criteria. In the end, as in all processes that entail compromise, not all stakeholders were fully satisfied.

8. Should elements of the tool be separable or taken as a whole, i.e. modular or integrated? This question was eventually answered such that the EPEAT criteria are designed to be used as a whole. Some stakeholders would prefer to be able to select individual criteria, or mix and match them. However, the consensus grew that the EPEAT tool's attributes should not be broken up. If they are used in part in procurement specifications, possibly with criteria changed or other criteria added, they will create confusion and uncertainty for manufacturers. They will not know what standard to meet as they design products. The consensus of the Development Team is that the set of criteria taken as a whole provide a single, practical system for manufacturers to demonstrate the environmental performance of their products.

4.2 Summary of the Tool Structure

In summary, the EPEAT Assessment Tool provides a definitive set of environmental criteria for computing devices – desktop computers, monitors and laptops – with three levels of achievement – bronze, silver and gold. A manufacturer self-declares that their product conforms to the criteria at one of those levels, and use that declaration in marketing the product. On an annual basis the EPEAT program will conduct verification processes of selected products to assure that the manufacturers' declarations are accurate.

The EPEAT processes for declaration, verification and promotion of the tool will be conducted by an organization, called the Host Organization. The Host Organization will maintain a web-based application system that manufacturers will use to self-declare that a specific product – defined as a marketing model of a computer or monitor – meets all of the requirements for the criteria. Each criterion specifies a set of verification data about the product that the manufacturer will be required to provide at the request of the EPEAT Host Organization if that product is selected for the verification process.

The set of criteria includes 22 mandatory criteria – criteria required to qualify at the entry level – and 33 optional criteria. The EPEAT tool will assess products into three tiers of environmental performance:

Bronze: Product meets all mandatory criteria.
Silver: Product meets all mandatory criteria plus 50% of the optional criteria.
Gold: Product meets all mandatory criteria plus 75% of the optional criteria.

Executive management of the manufacturer will initially sign a Memorandum of Understanding (MOU) with the EPEAT Host Organization that provides them access to list their products on EPEAT. The MOU will provide executive certification that the information to be provided will be accurate. It will confirm the manufacturer's acceptance of the terms for declaration to EPEAT.

To ensure that the self-declaration system functions in a transparent and verifiable manner, the EPEAT Host Organization will select a subset of declared products each year to verify their conformance to the criteria. Verifications will be conducted by the EPEAT Host Organization or other authorized agent. A user of EPEAT may request that a specific product be verified. The EPEAT Host Organization will conduct verification on such products if a credible source has documented a specific concern that, by available evidence, appears to have merit. The Host Organization will contact the manufacturer who will provide the verification data. The verification data will be reviewed, appropriate verifications will be conducted, and a determination will be made regarding the product's conformance to the criteria.

The consequences, in the event that a declared product fails to meet the criteria, will have been spelled out in the MOU. These consequences will first emphasize efforts to correct the problem. However, if problems persist, actions may ultimately include disqualification from use of the EPEAT system and notification of EPEAT users of such.

4.3 Attributes and Criteria

4.3.1 Development of the Draft Criteria

The EPEAT criteria are the standard by which the environmental performance of products will be measured. The EPEAT draft environmental criteria, and the procedures for validation, represent a consensus agreement of the Development Team. Each criterion was evaluated alongside the others to ensure EPEAT is a balanced and comprehensive package covering multiple environmental attributes throughout the product's life cycle. They are strong enough to promote improvement in environmental design and practices, while being practically within the reach of industry so that a supply of EPEAT products will be available.

The Development Team developed the draft set of criteria in an open process. Before the EPEAT system is implemented a public comment period will be held on the draft criteria and then the criteria will be finalized.

Many of the criteria are drawn from existing US and international standards such as Energy Star, RoHS, IT Eco Declaration, and ECMA. This will ensure that if manufacturers have worked to meet these other requirements, this credit will apply to EPEAT.

The EPEAT criteria are designed to be used as a whole. Taken as a whole, the EPEAT system – the criteria, data and documentation requirements, manufacturer agreements, verification processes, and commitments to future updates and extensions – will provide purchasers with a simple and verifiable program for the selection of environmentally sustainable products. In addition, the criteria will provide a single, practical system for manufacturers to demonstrate the environmental performance of their products. The result carefully balances stakeholder concerns and promotes overall environmental improvement. The criteria and individual product declarations will be openly available to purchasers who may use them as they wish.

4.3.2 Types of Criteria

The criteria are grouped into categories, also called attributes. The EPEAT categories are:

1. Reduction/Elimination of Environmentally Sensitive Materials
2. Materials Selection

3. Design for End of Life
4. Product Longevity / Life cycle Extension
5. Energy Conservation
6. End of Life Management
7. Corporate Performance
8. Packaging

The list of criteria, as completed by the Development Team and then edited for clarity by the Implementation Team, are shown in Attachment E.

The list of criteria includes some different types of criteria. The first types distinguish those criteria that are necessary to qualify for baseline EPEAT (Bronze), from those that contribute to achieving the higher EPEAT tiers (Silver and Gold).

- ***Mandatory criteria*** are those that must be met in order for a product to be listed on EPEAT.
- ***Optional criteria*** are those that can be used to achieve higher EPEAT levels, such as silver or gold. Each optional criterion that is met awards one point to achieve the point totals designated above.

The following types distinguish criteria that apply to the specific declared product only from those that are a corporate program or offering.

- ***Product criteria*** are those that apply to each specific product that a manufacturer lists with EPEAT, and are declared to in the product application process.
- ***Annual report criteria*** are those that apply to a program or an offering of the manufacturer in general, are not exclusive for the specific product, and are declared to in the Annual Report.

See below for more details on the applicant process and annual report.

One consideration in setting the criteria was that they be objectively measurable. It they are too vague or subjective, or if data to verify conformance is too difficult to obtain, then verification will lose reliability. Objective measurability was sought wherever possible; however, it was inevitably compromised in some cases. Two examples include the 'ease' of disassembly, which is inevitably subjective, and a requirement that take-back service be offered at a 'competitive' price, which also is subjective. A method of objective measurability could not be found for a few important principles such as these, though common sense was felt to be a reasonable guide.

The overall set of criteria was adopted by consensus, in fact, a unanimous vote of the Development Team. However, there was dissent registered regarding one of the criteria – Criterion 6.1.1 Provision of take-back service. That criterion requires that any end-of-life management services provided by the manufacturer meet the terms of EPA's "Plug-In To eCycling: Guidelines for Materials Management"[2]. The dissent related to the lack of a restrictions in those guidelines to the use of prison labor and export of e-waste.

The primary consideration for prison labor was that representatives of federal agencies reported to the Development Team that if this criterion was included, it would make it difficult, or perhaps impossible, for federal agencies to use the EPEAT tool for purchasing. Prison labor is a federally sponsored program. The Federal Prison Industries was created by an Act of Congress (Pub. L. No. 73-461, 48 Stat. 1211). Executive Order 6917 formally created Federal Prison Industries (trade name UNICOR). Also the

[2] http://www.epa.gov/epaoswer/osw/conserve/plugin/guide.htm

Federal Acquisition Regulations states that "Agencies are encouraged to purchase FPI supplies and services to the maximum extent practicable." Banning the use of prison labor for recycling of EPEAT-declared products would thus seriously impair the ability of federal purchasers to use the EPEAT tool. This would undermine one of the central purposes and strengths of the tool, which is to enable federal government purchasers to move the electronics market toward environmentally preferable products through exercise of their tremendous buying power.

The issue of e-waste export was also discussed at great length. The Development Team decided to address export via the parameters put forward in the EPA Plug-In To eCycling Guidelines for Materials Management. These Guidelines prescribe processing requirements and restrictions on exports, though they do not ban export of all e-waste. The primary concerns were that EPEAT should align with international definitions on hazardous wastes from the Basel Convention, and that there is some ambiguity in the EPA Guidelines. The Guidelines fail to point out to recyclers that most countries would restrict the importation of hazardous wastes, under the Basel Convention, without a special agreement. An additional concern was that some purchasing authorities would wish to have all exports prohibited. However, interviews suggested that purchasing officials have mixed opinions on the issue.

In the end a letter was drafted to the US EPA from the Development Team requesting that the "Plug-In To eCycling: Guidelines for Materials Management" be clarified in regards to export of equipment and materials. See the Attachment D - Clarifying Letter to EPA and Response.

4.3.3 Additional Topics Relative to Criteria and Scoring

EPEAT is an Environmental Leadership Standard. The stated intention of EPEAT is that it is a leadership standard. This implies that the criteria be defined such that only the leading products will qualify at the base or bronze level. The Development Team discussed whether to target that some acceptable percent of the products currently on the market, with reasonable enhancements, would be able to achieve bronze. As an example, the criteria to meet Energy Star were established with the general objective that the top 25 percent of the market would qualify, and over time, a much greater percent have actually qualified.

The Development Team decided, as a general principal, that the top 50 percent of the market for environmental performance should be able to meet the EPEAT mandatory criteria, perhaps with some reasonable product enhancements. Considering that a significant share of the market may use EPEAT – government and institutional purchasing of computers is massive – there needs to be a substantial supply of EPEAT qualified products. Purchasers may not be able to require it if qualification is too restrictive. A 50 percent target will push the market toward improvement while assuring a competitive supply of EPEAT products. EPEAT will also challenge a good share of the market to compete to provide true leadership at the silver and gold EPEAT levels.

In addition, as the products on the market improve in environmental design, the EPEAT criteria should be revised to continue to reward only the leading products. It will thus provide an incentive for continual improvement. A revision cycle of three years was suggested.

However, a precise measurement of the percent of the market that meets the EPEAT criteria would be quite difficult, at least until someone has measured a large number of products to the criteria. Therefore, the draft criteria were developed with the 50 percent principle in mind, but with no definitive data to perform that measurement.

During the implementation of EPEAT, participating manufacturers will be asked to run a number of their products through the criteria screen to determine how difficult it will be for their products to meet the criteria. However, criterion 1.1.1, which requires compliance with the European Directive on Restriction of Hazardous Substances (RoHS), will be exempted, since RoHS will not be implemented until 2006 and few products meet it today.

Rewarding Innovation As the criteria were developed, several potential "innovation criteria" were identified. These are criteria for which it is difficult to define a precise measure, but were seen as valuable areas that manufacturers could innovate in to develop new products with superior environmental performance.

An example of an innovation criterion might be: "Development of new materials or technology, and share the development with industry, that expands the use of recycled materials or components in products." Ideas for potential innovation criteria were identified for nearly all the criteria categories, though none were finalized.

The idea was developed to define certain "innovation points" to encourage and reward exemplary environmental performance achieved through new innovations. It was recognized that measurement of whether a product should receive innovation points would be, by its nature, subjective, and would thus create some risk for the EPEAT organization. There could be challenges to the awarding of innovation points. In addition, innovation point requests will need to be evaluated on a case-by-case basis, possibly even requiring special expertise, and this would affect both the cost and efficiency of the EPEAT approval process.

The Development Team saw value in innovation points and several ideas were drafted concepts for how the application and review process could be implemented for innovation points. See Attachment A - Innovation Points Considerations. In the end the Development Team felt that they could not develop a clearly reliable verification system. It would be too risky for the credibility of EPEAT to be implemented initially.

Another possibility was developed that EPEAT would sponsor annual innovation award contests. These are described in the attached document Innovation Award Alternative. Though this idea appears to have merit, it was decided that it should be considered at a later date.

The development of future criteria The draft criteria are specific to desktop computers, laptop computers and monitors. Originally it was intended that the larger class of electronic products would be considered, and some of the Development Team members represent companies that manufacturer consumer electronic devices such as televisions. Two decisions were made by the Development Team regarding future criteria.

First, as noted regarding EPEAT as a leadership standard, the criteria should be updated periodically so that they continue to push continual environmental improvement.

Second, they should be expanded, or an additional set of criteria developed, to cover additional electronic devices. This may entail the involvement of additional or different stakeholders.

4.4 Memorandum of Understanding with Manufacturers

The EPEAT product declaration process begins for a manufacturer by signing an MOU agreement with the EPEAT Host Organization. This is an important step in the EPEAT system for assuring the accuracy and credibility of the EPEAT product declarations, as well as the overall integrity of the EPEAT program. Since products are listed as meeting the EPEAT criteria according to self-declarations by the manufacturer, it is very important that EPEAT build a system for validating the product claims. The MOU is the first step of that process.

When a manufacturer signs the MOU, their corporate management commits to:

- Provide complete and accurate information regarding EPEAT declared products.
- Notify EPEAT of any changes in the product that may effect the EPEAT declaration.
- Ensure that all products shipped meet the EPEAT criteria.
- Represent that products meet EPEAT only if the declaration has been accepted by EPEAT.

In the event that an EPEAT declared product is found not to meet the EPEAT criteria, the MOU establishes a process for first correcting the deficiencies or, if uncorrectable, terminating the agreement.

The MOU also commits the manufacturer to:

- Cooperate in any verifications or spot checks by providing the information required for product and criterion verification.
- Appropriate use of the EPEAT logo and name.
- Not misrepresent the meaning of an EPEAT product declaration.

The MOU also commits the EPEAT Host Organization to:

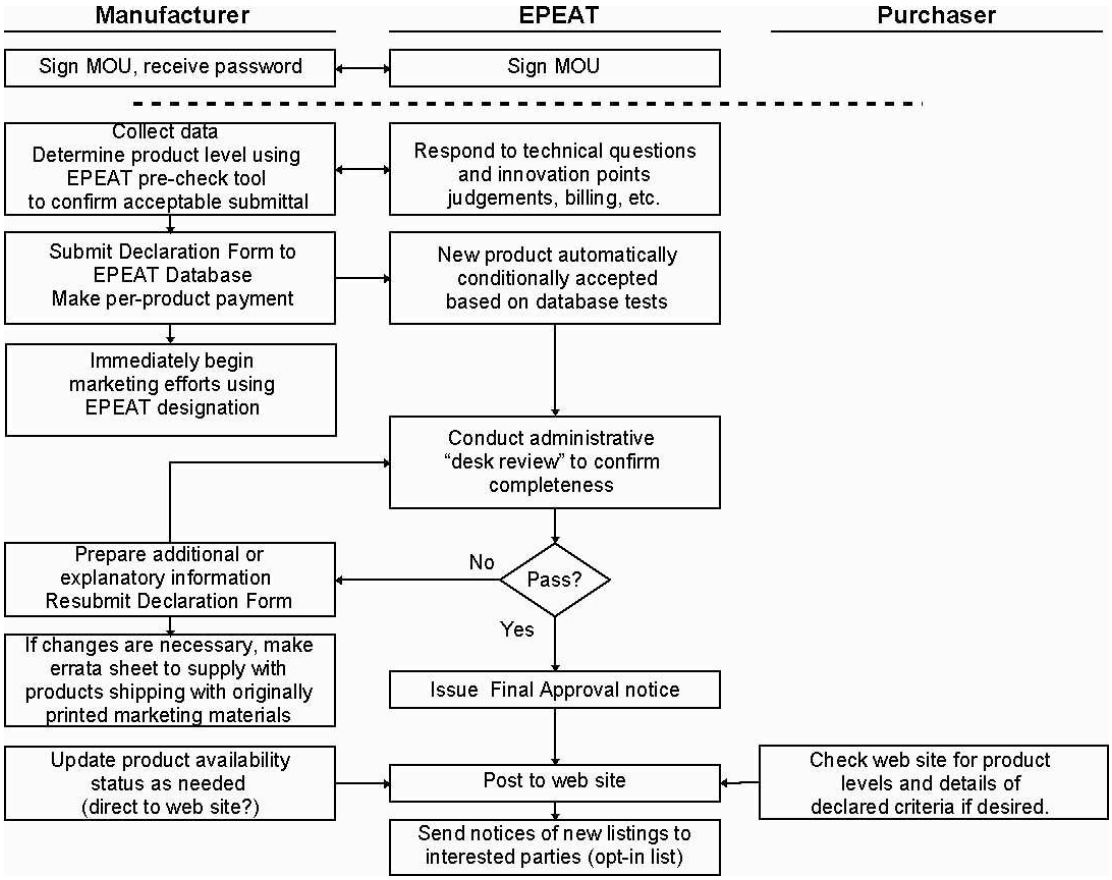
- Maintain and operate the EPEAT system as designed.
- Hold confidential information provided by a manufacturer in confidence.

4.5 Product Application Process

Following the signing of the MOU by the manufacturer and the EPEAT Host Organization, the manufacturer may apply to have products declared to the EPEAT criteria. There are two steps to the declaration process, the providing of an annual report and the completion of a product declaration. Both of these will be accomplished through a web-based application system.

Chart 4-1 depicts the application process:

Chart 4-1



4.5.1 Web Declaration Software System

The EPEAT web site will provide the application tools for the manufacturer's annual report and product declaration. The site will contain features to make it user-friendly and helpful to purchasing agencies. For detailed information about the web application see Attachment B - Web Database Application Requirements.

In addition to the application interface, the web site will include information regarding EPEAT, including:

- General EPEAT information, history of the development, definitions/glossary, explanation of the criteria and rating levels, contact info, a frequently asked questions document (FAQ), etc.
- List of companies with EPEAT MOU agreements.
- A searchable database of EPEAT declared product models with rating information, and possibly including specific product performance characteristics, features and functions.

The web site will allow manufacturers, in a user-friendly manner, to make and modify on-line declaration submittals by authorized personnel in a secure manner. When the manufacturer submits a declaration, the system will provide some checking of reasonableness of the submittals via allowable ranges for entries in required fields. The purpose of this is to reduce costs by reducing the need for EPEAT personnel to double-check the entries.

The web site will be managed by EPEAT staff to maintain its currency and security, and to provide up-to-date information about new product listings and any information from product spot checks that should be provided to users.

A desktop application or some other method, such as a downloadable spreadsheet, will be made available for a manufacturer's in-house use to check a product declaration prior to its actual submittal to the on-line database.

4.5.2 Annual Report

The Annual Report will provide updated contact information for the primary, marketing, public relations and customer service contacts. The heart of the report will be declarations to specific EPEAT criteria.

The EPEAT criteria are of two different types – those that apply to the specific product and those that contain general corporate and other information that is not product specific. The later are included in the Annual Report. So that the manufacturer need not provide this general corporate information for each product declaration, and because some of these items may change over time independent of specific product characteristics, the annual report is provided.

Specifically, the Annual Report will include the following mandatory and optional criteria:

- Provision of product take-back service (Mandatory)
- Provision of a rechargeable battery recycling program (Optional)
- Demonstration of corporate environmental policy consistent with ISO 14001 (Mandatory)
- Demonstration of a self-certified environmental management system for OEM-owned manufacturing facilities (Mandatory)
- Demonstration of a third-party-certified environmental management system for OEM-owned manufacturing facilities (Optional)

- Provision of a corporate report consistent with Performance Track[3] (Mandatory)
- Provision of a corporate report based on Global Reporting Initiative[4] (Optional).

Results of information submitted via the Annual Report will be automatically credited to the product declaration via the software.

The first Annual Report is due with the initiation of the MOU. Subsequent Annual Reports will be due on a specified date and will automatically renew the MOU for another year.

4.5.3 Product Declaration

The manufacturer will use the web application software to declare each product to the EPEAT criteria. For this purpose "product" will be defined to mean:

> ***A product*** is a marketing model and chassis type versus a SKU. EPEAT currently applies to system units, laptop/notebooks, and monitors. A "complete" product includes, for example, the system unit and all its peripherals (a CPU, the keyboard, the mouse and power cord would be "one product"). If there are variations within a marketing model and chassis type (e.g. a faster processor) that would change the environmental performance substantially, especially if it no longer met a criterion, then the manufacturer could not claim EPEAT even if the same model in other configurations did.

Each criterion on the web interface will specify:

- The requirement to meet the criterion.
- What the criterion applies to, for example, a system unit, or a video display unit (VDU).
- Exactly what must be included in the declaration. In most cases this is simply an assertion that the product meets the criterion. In some cases it includes certain data, for example, the product weight.
- The data that must be maintained by the manufacturer and made available within 30 days if requested by the EPEAT organization for verification purposes.
- References and details, if appropriate.

The manufacturer can use a pre-declaration check tool to assess whether the product will meet the criteria without submitting an application. The tool is expected to have the same look and calculate the same as the declaration form, but usable on the applicant's computer. The check tool will determine the level – bronze, silver, or gold – to which the product qualifies.

When a declaration is submitted for a product that conforms to EPEAT, the manufacturer will be billed the appropriate amount for the EPEAT product declaration. For the first 3-5 submittals from a manufacturer, the EPEAT organization will conduct a desk review. The desk review is an administrative review only to assure that the declaration forms have been filled in correctly. It is not a verification of the accuracy of the information about the product, nor its environmental performance characteristics.

The manufacturer will be officially notified by the EPEAT organization that the declaration is in order within a few days. The manufacturer may use the EPEAT declaration in marketing as soon as they receive official notification. There should be no delay in this process since there is no determination made by the EPEAT organization about the accuracy of the declaration before notification is provided.

[3] http://www.epa.gov/performancetrack/
[4] http://www.globalreporting.org/

4.6 Verification Process

The process by the EPEAT organization to verify that products meet the criteria occurs after they have been declared by the manufacturer. However, the signing of the MOU, the declaration of a product, and the verification process all function together to provide assurance to EPEAT users that declarations are credible.

How these different EPEAT functions – MOU, declaration and verification – work together is expressed in a set of principles for verification developed by the Development Team. These principles are described in the attached document "Verification Principles". In summary, the principles include:

- **Telling the Truth** The MOU will make a strong and enforceable commitment by manufacturers to provide accurate information in all product declarations.
- **Claims Supported by Evidence** Data and information that will be provided, upon request, that is sufficient to verify the accuracy of a product claim.
- **Trust but Verify** Annual spot checks of selected declarations will be conducted to verify claims.
- **Users Can Initiate Verification** Purchasing entities who are using and relying on EPEAT, and other interested entities, may request a spot check.
- **Resolution by Independent Experts** A Review Committee of independent and knowledgeable professionals will have final authority on spot check determinations.
- **Correction before Consequence** EPEAT will first seek to have any shortcomings corrected, but failing that, declarations may be rescinded and EPEAT users notified. Repeated problems may result in exclusion of a company from EPEAT.

The heart of the verification process will be the spot checks that the EPEAT organization, or a contractor to that organization (or even possibly an independent organization if so decided) conducts of selected product declarations. Declarations will be selected for spot checks through one of two possible avenues:

1. The EPEAT organization will randomly select specific products.
2. Purchasing entities that are using and relying on EPEAT, and other interested entities, may request a spot check. EPEAT staff will select requests for verification if a credible source documents a specific concern that, by available evidence, appears to have merit. Priority will be given to requests from purchasing entities.

The number and distribution of spot checks will be based on a measure of what is needed to maintain the integrity and credibility of EPEAT ratings. Over time spot checking will be well distributed across the range of products and attributes.

In the MOU the manufacturer commits to provide, upon request by the EPEAT organization, the supporting verification data as specified for each criterion. In most cases spot checks may be satisfied by review of the supporting evidence. In some cases it may be necessary to obtain further independent verifying information.

The results of the spot checks will be provided to an independent Review Committee for determination. If problems have been identified and the Review Committee so directs, the EPEAT organization will work with the manufacturer to make corrections within a reasonable amount of time. If this fails the product rating will be rescinded and EPEAT users will be notified. Several non-compliances will result in exclusion of the company from EPEAT.

It is expected that the EPEAT Host Organization will establish a process for arbitration should there be a disagreement regarding a product declaration that cannot be resolved through the internal process.

4.7 Host Organization

Once the basic structure and function of EPEAT was well defined by the Development Team, and the environmental criteria drafted, the question of how EPEAT would be organizationally implemented was examined. These discussions were begun by the Development Team, and continued by the Implementation Team (I-Team). The I-Team was a subgroup of the Development Team that continued development of EPEAT after the Development Team completed its work, and specifically addressed implementation issues. This Report, which is focused on the decisions made by the Development Team, presents some of the key considerations and the final decisions that were made by the two groups in the transition.

The Host Organization subcommittee organized a process for soliciting potential organizations to demonstrate their interest, and to evaluate those organizations. They developed a list of the desired characteristics of a Host Organization, specified the responsibilities that a Host Organization would fulfill, and issued a Request for Information (RFI).

4.7.1 Desired Characteristics for the Host Organization

The Host Organization subcommittee developed a set of factors that would be used to evaluate a potential Host Organization. These factors, including must-have characteristics and preferred characteristics, are summarized in Table 4-2.

Table 4-2

Host Organization Evaluation Factors

Go/No Go Evaluation Factors

- Stable infrastructure to administer program
- Credibility of organization
- US-based
- Willingness to participate
- Not extremely biased
- Good fiscal management
- Accountable
  - to ensuring the EPEAT DT plan is implemented
  - to the multi-stakeholder process long-term

Differentiating Evaluation Factors

- Good program management
- Experience with procurement
- Experience with electronic products & design
- Experience with raising funds for operation
- Multi-stakeholder experience
- Good PR experience
- Capacity to undertake EPEAT (not currently over-committed)
- Experience with standard setting
- Experience with eco-labels/green marketing

A matrix was created based on these characteristics and information about nineteen different existing organizations or programs was displayed regarding most of these factors. This information was obtained by interviews with representatives of the organizations.

4.7.2 Responsibilities of the Host Organization

Table 4-3 lists the areas of administrative and program management for which the Host Organization will be responsible.

Table 4-3

Responsibilities of the Host Organization

Administrative

1. Create and manage the organizational structure
   - Mission, vision, values
   - Personnel administration, benefits programs
   - Staff development and training
2. Establish and manage advisory panels, general and technical (expect some members from development team)
   - Set up, establish terms of service
   - Work with the panels, get input from them as needed
   - Reporting, oversight and accountability system
   - Replace members when necessary
3. Maintain security, confidentiality and other legal requirements
   - Intellectual property, brand protection plan

Financial

4. Implement Fee system and ensure financial solvency
   - Budget (start-up and ongoing), annual financial audits (?)
   - Accounting - manage funds via AR/AP system
   - Collect registration fees
   - Fundraise, if necessary, to help cover startup costs (?)
   - Make payments for overhead expenses, payroll, spot checks etc.

Marketing and Customer Support

5. Marketing
   - Develop and implement a marketing plan which:
     - Markets to industry to get their products certified
     - Market to institutional purchasers so they can use the tool effectively
   - Develop system for leveraging allies - governments, associations, NGOs, etc.
6. Customer Support
   - Provide training for manufacturers in the application and approval process
   - Respond to questions, concerns and problems

Operational

7. Finalize design and manage the website according to the EPEAT software description document
8. Implement and manage the scoring system
   - Put in place the computer and human system to do the evaluations
9. Work with both manufacturers and purchasers wanting to use EPEAT
   - Ensure convenient, successful interactions
10. Implement and manage the MOU process - sign and renew MOUs with manufacturers
11. Administer the Application, Approval, Verification and Scoring process
    - Desk review applications as they come
    - Do further screening as necessary
    - Maintain data in database on web site

Verification

12. Implement and manage the random spot check verification procedures
    - Establish procedures for completing spot checks
        - Selection of products for random spot checks according to sampling plan
        - Verification according to requirements - paper, physical, lab tests, etc.
    - Carry out the on-going spot check verification process
        - Data Collection and review process using technical review panel as needed
    - Make determinations based on spot check findings
        - Review spot checks findings and issue decision
        - Negotiate with manufacturer for corrections
        - Issue spot check reports
    - Periodically evaluate the effectiveness of the spot check system
13. Implement and manage the spot check request system
    - Establish procedures for handling spot check requests
        - Who can submit requests?
        - Requirements to determine which spot check requests are valid
        - Process to limit the requests for spot checks from other organizations to manageable level
    - Carry out the on-going spot check request process
        - Data Collection and review process using technical review panel as needed
    - Make determinations based on spot check findings
        - Review spot checks findings and issue decision
        - Negotiate with manufacturer for corrections
        - Issue spot check reports
    - Periodically evaluate the effectiveness of the spot check request system

Future Development

14. Update Attributes periodically
    - Follow the international eco-labels to know what is going on
    - Update the attributes every 2-4 years
        - Convene advisory panel and key stakeholders
        - Survey the market to evaluate how the market will be shifting and what % of products can meet the label
        - Manage attribute/criteria review process
        - Integrate new attributes into the scoring system
15. Scale up to other products categories

4.7.3 Results of the Request for Information (RFI)

An RFI was issued, and broadly advertised, in August 2004. An RFI is not a formal procurement process, but simply a "fishing expedition" to learn who might be interested and what they might have to offer if a formal procurement is issued. It is used to help an organization decide if a procurement is worthwhile and what responses might be received. It is not required that a proposer respond to the RFI to participate in the subsequent procurement.

Five organizations responded to the RFI by providing substantial information about how they would propose to provide the EPEAT Host Organization. These included:

- Green Seal – An environmental labeling non-profit organization with standards and a certification process for many types of products.
- Underwriter Laboratories, Inc. – A large standard certification organization for product safety, quality and other properties.

- US Green Electronics Council – A newly formed organization dedicated to electronics and the environment. They submitted three separate responses that presented different possible organizational structures.
- TCO – An international environmental and ergonomics product labeling organization sponsored by the Swedish office workers trade union that maintains a standard and label for computer monitors and other electronics.
- American Retroworks – A new organization based out of an electronics recycling firm that performs digital divide and policy work.

The responses varied considerably in detail, but they strongly indicated that several organizations could be interested in the role. There were a number of worthwhile ideas presented. For example, it was suggested that the standard adoption process and the process of certifying products to the standard could best be performed by two separate organizations to avoid potential conflict of interest.

4.7.4 Decision on the Pathway Forward

Using the information received from the respondents to the RFI, and the matrix of information about other organizations, the subcommittee began to examine options to bring a recommendation back to the Development Team. Several options were evaluated including turning the implementation over to an existing organization, building a new organization, and dividing up the responsibilities between a "coalition" of organizations.

A primary consideration was whether there would be a conflict of interest if a single organization both establishes the standard and verifies conformance to the standard. The concern was expressed that the organization may be tempted to establish a lower standard so that more products would meet it, thus generating more revenue. Eco-label and industrial standards organizations around the world have both models. For example, Green Seal both sets environmental criteria for products and certifies the compliance of products. This is commonly, though not universally, the case in environmental labels. On the other hand, the industrial standards industry much more often separates the two functions. For example, IEEE establishes industrial standards for the electronics industry through a consensus-based standard setting process, and independent organizations certify products to those standards.

An option was proposed that the EPEAT criteria could be formally approved and adopted as an American National Standard by an organization that is accredited by the American National Standard Institute (ANSI). In the US ANSI administers an internationally accepted process for adopting industry standards through an open and balanced consensus decision-making process. Several organizations run such adoption processes, and then they own and sell the standard. These organizations are called Standard Development Organizations (SDO).

Under this approach, the Host Organization, which would manage the manufacturer declaration process and verify that products conform to the standard, would be independent from the SDO, which would run the standard adoption process.

After much debate it was decided that the dual-organization approach was best. An SDO would be selected through interviewing possible candidates. Simultaneously an RFP would be issued by EPA to solicit proposals and to select a Host Organization. EPA would issue the RFP because they intend to provide basic, though not complete, funding for the start up of Host Organization operations.

4.7.4 Budget Estimate

Estimates were formulated of an annual budget for EPEAT operations. Table 4-4 shows both operational costs and non-repeating start-up costs.

Table 4-4

EPEAT Host Organization Budget Draft - 10/13/04						
REGULAR OPERATING COSTS	**Year 1**		**Year 2**		**Year 3**	
Personnel	**FTE**	**Amount**	**FTE**	**Amount**	**FTE**	**Amount**
Director (Admin, Marketing)	1.0	$ 75,000	1.0	$ 78,000	1.0	$ 81,120
Manager (Registrations, low level technical)	1.0	$ 40,000	1.0	$ 41,600	1.0	$ 43,264
Admin Support (admin, acctg-could be contract svc.)	0.5	$ 15,000	0.5	$ 15,600	0.5	$ 16,224
Fundraising	0.5	$ 25,000	0.5	$ 25,000	0.5	$ 25,000
SubTotal	3.0	$ 155,000	3.0	$ 160,200	3.0	$ 165,608
Taxes and Fringe at 40%		$ 62,000		$ 64,080		$ 66,243
Personnel Subtotal		**$ 217,000**		**$ 224,280**		**$ 231,851**
Facilities						
Rent ($1000/mo.)		$ 12,000		$ 12,000		$ 12,000
Telecommunications ($250/mo.)		$ 3,500		$ 4,000		$ 5,000
Supplies ($150/mo.)		$ 1,800		$ 1,800		$ 1,800
Printing/Copying ($250/mo.)		$ 3,000		$ 3,000		$ 3,000
Postage/Shipping/Delivery ($50/mo.)		$ 600		$ 600		$ 600
Insurance ($1000/yr.??)		$ 1,000		$ 1,200		$ 1,400
Furniture and Equipment		$ -		$ 1,000		$ 1,000
Office and Facilities Subtotal		**$ 21,900**		**$ 23,600**		**$ 24,800**
Expenses						
Travel and Per Diem (6/yr for 2 at $700)		$ 8,400		$ 9,240		$ 10,164
Meeting Expenses ($100/mo.)		$ 2,500		$ 2,500		$ 2,000
Training and conferences (4 for 2 at $1000)		$ 8,000		$ 8,000		$ 8,000
Licenses, Fees, Dues (just a guess)		$ 1,000		$ 1,000		$ 1,000
Prof Services, techn-spotchecks (5@10 hrs@$200)		$ 2,000		$ 10,000		$ 10,000
Legal		$ -		$ 5,000		$ 5,000
Web Page/Internet (just a guess - help)		$ -		$ 20,000		$ 20,000
Misc.		$ 1,000		$ 1,000		$ 1,000
General Expenses Subtotal		**$ 22,900**		**$ 56,740**		**$ 57,164**
Marketing/Advertising						
Marketing/Advertising		$ 50,000		$ 50,000		$ 50,000
Education		$ -		$ 5,000		$ 5,000
Marketing/Advertising Subtotal		**$ 50,000**		**$ 55,000**		**$ 55,000**
Equipment						
Purchase/Replacement (year 1 = set up)		$ -		$ 3,000		$ 3,000
Maintenance		$ 250		$ 500		$ 500
Rental		$ 500		$ 500		$ 500
Software		$ -		$ 1,000		$ 1,000
Equipment Subtotal		**$ 750**		**$ 5,000**		**$ 5,000**
Total Regular Operating Costs		**$ 312,550.00**		**$ 364,620.00**		**$ 373,815.20**
REGULAR INCOME FROM PRODUCT REGISTRATION FEES (@$5000)	5.0	$ 25,000	50.0	$ 250,000	50.0	$ 250,000
REGULAR OPERATION COSTS VS INCOME (SHORTFALL)		**$ (287,550.00)**		**$ (114,620.00)**		**$ (123,815.20)**
START-UP COSTS	**Year 1**		**Year 2**		**Year 3**	
Personnel						
Recruiting		$ 40,000				
Facilities						
Furniture and Equipment (office)		$ 10,000				
Expenses						
Develop a business plan		$ 10,000				
Legal		$ 20,000				
Web Page/Internet (high?)		$ 100,000		$ 20,000		
Misc.		$ 4,000				
Marketing/Advertising						
Education		$ 10,000				
Equipment Purchase						
Eauipment Purchase (IT)		$ 15,000				
Software		$ 10,000				
Total Start-Up Costs		**$ 219,000.00**		**$ 20,000.00**		**$ -**
OPERATING SHORTFALL plus START UP COSTS (SHORTFALL)		**$ (506,550.00)**		**$ (134,620.00)**		**$ (123,815.20)**
OTHER INCOME POSSIBILITIES (NONE ARE COMMITTED)	**Year 1**		**Year 2**		**Year 3**	
Parent Organization In-Kind Operational Support		$ 40,000		$ 20,000		$ -
Federal Grants & Contracts (EPA??)		$ 100,000		$ -		$ -
Other Federal Funding (?)		$ 50,000		$ 50,000		$ 50,000
Purchaser's Start-Up fees (50*$2000?)		$ 100,000		$ -		$ -
Corporate Sponsor Memberships???? (5*5000?)		$ 25,000		$ -		$ -
Private Foundations (If successful, needs to start immediately)		$ 100,000		$ 50,000		$ 25,000
EPA Personnel Time		$ 25,000		$ 25,000		$ 25,000
Total Other Possible Income		**$ 440,000.00**		**$ 145,000.00**		**$ 100,000.00**
OVERALL NET (shortfall)		**$ (66,550.00)**		**$ 10,380.00**		**$ (23,815.20)**

The revenues to cover these costs would come from several possible sources:

- EPA start-up funding.
- Fees charged to manufacturers to list products.
- Other private foundation support.

It will be the responsibility of the Host Organization to pursue and secure these funds.

5.0 Go/No-go Decision and Next Steps

5.1 The Decision to Implement EPEAT

When the EPEAT process began, the Development Team was told that, after they had evaluated the options to create an environmental assessment tool, that they would be given a chance to voice their support, or their opposition, to whether it is wise to go forward. In its final meeting November 7 and 8, 2004, the Development Team reviewed all progress to date and made the unanimous formal recommendation that the EPEAT Tool should proceed to implementation. The tool has strong support from all stakeholders for its ability 1) to assist procurement people to identify environmentally preferable products, 2) bring business value to manufacturers by providing a uniform set of requirements for manufacturers, and 3) result in reduced environmental impacts from computer products.

To ensure continuity of thought and to properly carry out the recommendations of the Development Team, the Development Team recommended that the group should form an Implementation Team with members primarily from the Development Team membership. A charge for the Implementation Team was prepared along with additional suggestions as shown in the table below.

With that the work of the Development Team was completed. However, the work of implementing EPEAT was just beginning.

5.2 The Implementation Team

A subgroup of diehards from the Development Team began meeting immediately to begin the implementation process – the Implementation Team or I-Team. The Development Team had provided advice as to how the I-Team should be organized as shown in Table 4-5.

Table 4-5

Suggestions from Development Team (DT) for the I-Team

• Small – 12 or less & smaller core
• Structured like DT with Support from EPA & Contractor
• Real & significant commitment of time
  o 14 months
  o More face-to-face than the Development Team
  o Some new blood
• Will I-Team become the EPEAT Board?

- Maybe others from DT also
- Must address funding
- Open/transparent – communicate regularly with DT for input
  - It can draw on DT for help
- Initiate a pilot to see if it works
- Core team with a peripheral team responsible for setting up pilot (additional skill sets)
- Some members may sign up to be a "resource" as opposed to full membership

In addition, the Development Team gave the I-Team a charge, which was further refined by the I-Team as shown in Table 4-6.

Table 4-6

DEVELOPMENT TEAM CHARGE TO THE I-TEAM
Assume responsibility for implementation of the EPEAT system for the Development Team
1. Establish a timeline 2. Finalize the Host Organization type (Business Model – new, existing, small large) 3. Determine the selection process (RFP? Grant? Who? How?) 4. Final selection of the Host Organization 5. Budget preparation – (scale down if necessary?) 6. Investigate funding 7. Support Host in the implementation of EPEAT 8. Advisory Board, Technical Committee 9. Get the EPEAT Criteria out to the public a year before going live. • Finish verification requirements • Rewrite for the lay person • Update the FAQ (from the final report) as needed • How to take public? (Who? What channels–industry, purchasing, academic, environmental organizations, associations?) • How to respond to input? (Input should include the Host Org. Tell people to wait? Will it work?) 10. Marketing Plan, assist in promotion of EPEAT • To purchasers, OEMs, recyclers 11. Web Interface • Purchasers vs. OEMs • High level with ability to drill down 12. Validation, spot check processes 13. Attribute and criteria revision process 14. Final hand off 15. Report back to current Development Team members if major change required 16. I-Team will develop a business model

6.0 Attachments

Attachment A - Innovation Points Considerations

The intent of innovation points is to encourage and reward exemplary environmental performance achieved through new innovations.

1. Considerations

- Innovation points are, by their nature, subjective. This creates some risk for the EPEAT organization.
- Innovation points are intended to reward products that have achieved significant improvement in environmental performance as a results of product, material or technological changes
- Innovation point requests will need to be individually reviewed which would affect both the cost and immediacy of EPEAT approval process.
- There is a gap between "State of the Art" and "State of the Practice" – innovation points under EPEAT needs to reward innovations in "State of the Practice" (a significant improvement over what is happening) rather than rewarding only new technology that is "State of the Art".
- Other labels, etc. seem to be balancing similar issues and none seems to have hit upon a solution.

2. Requirements

Innovation points may be awarded to products that encompass innovative solutions that:

1) Demonstrate exceptional environmental performance above the requirements set by the basic EPEAT rating system attribute criteria, typically greater than 20% improvement. This will be evaluated by EPEAT on a case-by-case basis.
2) Demonstrate exceptional environmental performance in categories not specifically addressed by the EPEAT rating system attribute criteria.
3) Demonstrate a corporate policy or program translates to superior environmental performance for the pilot. OR Demonstrate corporate strategy or program that results in exceptional environmental performance.

   a. – should we add something like this??

3. Process

- Manufacturer submits an application for an innovation credit - EPEAT staff bound by confidentiality agreement
- EPEAT peer review/technical review panel reviews application (Several Choices here)

16. Within 60 – 90 days of receipt
17. Quarterly/Semi-annually
18. Draft determination within 30 days (By EPEAT Staff), final Determination by peer/technical review panel within X (either days or on a set schedule). Manufacturer can use the EPEAT certification, including awarded innovation points, after the initial draft determination.

    Time to market is an issue. How does this change the time to market.

    Is the points verifiable??

- A manufacturer needs to go through the innovation evaluation for a specific criterion for only 1 product. All other products having the same environmental attribute will receive the awarded points for a period of X months after the initial award. After X months, the criterion needs to be evaluated again to determine the points awarded. (until the next EPEAT criteria revision?)
- Should a fee be charged for this process?? It is time intensive, will probably have more push back from others and will require a higher level of justification.

4. Points

Innovation Points can be awarded based on several different models:

- One point per innovation application (not recommended)
- A maximum of 3 points per innovation application with a like number of points being awarded if the manufacturer shares the environmental innovation with other manufacturers.
    i. Point System: 1 point for "20% improvement, 2 points for 50% improvement, 3 points for transformational improvement. Between 1 and 3 additional points for sharing innovation with other manufacturers.
- Up to X number of points per innovation application with a maximum of 1 full level higher (bronze to silver or silver to gold). Points, up to the maximum can be awarded for sharing of the innovation.
- What about a "Bronze with Innovations, or Silver with Innovation, or Gold with Innovation" instead of having a specific number of points associated with innovation?

What about corporate performance?

5. Application

To receive approval for innovation credit, an application must be submitted containing the following:

1) The intent of the proposed innovation credit
2) The proposed requirement for the credit
3) The proposed specific submittal requirement for the credit
4) Sufficient justification that the proposed credit results in reduced overall impacts compared to current practice
5) Suggested number of points to be awarded with a justification based on environmental benefit achieved.
6) Evidence of performance achieved

    a. How do you do this?

    b. Without Negative impact

    c. Burden of proof is on the applicant

How is the peer review group going to make determinations on points?

How does the innovation point get awarded?

What if an innovation point is awarded and it turns out later

6. Potential Areas for Innovative Points

In the process of developing the EPEAT attributes and criteria, several areas of possible innovation were developed. These are suggested only to give ideas and not to say that any one is recommended or that it would necessarily be accepted. The following is a listing of the categories and the possibilities previously discussed.

Category 1. REDUCE/ELIMINATE ENVIRONMENTALLY SENSITIVE MATERIALS

- Reduce volume solder per sq. in. Comparison to past use in comparable products may be a justifying metric.
- Elimination of halogenated flame-retardants in all structural parts through product design and material selection to eliminate need for chemical additives. Chemical substitution not allowed. Describe it in some detail to get credit.
- Declaration of Health & Hazard information for materials used in product inventory

Category 2. MATERIALS SELECTION

- Development of new materials or technology and sharing with industry that expands the use or potential use of recycled materials or components in products.
- Manufacturer provides a benchmark study that demonstrates a 20% or greater reduction in the material intensity of the product in comparison with other products on the market that provide comparable functionality.
- Demonstrated use of alternative recycled materials if 1) use of plastics in product is minimal; OR 2) development of new material or technology that expands the use or potential use of recycled materials or components in product.

Category 3. DESIGN FOR END OF LIFE

- Introduction and sharing of technology that enables the increased recyclability of existing or new material.
- Development of new technology or material and sharing with industry that increases materials separability in product
- Technology advancements and knowledge-sharing that increases materials uniformity across industry.

Category 4. PRODUCT LONGEVITY / LIFE CYCLE EXTENSION

- Demonstrated strategies that radically extend product life

Category 5. ENERGY CONSERVATION

- Unit is optimized for use with alternative energy generation such as equipment that can work on DC with whole-building renewable power systems

Category 6. END OF LIFE MANAGEMENT

•

Category 7. CORPORATE PERFORMANCE

•

Category 8. PACKAGING

- Blowing Agent minimization/elimination
- Biobased/Starch based
- Reusable/Returnable packaging. Might be direct to retailer packaging – reusable totes of some sort.

Attachment B - Web Database Application Requirements

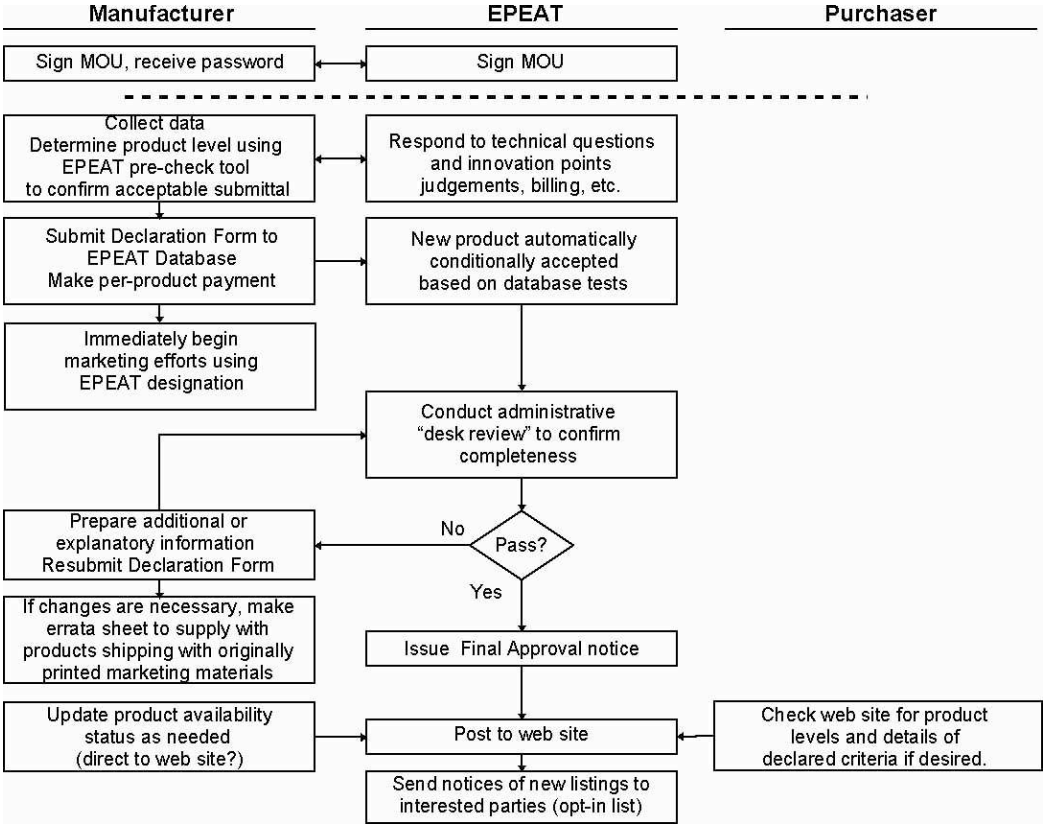
EPEAT WEBSITE SOFTWARE REQUIREMENTS

Introduction

This paper describes the characteristics of web page/database system that will allow manufacturers to submit product declarations online and purchasers to access the ratings online. It is intended that the site be user-friendly for all users. The EPA's Energy Star program has a web site that has many of the desired features and is summarized in this paper

The Electronic Product Environmental Assessment Tool (EPEAT) Development Team is defining an assessment tool to rate the environmental attributes of electronic products. A host organization will be determined that will promote, operate and maintain the overall EPEAT (the name is expected to be changed) system. A rating system will evaluate products and provide levels such as Silver, Gold, and Bronze. The levels will be based on points earned by meeting specific attributes that are grouped into categories. The results of the ratings will be available on a web site that will facilitate the manufacturer's application and approval process as well as the procurement officials need for ease of information access.

EPEAT Process



NOTE: The pre-check tool is expected to be the same document as the declaration form.

The following is a general description the web site and key features desired in a database that will be accessible through the web site.

Web Site Contents

1. General EPEAT information, history of the development, definitions/glossary, explanation of the criteria and rating levels, contact info, etc. This information to be provided via the EPEAT final report and other documentation provided by the EPEAT implementation team and after selection, by the Host Organization.
2. List of companies with EPEAT MOU agreements
3. Searchable database with rating information for products
4. Contain a frequently asked questions (FAQ) section

Major Functions

1. Allow manufacturers to make on-line declaration submittals
2. Provide some checking of reasonableness of the submittals via required fields and allowable ranges for entries. The purpose of this is to reduce costs by reducing the need for EPEAT personnel to double-check the entries.
3. Allow procurement officials to:
   a. Search for products by rating level
   b. Search for products by manufacturer
   c. Check on specific characteristics if desired (review declaration sheets)
   d. Compare product's specific characteristics if desired
   e. Provide communication method back to the host organization (mailto function)
4. A desktop application or some other method (downloadable spreadsheet possibly) should be made available for manufacturer's in-house use to check submittal acceptance/approval prior to the actual submittal to the on-line database
5. System will generate refined lists of qualified product models based on the product features, functions, and performance criteria that interest users
6. System will provide printer friendly versions of search results

Major Characteristics

1. Declaration submittals will be made by authorized personnel in a secure manner
2. Each product record in the database will have a date created and date to expire consistent with Energy Star requirements
3. Records that have expired should be accessible in an archive in case there are still unsold products available
4. The system should be browser independent
5. The system should not depend on proprietary tools
6. The web-based user interface should be simple, uncluttered, and functional
7. Must be Section 508 compliant

Information Security Considerations

It is imperative that information security be considered during the design phase of this application and incorporated into the product in all phases. An experienced information security professional should be on the development staff, or engaged as a consultant.

The specific information security considerations will include:

1. Integrity: Establishing business rules as part of the database design that do not allow SQL injection attacks, buffer overflow, or other forms of data tampering that could destroy or alter the information in the database.
2. Confidentiality:
    a. Creating strong two factor authentication systems that assure access to the systems is restricted to verified and vetted users.
    b. Carefully considered and deployed system of graduated access that assures different levels of authorization for differing levels of privilege to the database.
    c. Principal of least privilege: Users are give the least amount of privilege to the database needed to complete their assigned tasks.
    d. Ownership: Data ownership is established carefully and consistently. Rights to that data are enforced, via authentication.
    e. Data classification: Classification of data is carefully and consistently established. Data that is classified as confidential or proprietary should have encryption tools available and should possibly be automatically encrypted based on the classification level.
3. Availability: The database and hardware used to house the data should be protected from intrusion both physically and electronically:
    a. The hardware that houses this information should be behind locked doors with monitored access granted only to vetted and verified employees of the host organization.
    b. The database itself should be protected from Internet traffic by a hardware firewall configured to block all traffic ingress and egress that is not required for the database utilities.
    c. This hardware, network based firewall should be of recent design and should incorporate intrusion detection technology, including both signature based and anomaly based detection systems.
    d. The database server should incorporate a host based intrusion detection system or software firewall configured to block all traffic ingress and egress that is not required for the database utilities.
    e. The database server should also incorporate an automatically updated virus protection application from a recognized and well-established vendor.
    f. The administrators for the database server should have in place a carefully designed and strenuously followed patch management system. This can be done using software, or vendor provided systems, but it must be monitored and verified on a regular basis with records available to auditors upon request.
    g. All servers and connected network devices should have security and network logging capabilities and they should be engaged at all times. Administrators should have a regularly scheduled review of these logs or a software system to monitor the logs to watch for anomalies.
4. Information Security Auditing: Auditing for compliance to all of the information security requirements should be conducted on a regular basis (yearly) by qualified information security professionals. Records of these audits to be kept on file for the required amount of time base on the host organization's regulatory requirements.

5. Regulatory compliance: All of the requirements stated above are based on best practices to meet most information security regulations. However, depending on the host organization's physical location and area of business, there may be other federal or state regulations that apply to their business practices. These could include HIPAA, Sarbanes-Oxley, various privacy regulations and various disclosure regulations. All applicable regulations must be carefully researched and complied with.
6. Governance:
    a. The host organization should have a governance committee to provide oversight of operations.
    b. The governance group should be formerly chartered through a MOU (memorandum of understanding).
    c. The operational rules, configuration requirements, and use of the mutual system should be documented in a formal security policy adopted by the governance body.

Energy-Star Submittal and Search Site

In an April 6 letter, Energy-Star notified users that it has been working to improve its manufacturer user interface. The three key issues were an Online Product Submittal Tool (OPS); a user-friendly, robust "shopping tool," termed "Find-A-Product;" and a process for removing and archiving products to ensure listings contain up-to-date products.

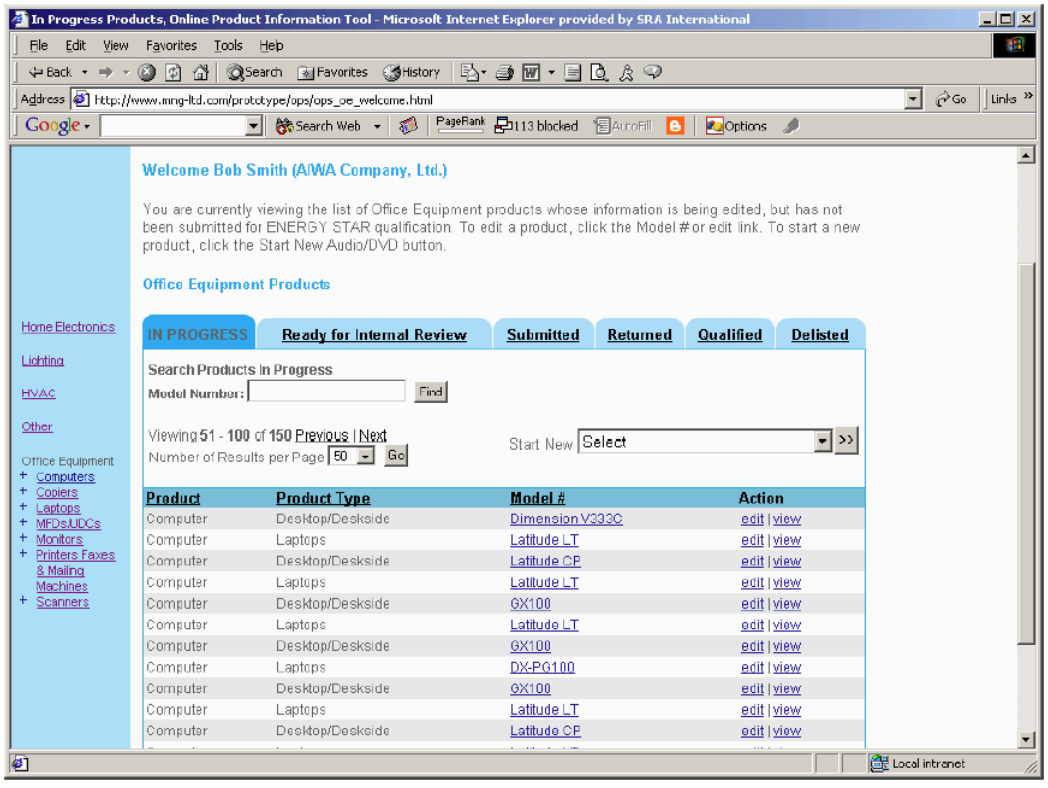
They also created the ability to help showcase products by having more general product information including pictures available through the Energy-Star search.

1. Energy-Star Online Product Submittal Tool (OPS)

The Online Product Submittal tool (OPS) will replace the current process of printing and faxing the Qualified Product Information forms. Manufacturers can enter products directly on line and hold for review and final submittal by an authorized person.

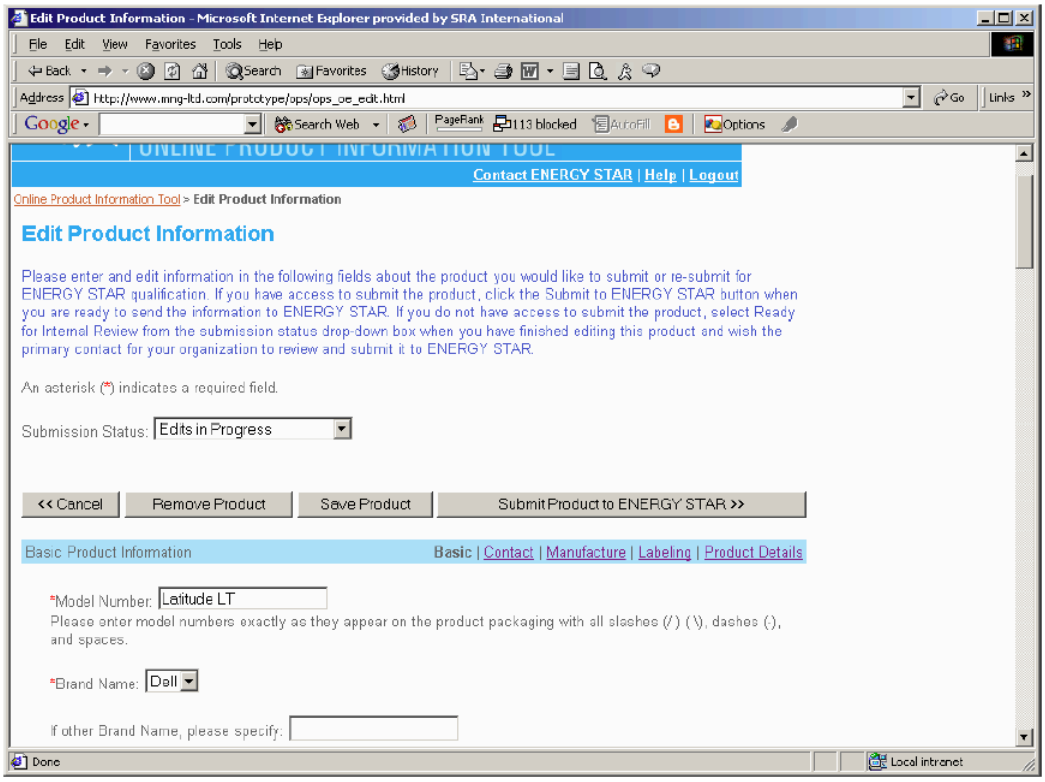
Security will be provided so that two levels of access for staff may be designated: 1) enter data for internal review only, or 2) enter data and submit to EPA.

The Energy-Star tool allows direct online entry of information. EPEAT will have many more attributes, categories and criteria that will probably be submitted as a batch file.



Energy-Star Data Entry Screen

Once the data has been submitted an authorized person can edit it online.



Energy-Star Data Edit screen

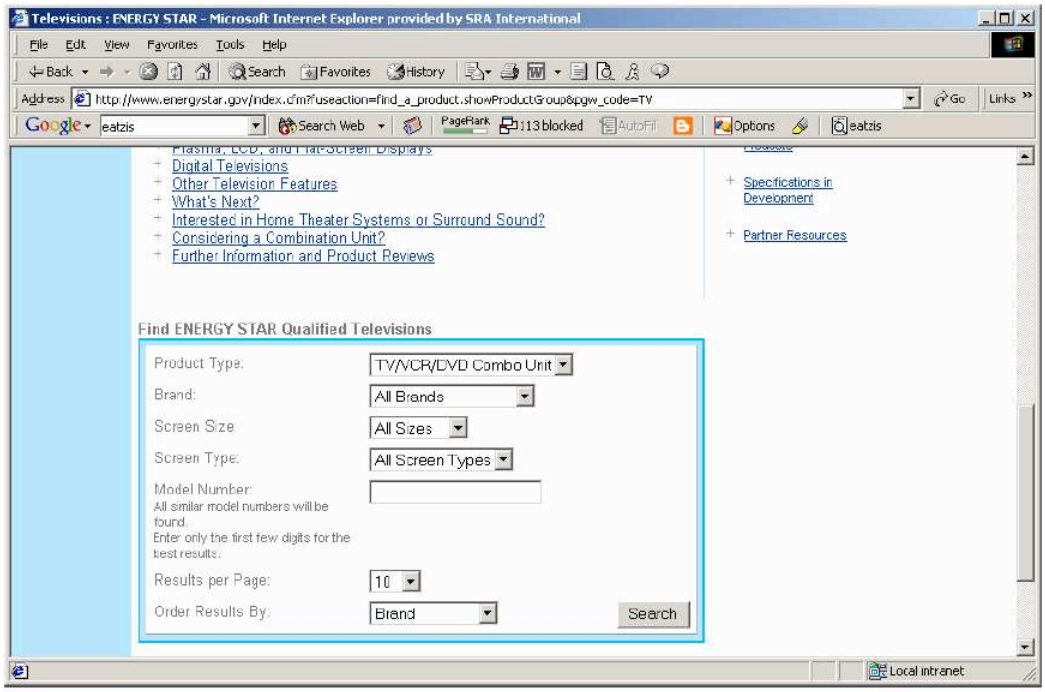
2. Energy Star Find-a-Product (FAP) tool.

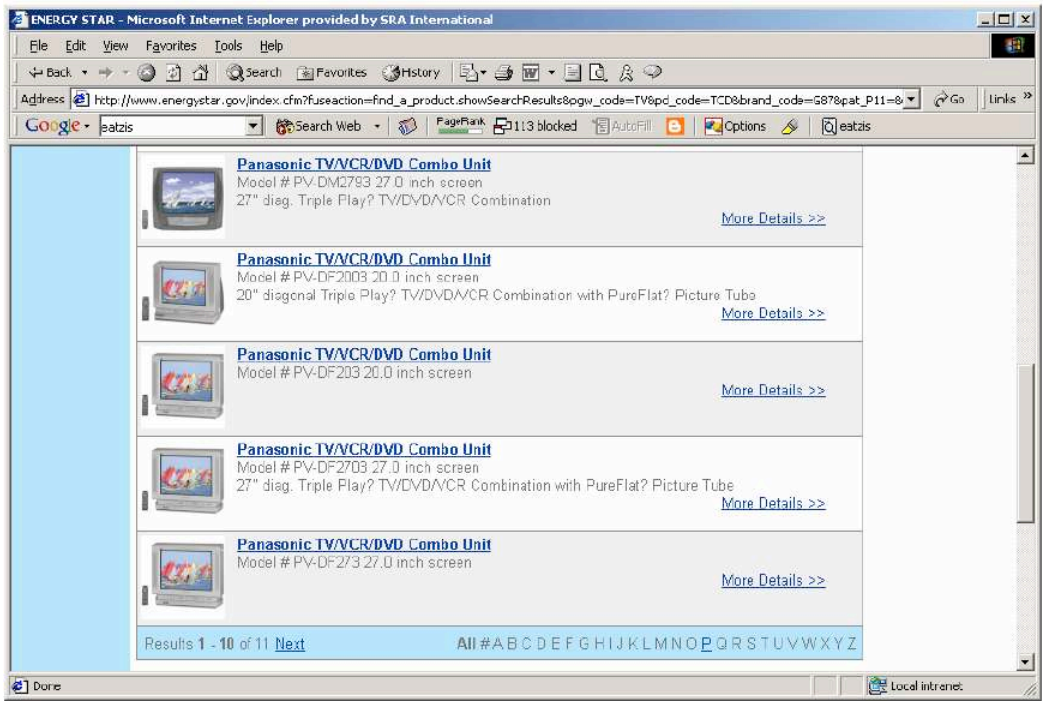
The Energy-Star has worked to replace lengthy spreadsheet lists of ENERGY STAR qualified products with a **user-friendly, robust "shopping tool," termed "Find-A-Product."**

With the tool, consumers will be able to generate refined lists of ENERGY STAR qualified product models based on the product features, functions, and performance criteria that interest them, which will make purchasing the product they want easier.

Mock-ups of the screens showing multiple search categories and display results are shown on the next page.

The EPEAT web tool could use search categories such as Product, EPEAT Level, Manufacturer, Energy Performance and display the product, the rating level and points in each category, valid dates for the listing and have a link to more details that could be the entire declaration submitted.





Find-a-Product Search and Results screens

3. Removing and Archiving products

Also included in the new Energy-Star system is a process for removing products so that search results aren't filled with obsolete products. Manufacturers were surveyed to determine the proper time periods to retain data after production of a product ends.

The following time frames will be placed in effect:

- Computers – 18 months from date available;
- Copiers – 48 months from date available;
- Multi-function Devices – 36 months from date available;
- Monitors – 24 months from date available;
- Printers, Fax Machines, and Mailing Machines – 36 months from date available; and
- Scanners – 36 months from date available.

After these time frames pass, the model will be removed from the list and archived. This policy does not affect the qualification status of models that might still be in the retail sales channel. Those models can continue to bear the ENERGY STAR mark as long as they meet the ENERGY STAR specifications in effect at the time of their manufacture. They may also be manually re-activated by partners to appear on product lists through OPS, if the partner deems their inclusion necessary.

The Energy-Star letter is reproduced on the following pages.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

April 6, 2004

Dear ENERGY STAR® Office Equipment Manufacturer:

Since the inception of ENERGY STAR in 1992, American consumers have purchased more than one billion products that have earned the ENERGY STAR. Your company is one of more than 1,250 partners that manufacture more than 28,000 product models that carry the ENERGY STAR. This product availability translates into substantive environmental and energy savings. Last year alone, ENERGY STAR helped Americans reduce harmful emissions equivalent to those of 18 million cars, while saving more than $9 billion on their energy bills.

I am eager to share some exciting improvements we are making in the way we provide information about your ENERGY STAR qualified products to consumers. As you can see from the enclosed mock-up, we have set out to replace lengthy spreadsheet lists of ENERGY STAR qualified products with a user-friendly, robust "shopping tool," which we've termed "Find-A-Product." With this tool, consumers will be able to generate refined lists of ENERGY STAR qualified product models based on the product features, functions, and performance criteria that interest them, which will make purchasing the product they want easier. Our goal is to more closely match the shopping experiences of e-commerce Web sites by providing marketing information including product descriptions and product images.

We are currently on track to introduce an expanded version of Find-A-Product to include Office Equipment in June. In order for this tool to be an effective source of information to differentiate and showcase your products, it is critical that it be populated with complete and current product information. To this end, we have developed an interface that allows manufacturers direct access to their product information so that you may update your product information electronically and have it reflected almost immediately on the Web. Mock-ups of the screens for this interface are enclosed.

This Online Product Submittal tool (OPS) will replace the current process of printing and faxing the Qualified Product Information forms to EPA. While information previously provided to EPA through the Qualified Product Information forms will be retained, **you will be required to submit new models through OPS after the tool is launched in early-May.** Much like on an electronic retail Web site, you'll be able to provide your customers with a wider range of product-specific attributes and features, including pictures that will help to better market your products.

Please review the enclosed Partner Access Worksheet to update the contact information we have on file for your organization, and to indicate which of your staff should have access to OPS. Please note that you may designate two levels of access for staff. OPS users may be permitted to 1) enter data for internal review only, or 2) enter data and submit to EPA. For access to the tool, you must return the completed form by email to SDOHERTY@sentech.org **by April 22, 2004.**

Once you return the Partner Access Worksheet and OPS goes live in early-May, the staff you designate will be able to access OPS. If they have access to the ENERGY STAR marks, they will use the same username and password. If they do not have access to the marks, they will be sent a username and password. Additionally, new contacts will receive an e-mail with a new username and password.

One additional development related to qualified product lists that you should be aware of is our establishment of a protocol for removing or archiving older product models after a specific amount of time. In the past, we've retained ENERGY STAR qualified product information on the qualified products lists on our Web site as long as five to seven years. This has resulted in the product list being populated with many models that are no longer available and causing consumers to question the validity of the product information on the ENERGY STAR Web site.

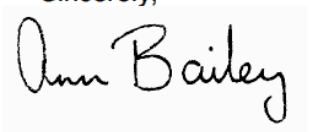
We recently completed an assessment of production cycles (with input from partners) in order to determine the appropriate length of time to keep ENERGY STAR qualified office equipment models on www.energystar.gov. We also took into account the estimated time a model is likely to remain available to consumers once production ends. As a result, our policy will be to allow a qualified office equipment model to be listed on www.energystar.gov for a distinct period of time following the date on which a partner states the product becomes available on the market. The following time frames will be placed in effect:

- Computers – 18 months from date available;
- Copiers – 48 months from date available;
- Multi-function Devices – 36 months from date available;
- Monitors – 24 months from date available;
- Printers, Fax Machines, and Mailing Machines – 36 months from date available; and
- Scanners – 36 months from date available.

After these time frames pass, the model will be removed from the list and archived. This policy does not affect the qualification status of models that might still be in the retail sales channel. Those models can continue to bear the ENERGY STAR mark as long as they meet the ENERGY STAR specifications in effect at the time of their manufacture. They may also be manually re-activated by partners to appear on product lists through OPS, if the partner deems their inclusion necessary. Additionally, if you believe that these time frames can be shortened or otherwise improved, please provide feedback to dhoffmeyer@icfconsulting.com.

Thank you for your participation in ENERGY STAR and for your flexibility as we make qualified product and Web site changes over the next several months. It is through partners' efforts like yours that we are able to continue to build consumer awareness of ENERGY STAR as the national, government-backed symbol for energy efficiency. Your continued commitment helps ENERGY STAR grow as a powerful platform for delivering energy efficiency to consumers both nationally and internationally.

Sincerely,



Ann Bailey, Chief
ENERGY STAR Labeling Branch

Attachment C - Letter of Dissent

October 29, 2004

Viccy Salazar
US EPA, Office of Solid Waste
1200 Pennsylvania Ave., N.W., (MC 5306W)
Washington, DC 20460

Subject: Compliance with Environmental Justice Executive Order 12898 in Electronics End-Of-Life Management Policies and Programs

Dear Ms. Salazar,

This letter is to inform the Electronics Product Environmental Assessment Tool (EPEAT) Development Team of Silicon Valley Toxics Coalition (SVTC) opposition to the proposed EPEAT attributes regarding end-of-life management.

SVTC served as an official development team member in the EPEAT process representing the Computer Takeback Campaign (CTBC), a national coalition of environmental organizations. CTBC is a diverse national coalition of environmental and social justice organizations promoting corporate and governmental accountability for US electronic waste to protect the health and well-being of all electronics users, workers, and communities where electronics are produced and discarded.[5]

We commend the EPA for sponsoring a year-long process to develop an Electronic Product Environmental Assessment Tool ("EPEAT") for use by federal agencies to assess the environmental performance and impact of desktop and laptop computers. However, the SVTC and the CTBC strongly oppose the proposed EPEAT end-of-life management criteria which don't address the fundamental environmental justice principle and protection embodied in Executive Order 12898. Our primary concern is for the environmental and occupational health hazard posed by e-waste to US prisoners and communities in developing countries.

EJ Executive Order 12898 requires that each federal agency include environmental justice as part of its mission by identifying and addressing, as appropriate, disproportionately adverse human health or environmental effects of its programs, policies, and activities on people of color and low-income populations in the United States and its territories. The Computer TakeBack Campaign (CTBC) finds that the policy and practice of using federal prisoners and developing nations to recycle and disassemble hazardous electronic waste is directly in violation of the letter and spirit of EO 12898.

Prisoners who dismantle e-waste in prison recycling centers and workers in developing nations, where US e-waste is also dismantled and processed in large quantities, are not adequately protected by US environmental and labor laws. This has already resulted in massive poisoning

[5] The Computer TakeBack Campaign www.computerTakeBack.com

of entire regions and populations abroad, and as technology rapidly develops, the problem will only escalate.[6]

Racial minorities (African American and Latino) and low-income individuals comprise about 70 percent of all federal prisoners.[7] As prisoners, many have been stripped of their basic rights to vote, freely associate, unionize, or influence or participate in environmental policies or decisions in a meaningful way. Incarcerated individuals are denied equal protection under federal labor laws, and federal penitentiaries are not subject to all local and state environmental laws.

The use of prison workers by federal agencies to recycle hazardous waste is precisely the type of environmental discrimination that the Executive Order 12898 was designed to prevent. In addition, the burden of healthcare costs for family members of those who are ill upon release from prison falls on the very communities this Executive Order was designed to protect.

Thus, ending the abuse of prison labor by halting recycling practices at prisons would significantly advance EPA's efforts to implement EO 12898.

We are also concerned that the proposed EPEAT EOL attribute only offers one standard for which companies can earn points, whereas most of the EPEAT attributes offer the opportunity for companies to improve environmental services and practices and earn additional points by achieving higher standards.

Lastly, we are concerned that the definition of hazardous waste in the EPEAT guidelines, are not consistent with the Basel Agreement particularly with regard to the export of nonworking equipment or materials, to countries outside the US, which may be considered hazardous waste under the Basel Convention. The EPEAT EOL criteria should clarify that it is illegal for countries to import hazardous wastes (as defined by Basel) from the US in the absence of a supplementary bilateral or multilateral import/export agreement between a given Basel party and the US.

Documented evidence[8] shows e-waste is being exported from the US to developing countries like China through existing recyclers and waste brokers. This form of illegal transportation of hazardous waste exposes and thus exploits some of the poorest laborers in countries such as India and China and therefore is directly contradictory to the principles of Environmental Justice.

In summary, SVTC and the CBTC would like the EPA and the EPEAT development team to ensure that (1)the environmental justice principle applies to all EOL criteria and to (2) clarify the EPEAT criteria for hazardous waste exports so that they are harmonized with existing international definition of hazardous waste outlined in the Basel Convention (3) provide an

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[6] "Exporting Harm: The High-Tech Trashing of Asia" http://www.ban.org/E-waste/technotrashfinalcomp.pdf by Basel Action Network, 2002. "E-waste in Chennai: Time is running out." http://www.toxicslink.org/docs/06033_reptchen.pdf (2004) and "Scrapping the Hi-tech Myth: Computer Waste in India" http://www.toxicslink.org/docs/06037_Hi_Tech_Myth.pdf (2003), both reports by Toxics Link, India.

[7] Prison Reform and Advocacy Center: www.prisonreform.com/usprison_main.shtml and Prison Activist Resource Center: www.prisonactivist.org.

[8] "Exporting Harm: The High-Tech Trashing of Asia" http://www.ban.org/E-waste/technotrashfinalcomp.pdf by Basel Action Network, 2002. "E-waste in Chennai: Time is running out" http://www.toxicslink.org/docs/06033_reptchen.pdf (2004) and "Scrapping the Hi-tech Myth: Computer Waste in India" http://www.toxicslink.org/docs/06037_Hi_Tech_Myth.pdf (2003), both reports by Toxics Link, India.

opportunity for companies to earn additional points by including higher level tiers for the EOL attribute.

We look forward to working with the EPA to review and reform EPEAT criteria and to ensure that e-waste is recycled in communities that meet the federal government's goals on environmental justice in the United States.

Sincerely,

Sheila Davis
Silicon Valley Toxics Coalition

Attachment D - Clarifying Letter to EPA and Response

March 11, 2005

Matt Hale
Director
Office of Solid Waste
US Environmental Protection Agency
1200 Pennsylvania Ave., N.W., (MC 5306W)
Washington, D.C. 20460

Dear Mr. Hale:

We are partners with the United States Environmental Protection Agency in a cooperative agreement to develop an Electronic Product Environmental Assessment Tool (EPEAT) for use by federal, state and institutional purchasers to assess the environmental performance of desktop and laptop computers and monitors. As part of that process, the EPEAT Development Team, which includes representatives of industry, government, academic and environmental groups, reviewed and discussed EPA's "Plug-In To eCycling" Guidelines ("Guidelines") to determine whether the Guidelines could be used as EPEAT criteria.

These Guidelines contain many of the features that a plurality of EPEAT Development Team members considered essential to achieving effective and environmentally sound End-of-Life ("EOL") management systems for used electronics. In addition, we understand that the Guidelines may serve as the basis for a third party certification system to provide assurance that their terms are being met by participating recyclers. For both of these reasons, the EPEAT Development Team voted to include the Plug-In To eCycling Guidelines as the basis for EPEAT's EOL requirements for used equipment. A copy of the EPEAT criteria is attached.

However, the Development Team would like specific clarification from your office, if possible, regarding the Guidelines and their application to the export of nonworking equipment or materials to countries outside the United States – particularly to countries that are signatories to the Basel Convention. We understand that some equipment or materials not listed as "waste" in the Plug-In Guidelines may be considered hazardous waste by countries that are Parties to the Basel Convention. Some EPEAT Development Team members are concerned that this ambiguity may undermine attempts to ensure that the Guidelines are fully understood and met by recyclers, third party auditors and other stakeholders.

For this reason, the EPEAT Development Team is writing to request specific clarification of the language in several sections of the Guidelines. We hope that by providing this information, the Guidelines will provide clearer guidance to stakeholders and third party auditors as to what is required by Section 4(a) of the Guidelines. Section 4(a) states:

> "In the case of export of any electronic products and components, the Plug-In partner ensures that:
>
> a. Any applicable requirements of the US, as well as applicable requirements of importing and transit countries, are complied with, and proper business records are kept documenting such compliance."

In order to provide guidance to Plug-In to eCycling participants, we respectfully request that your office provide clarification on the following items in the Guidelines:

(1) A specific list of which countries are Basel signatories and which are OECD members

Because the "applicable requirements" of importing and transit countries may not be well known to producers or recyclers, we ask that EPA clarify which countries are Basel Convention Parties and which are OECD Agreement Parties. It would be helpful to provide a 'live' list of these countries with web links to any guidance they provide on electronic waste imports, where any such web pages are available. Ideally, these lists and links would be subject to periodic review and updating as legal conditions change, so that they reflect the current status of Basel Treaty and OECD agreements as they pertain to the shipment of electronic scrap.

(2) General information on how the Basel Convention and OECD Agreements may affect cross-boundary shipments of various categories of electronic scrap. Please provide information on the following specific issues if possible:

- How a specific signatory country's definitions of hazardous wastes under Basel may differ from US or other definitions, and
- How each Basel signatory may have its own rules regarding electronic scrap or nonworking equipment imports; and
- How it may be illegal for producers/recyclers to export certain waste from the US to Basel signatory countries in the absence of a supplementary bilateral or multilateral import/export agreement between Basel Convention signatories and the US.

Please feel free to add any other Basel Treaty and OECD Agreement "rules of thumb" that may help recyclers and producers better understand the waste shipment limitations under which they may be required to operate.

We want to state again that we consider the Plug-In Guidelines a very promising development in the electronics recycling field, and intend to make extensive use of them. We hope that you will agree that the information that we are requesting does not require EPA to conduct legal analysis or develop agency interpretation. It simply requests clarification of how the Guidelines operate in the context of the Basel Convention, the OECD Agreement, and various Bilateral and Multilateral agreements that exist or that may be entered into in future.

Thank you very much for considering making these clarifications to the Guidelines.

Sincerely,

Larry Chalfan

Executive Director, Zero Waste Alliance

EPEAT Project Director

Attachment: EPEAT Criteria

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 15 2005

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

Mr. Larry Chalfan
Executive Director
Zero Waste Alliance
One World Trade Center
121 SW Salmon St., Suite 210
Portland, OR 97204

Dear Mr. Chalfan:

Thank you for your letter dated March 11, 2005. I am glad to know that EPA's "Plug-In to eCycling" Guidelines will be used as a basis for the Electronic Product Environmental Assessment Tool's (EPEAT) End-of-Life (EOL) requirements for used electronic equipment.

In your letter you state that EPEAT's Development Team needs further clarification from our office in order to provide guidance to Plug-In to eCycling participants. Specifically, you ask for a list of countries which are parties to the Basel Convention and a list of those which are members of the Organization for Economic Co-Operation and Development (OECD). Further, you ask how these two agreements affect cross-boundary shipments of used electronic materials. Our response is provided below.

Basel Convention

As of April 8, 2005, 165 countries were parties to the Basel Convention. Enclosure 1 provides a list of those countries. Please note that Afghanistan, Haiti, and the United States of America are signatories to the Basel Convention but have not ratified the Convention. Up-to-date information on Basel countries can be found on the following website: http://www.basel.int/ratif/frsetmain.php.

OECD

Thirty countries are members of the OECD. Enclosure 2 provides a list of those countries. This list of OECD member countries can also be found on the following website: http://www.oecd.org/countrieslist/0,3025,en_33873108_33844430_1_1_1_1_1,00.html.

Other than what is found on the main OCED and Basel websites, we do not have a list of "live links" to guidance from other countries on used electronic imports. For information regarding guidance and requirements for specific countries, we recommend contacting the competent authorities in the countries where proposed exports are destined. The OECD and Basel websites identify the competent authorities for each country.

Transboundary Shipments of Electronic Scrap

Your letter asks a series of questions regarding how the Basel Convention and the OECD agreement might affect transboundary shipments of various categories of electronic scrap. My office is currently in the process of developing clarifying guidance and questions and answers on this topic and will be happy to provide this information to you as soon as it is available.

I hope these answers are of assistance to you and to the promotion of the eCycling Guidelines. Please feel free to contact Robert Tonetti of the International and Transportation Branch at (703) 308-8878 or me if you have any further questions.

Sincerely,

for Matt Hale, Director
Office of Solid Waste

Enclosures

Enclosure 1
Countries that are Party to the Basel Convention as of April 8, 2005

Albania	Cameroon	European Community
Algeria	Cape Verde	Finland
Andorra	Chad	France
Antigua and Barbuda	Chile	Gambia
Argentina	China	Georgia
Armenia	Colombia	Germany
Australia	Comoros	Ghana
Austria	Cook Islands	Greece
Azerbaijan	Costa Rica	Guatemala
Bahamas	Côte d'Ivoire	Guinea
Bahrain	Croatia	Guinea-Bissau
Bangladesh	Cuba	Guyana
Barbados	Cyprus	Honduras
Belarus	Czech Republic	Hungary
Belgium	Democratic Republic of Congo	Iceland
Belize	Denmark	India
Benin	Djibouti	Indonesia
Bhutan	Dominica	Iran (Islamic Republic of)
Bolivia	Dominican Republic	Ireland
Bosnia & Herzegovina	Ecuador	Israel
Botswana	Egypt	Italy
Brazil	El Salvador	Jamaica
Brunei Darussalam	Equatorial Guinea	Japan
Bulgaria	Eritrea	Jordan
Burkina Faso	Estonia	Kazakhstan
Burundi	Ethiopia	Kenya
Cambodia	Ethiopia	Kiribati

Kuwait	Netherlands	Seychelles
Kyrgyzstan	New Zealand	Singapore
Latvia	Nicaragua	Slovakia
Lebanon	Niger	Slovenia
Lesotho	Nigeria	South Africa
Liberia	Norway	Spain
Libyan Arab Jamahiriya	Oman	Sri Lanka
Liechtenstein	Pakistan	Sweden
Lithuania	Panama	Switzerland
Luxembourg	Papua New Guinea	Syrian Arab Republic
Madagascar	Paraguay	Thailand
Malawi	Peru	Macedonia
Malaysia	Philippines	Togo
Maldives	Poland	Trinidad and Tobago
Mali	Portugal	Tunisia
Malta	Qatar	Turkey
Marshall Islands	Republic of Korea	Turkmenistan
Mauritania	Republic of Moldova	Uganda
Mauritius	Romania	Ukraine
Mexico	Russian Federation	United Arab Emirates
Micronesia (Federated States of)	Rwanda	United Kingdom of Great Britain and Northern Ireland
Monaco	Saint Kitts and Nevis	United Republic of Tanzania
Mongolia	Saint Lucia	Uruguay
Morocco	Saint Vincent and the Grenadines	Uzbekistan
Mozambique	Samoa	Venezuela
Namibia	Saudi Arabia	Viet Nam
Nauru	Senegal	Yemen
Nepal	Serbia and Montenegro	Zambia

Enclosure 2
Countries that are members of the OECD

Australia
Austria
Belgium
Canada
Czech Republic
Denmark
Finland
France
Germany
Greece
Hungary
Iceland
Ireland
Italy
Japan
Korea
Luxembourg
Mexico
Netherlands
New Zealand
Norway
Poland
Portugal
Slovak Republic
Spain
Sweden
Switzerland
Turkey
United Kingdom
United States

Attachment E - The EPEAT Criteria and Verification requirements

ELECTRONIC PRODUCT ENVIRONMENTAL ASSESSMENT TOOL

FINAL DRAFT

VOLUNTARY ENVIRONMENTAL PERFORMANCE CRITERIA FOR COMPUTERS, LAPTOPS AND MONITORS

Version 1

February 9, 2005

Table of Contents

Zero Waste Alliance

121 SW Salmon Street, Suite 210

Portland, Oregon 97204

Background on the Electronic Product Environmental Assessment Tool (EPEAT)

EPEAT is an environmental procurement tool designed to help institutional purchasers in the public and private sectors evaluate, compare and select desktop computers, laptops and monitors based on their environmental attributes.

Purpose of EPEAT

The development of EPEAT was prompted by a growing demand by institutional purchasers for an easy-to-use evaluation tool that allows the comparison and selection of electronic products based on environmental performance. The electronics industry welcomed and actively participated in the development of EPEAT and envisioned EPEAT as a way to communicate relevant and meaningful information to institutional purchasers about the environmental impacts posed by electronic products.

EPEAT will offer many benefits for institutional purchasers, manufacturers, and the environment, including:

- Providing institutional purchasers with:
  - An easy way to specify and purchase computer products that meet challenging yet realistic environmental criteria simply by requiring that the equipment be EPEAT-qualified.
  - An efficient and credible means for verifying that equipment meets the criteria.
  - Flexibility to select equipment that meets the minimum performance criteria or to give preference to models with more environmental attributes by specifying a higher EPEAT qualification level.
  - Credibility for the procurement decisions since the EPEAT criteria were developed through a consensus process that balanced the concerns of purchasers, industry, environmental groups and other stakeholders.
  - Assurance that the same set of criteria is used by purchasers nationwide to ensure competitive product pricing, consistent availability and significant impact on the industry and the environment.
- Providing manufacturers with:
  - One clear set of performance criteria for the design of products and services.
  - Flexibility as to how they meet the higher levels of EPEAT qualification.
  - A market advantage for environmentally preferable products.
  - A low cost, user friendly system which will not delay the process for getting a new product to market.
- Providing environmental stakeholders with:
  - A credible assessment of electronic products based on environmental criteria.
  - A system that promotes the continuous improvement of environmental performance across the entire lifecycle of electronic products.

Summary of How EPEAT Will Work

The EPEAT tool will evaluate electronic products according to three tiers of environmental performance – Bronze, Silver and Gold. The complete set of EPEAT criteria includes 22 mandatory criteria (i.e. all criteria must be met to achieve the Bronze, or "baseline", EPEAT ranking) and 33 optional criteria (i.e. producers can pick and choose among these criteria to boost their EPEAT baseline "score" to achieve a higher ranking level).

Bronze: Product meets all 22 mandatory criteria

Silver: Product meets all 22 mandatory criteria plus at least 16 optional criteria.

Gold: Product meets all 22 mandatory criteria plus at least 25 optional criteria.

Before listing their products on EPEAT, manufacturers will sign a formal Memorandum of Understanding (MOU) that commits them to provide accurate product and company information and provides for remedies should inaccuracies be discovered. The assessment tool will be structured to allow manufacturers to self-declare, via a web-based interface, that their specific products meet EPEAT criteria. For each criterion, producers must, on request of the EPEAT organization, provide a specified set of verification data in order to demonstrate EPEAT conformance.

Most criteria refer to environmental performance characteristics of the specific product, and the manufacturer declares to those product criteria for each product of their choice. Some criteria refer to general corporate programs, such as a Corporate Environmental Policy, and the manufacturer declares to those criteria in a report that is provided annually.

To ensure that the self-declaration system functions in a transparent and verifiable manner, the EPEAT organization will randomly select a subset of qualified products each year to verify their qualification. In addition, a user of EPEAT may request that a specific product be verified, and the EPEAT organization, or other authorized agent, will select products to be verified if a credible source has identified a specific concern that appears to have merit. The EPEAT organization, or its agent, will contact the manufacturer who will be required to provide the verification data. In the event that a declared product fails to meet the criteria, the EPEAT organization will follow the process established in the MOU, which will initially focus on correcting the problem, but may ultimately include disqualifying the manufacturer from use of EPEAT.

How the EPEAT Criteria Were Developed

The EPEAT draft environmental criteria and the procedures for validation represent the results of an 18 month-long multi-stakeholder process. The EPEAT Development Team was composed of stakeholders that represented manufacturers, trade associations, institutional purchasers, environmental organizations, electronics recyclers, academics, and others[9]. The process for developing the draft criteria included use of ANSI essential requirements[10], such as the need for openness, balance, consideration of all views, and consensus decision making.

Each criterion was evaluated alongside the others to ensure that EPEAT is a balanced and comprehensive tool that covers multiple environmental attributes throughout the product's life cycle. The criteria are stringent enough to promote better environmental design, manufacture, and end-of-life management, while reflecting existing technologies and technical limitations so that a supply of EPEAT products will be available to purchasers. Specific criteria are drawn heavily from existing US and international legal

[9] For the full Development Team see www.epeat.net.

[10] "ANSI Essential Requirements: Due process requirements for American national standards", American National Standards Institute, January 2003.

and marketing requirements and standards such as Energy Star® , the European Union's Restriction on Hazardous Substances Directive, the IT-Eco Declaration, and ECMA International (European Computer Manufacturers Association). The EPEAT Development Team chose to build on existing legal and market requirements to reduce overlap and possibly conflicting requirements on product producers.

Using EPEAT in Product Procurement

The EPEAT criteria are designed to be used as a comprehensive whole. The Development Team strongly recommends that users of the EPEAT tool do not selectively pick and choose among the EPEAT criteria or amend or modify their potential product scope or application. Doing so would weaken the impact and results of the overall EPEAT process. Taken as a whole, the EPEAT system – the criteria, data and documentation requirements, manufacturer agreements, processes for after-market verification, and commitments to future updates and extensions – will provide purchasers with a simple and verifiable program for the selection of environmentally sustainable products. In addition, the criteria will provide a single, practical system for manufacturers to demonstrate the environmental performance of their products. The overall EPEAT result carefully balances stakeholder concerns and promotes overall environmental improvement. The EPEAT stakeholders request the EPEAT package be followed in its entirety.

Understanding EPEAT Criteria Types

All EPEAT criteria are divided into eight categories, which reflect different environmental attributes. The categories include the Reduction/Elimination of Environmentally Sensitive Materials, Materials Selection, Design for End-of-Life, Product Longevity / Life Cycle Extension, End-of-Life Management, Corporate Performance and Packaging. In addition, each of the individual criteria can also be classified based on whether it is mandatory or optional, and based on whether they relate specifically to the product or more generally to the manufacturer.

Mandatory and Optional Criteria: In the "EPEAT Criteria Descriptions" section, these types are designated after the criterion number:

- *Mandatory criteria* are those that must be met in order for a product to be eligible for EPEAT.
- *Optional criteria* are those that can be used to achieve higher EPEAT levels, such as silver or gold.

Product and Annual Report Criteria: In the "EPEAT Criteria Descriptions" section, this criterion type is shown leading the specific wording of the criterion.

- *Product criteria* are those that apply to each specific product that a manufacturer lists with EPEAT, and are declared to in the product application process.
- *Annual Report criteria* are those that apply to a program or an offering of the manufacturer in general, and are not exclusive for the specific product. They are declared to in the Annual Report.

Interim Guidance for Using EPEAT

The EPEAT tool is still in the implementation phase and the EPEAT Implementation Team is working to identify a host organization and bring the EPEAT system to a "live" state as quickly as possible. The full system is expected to be available sometime in late 2005 or early 2006. Thus it is highly recommended that purchasers wait until the full EPEAT purchasing and verification tool and process are available since doing so will allow purchasers to have the best, comparable environmental information about potential products.

However, some purchasers may need to make purchasing decisions before the completed implementation phase. Hence, they may desire to use the EPEAT criteria in bid specs, market surveys and similar documents during the interim period. It is extremely important to note that an agency using the criteria before the formal release of the complete EPEAT tool will be solely and completely responsible for verifying compliance to the criteria.

Below is some guidance from the EPEAT Implementation team to help ensure the criteria are used appropriately during the interim period.

- DO only apply the criteria to electronics products (monitors, desktops & notebooks) that are included the original EPEAT scope.
- DO only use the mandatory criteria (bronze level) and not criteria from the advance tiers (gold or platinum).
- DO understand that manufacturers may be making product and process changes to meet the EPEAT criteria and that not all criteria can be met today, e.g., some of the RoHS criteria. This may result in a smaller available product pool from which to select.
- DO refer to the criteria as FINAL DRAFT EPEAT CRITERIA and include the date and revision of criteria used.
- DO include in your bid specs an option for requiring the use of the EPEAT tool, process and criteria when such products are available -- as per the following, example language.

  "During the term of the contract, [Agency/Department] reserves the right to purchase exclusively or otherwise provide preference for specific models of desktop computers, notebooks and monitors qualified through the Electronic Products Environmental Assessment Tool (EPEAT) or its successor."
- DO NOT augment the attributes or mandatory criteria by adding other environmental requirements or adjusting the criteria's values. If purchaser must include other environmental criteria, it must be clearly noted that those specific criteria are not part of the EPEAT requirements.
- DO NOT refer to the product purchased during the interim period as in conformance with EPEAT or in conformance with EPEAT criteria. Also, do not refer to the purchased product as EPEAT certified, EPEAT approved, or EPEAT compliant during this time.

The Implementation Team believes following this guidance strikes an appropriate balance between making better purchasing decisions and not negatively affecting the implementation of the EPEAT tool or weakening its eventual impact.

If you have questions, please consult the EPEAT web site (www.epeat.net) or the contacts listed within it.

Process for Finalizing the EPEAT Criteria

The Development Team has completed its work, and a smaller Implementation Team is now working to implement EPEAT. A central question is what organization will host the EPEAT tool. A public comment period will be held on the draft criteria.

In order to be notified regarding the public comment period, please send your contact information to: **epeat_comments@epeat.net**

For further information on EPEAT see http://www.epeat.net

Definitions of Terms

Annual Report Criterion: A criterion that applies to a program or offering of the manufacturer in general, is not exclusive for the specific product, and is declared to in the Annual Report.

Bio-based: Under Section 9002 of the Farm Security and Rural Investment Act of 2002, bio-based products are defined as a product "that is composed, in whole or in significant part, of biological products or renewable agricultural materials (including plant, animal, and marine materials) or forestry materials." The Guidelines for Designating Bio-based Products for Federal Procurement (Federal Register Vol. 68, No 244, p. 70730, Dec. 19, 2003) cites the intent to speed the development of new markets for bio-based products, and specifically excludes bio-based products with mature markets such as wood products made from traditionally harvested forest materials.

Blue Angel: The German environmental labeling program which is run by the federal environmental agency, the German institute of Quality Assurance and a private organization. http://www.blauer-engel.de/englisch/navigation/body_blauer_engel.htm

Compatible: Definition for "compatible" relates to recycling of plastics with paints or coatings: 'paints & coatings on plastic parts are proven to be compatible with recycling processes if they do not significantly impact the physical/mechanical properties of the recycled resin. "Significant" impact is defined as >25% reduction in notched IZOD impact at room temperature as measured using ASTM standard D256' (Based on a criterion developed by the FEC Plastics Task Force.

ECMA: ECMA International in Europe establishes standards for the information technology and consumer electronics industries, including a self-declaration standard for the environment, TR70. http://www.ecma-international.org/

Energy Star®: A label awarded for energy efficiency operated by the US EPA and DOE. http://www.energystar.gov/

IT-Eco Declaration: A self-declaration environmental standard for electronic products developed by the Nordic information technology organizations (NITO). http://www.itecodeclaration.org/

Homogeneous material: A material that cannot be mechanically disjointed into different materials. For further explanation of when a material is homogeneous, see the information provided by DTI on the RoHS guidance document - DSTI is the consultant the UK is using on RoHS. http://www.dti.gov.uk/sustainability/weee/RoHS_Regs_Draft_Guidance.pdf

Laptop/Notebook: Portable-style computer system

Product: A marketing model and chassis type versus a singular configuration of the product. Different configurations may include options for processor, memory, hard disk etc. A product, for EPEAT, is every configuration that could be offered in a specific marketing model and chassis. If there is a configuration within a marketing model and chassis type that would change the environmental performance substantially, especially if it no longer met a criterion, then the manufacturer could not claim EPEAT for that configuration, even if the same model in other configurations did meet EPEAT. EPEAT currently applies to system units, laptop/notebooks, and monitors. A "complete" product includes, for example, the system unit and all its peripherals (a CPU, the keyboard, the mouse and power cord would be "one product").

Product Criterion: A criterion that applies to each specific product that a manufacturer lists with EPEAT, and declared to in the product application process.

Monitor: A VDU used with a computer.

Reusable or recyclable: Materials or components can be removed or recovered from the whole electronic product and put back into productive use as a material or component, not including energy

recovery, at a net positive economic value using standard recycling technologies, or demonstrated by a test at a commercial recycler. For further explanation of when a product or packaging can be claimed to be reusable or recyclable, see Section 260.7(d) of the Federal Trade Commission's Guide for Environmental Marketing Claims: http://www.ftc.gov/bcp/grnrule/guides980427.htm

Renewable Energy: Resources that constantly renew themselves or that are regarded as practically inexhaustible are considered renewable. These include, but are not limited to, solar, fuel cells, wind, geothermal, hydro and wood. Energy source must be environmentally preferable to the non-renewable source.

RoHS: The European Directive for the Restriction on use of certain Hazardous Substances in electronic products. http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l_037/l_03720030213en00190023.pdf

SCCP: Short Chain Chlorinated Paraffins, CAS number 63449-39-8.

System Unit: Desktop-style computer system.

VDU: A Video Display Unit includes a cathode ray tube, cathode ray tube device, flat panel screen or similar display device.

Summary List of EPEAT Criteria

M = Mandatory Criterion; O = Optional Point Criterion
Annual Report Criteria are designated as such in parentheses.

1. Reduction/Elimination of Environmentally Sensitive Materials

1.1 Reduction of Use of Hazardous Substances
- **M** 1.1.1 Compliance with provisions of European RoHS directive

1.2 Hexavalent Chromium
- **O** 1.2.1 Elimination of intentional use of Hexavalent Chromium

1.3 Cadmium
- **O** 1.3.1 Elimination of intentional use of Cadmium

1.4 Lead
- **O** 1.4.1 Elimination of intentional use of Lead in certain applications

1.5 Mercury
- **M** 1.5.1 Reporting on amount of Mercury used in light sources
- **O** 1.5.2 Low threshold for amount of Mercury used in light sources

1.6 Flame Retardants and Plasticizers
- **M** 1.6.1 Elimination of intentional use of SCCP flame retardants and plasticizers in certain applications
- **O** 1.6.2 Elimination of intentional use of Deca-BDE
- **O** 1.6.3 Larger plastic parts free of flame retardants

1.7 Batteries
- **O** 1.7.1 Batteries free of Lead, Cadmium and Mercury

1.8 PVC and Chlorinated Plastics
- **O** 1.8.1 Large plastic parts free of PVC

2. Materials Selection

2.1 Total Recycled Content
- **M** 2.1.1 Declaration of post-consumer recycled content
- **O** 2.1.2 Minimum content of post-consumer recycled material
- **O** 2.1.3 Higher content of post-consumer recycled material

2.2 Renewable/Bio-Based Materials
- **M** 2.2.1 Content declaration of renewable/bio-based materials
- **O** 2.2.2 Minimum content of renewable/bio-based material

2.3 Dematerialization
- **M** 2.3.1 Declaration of product weight

3. Design for End of Life

3.1 Design for Recovery through Recycling Systems that Utilize Shredding
- **M** 3.1.1 Identification of materials with special handling needs
- **M** 3.1.2 No incompatible paints or coatings
- **M** 3.1.3 Easy disassembly of housings
- **M** 3.1.4 Marking of plastics
- **M** 3.1.5 Identification and removal of batteries and circuit boards
- **O** 3.1.6 Reduced number of plastic resins
- **O** 3.1.7 Molded/glued in metal eliminated or removable
- **O** 3.1.8 Minimum 65 percent reusable/recyclable
- **O** 3.1.9 Minimum 90 percent reusable/recyclable

3.2 Design for Recovery through Disassembly
- **O** 3.2.1 Manual separation of plastics
- **O** 3.2.2 Marking of plastics

4. Product Longevity / Life cycle Extension

4.1 Manufacturer Warranty/Service Agreement
- **M** 4.1.1Availability of additional warranty or service agreement

4.2 Upgradeability
- **M** 4.2.1 Upgradeable with common tools
- **O** 4.2.2 Modular design

4.3 Product Life Extension
- **O** 4.3.1 Availability of replacement parts

5. Energy Conservation

5.1 Power Management System
- **M** 5.1.1 Energy Star® 3.0
- **O** 5.1.2 Lower power usage
- **O** 5.1.3 Tier 2 Energy Star® 4.0
- **O** 5.1.4 FEMP "Executive Order 13221"

5.2 Power Management
- **M** 5.2.1 Documented power management features

5.3 Use of Renewable Energy
- **O** 5.3.1 Renewable energy accessory available
- **O** 5.3.2 Renewable energy accessory standard

5.4 Efficiency of Power Supplies
- **O** 5.4.1 Efficiency threshold and disclosure of efficiency

6. End of Life Management

6.1 Product take-back

M 6.1.1 Provision of product take-back service *(Annual Report Criterion)*

6.2 Rechargeable Battery Recycling

O 6.2.1 Provision of a rechargeable battery recycling program *(Annual Report Criterion)*

7. Corporate Performance

7.1 Corporate Environmental Policy

M 7.1.1 Demonstration of corporate environmental policy consistent with ISO 14001 *(Annual Report Criterion)*

7.2 Environmental Management System

M 7.2.1 Self-certified environmental management system for manufacturing facilities *(Annual Report Criterion)*

O 7.2.2 Third-party certified environmental management system for manufacturing facilities *(Annual Report Criterion)*

7.3 Corporate Reporting

M 7.3.1 Corporate report consistent with Performance Track *(Annual Report Criterion)*

O 7.3.2 Corporate report based on Global Reporting Initiative (GRI) *(Annual Report Criterion)*

8. Packaging

8.1 Toxics in Packaging

M 8.1.1 Reduction/elimination of toxics in packaging

8.2 Recyclable packaging materials

M 8.2.1 Separable packing materials

O 8.2.2 Packaging 90% recyclable and plastics labeled

8.3 Recycled Content

M 8.3.1 Declaration of recycled content

O 8.3.2 Minimum post-consumer content guidelines

8.4 Take-Back Option

O 8.4.1 Provision of take-back program for packaging

8.5 Reuse Option

O 8.5.1 Documentation of reusable packaging

EPEAT Criteria Descriptions

1. Reduction/Elimination of Environmentally Sensitive Materials

1.1 Reduction of Use of Hazardous Substances

1.1.1 Mandatory – Compliance with provisions of European RoHS directive upon its effective date

Product Criterion: All products are compliant with the final requirements developed under the RoHS directive.

Applies to: All covered products, but note that there are RoHS exemptions for specific applications.

Verification Requirements:
1) Declaration from manufacturer
2) Demonstration of RoHS compliance according to RoHS requirements if/when developed
3) Evidence of certification from component manufacturers that is based on either empirical data demonstrating compliance or analytical test data demonstrating compliance

References and Details:
RoHS stipulates the following thresholds for the presence of each substance within homogeneous materials:

Cadmium	<100 ppm
Mercury	<1000 ppm
Lead	<1000 ppm
Hexavalent Chromium	<1000 ppm
Polybrominated Biphenyls (PBB)	<1000 ppm
Polybrominated Diphenyl Ethers (PBDE*)	<1000 ppm

* Excluding Decca BDE.

1.2 Hexavalent Chromium

1.2.1 Optional – Elimination of intentional use of Hexavalent Chromium

Product Criterion: Traces of hexavalent chromium should not exceed 500 ppm in homogeneous materials

Applies to: All covered products

Verification Requirements:
1) Declaration from manufacturer
2) Evidence of certification from component manufacturers that is based on either empirical data demonstrating compliance or analytical test data demonstrating compliance

1.3 Cadmium

1.3.1 Optional – Elimination of intentional use of Cadmium

Product Criterion: Products contain no intentionally added cadmium. Traces of cadmium should not exceed 50 ppm in homogeneous materials.

Applies to: All covered products

Verification Requirements:
1) Declaration from manufacturer
2) Evidence of certification from component manufacturers that is based on either empirical data demonstrating compliance or analytical test data demonstrating compliance

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1.4 Lead

1.4.1 Optional – Elimination of intentional use of Lead in certain applications

Product Criterion: The batteries, paint, lacquer, external cables, plastic materials and external adapters belonging to the *VDU* shall not contain lead. The threshold value is 50 ppm per weight per listed part.

Applies to: VDU – Video displays only. Does not apply to RoHS exempted VDUs.

Verification Requirements:
1) Declaration from manufacturer
2) Evidence of certification from component manufacturers that is based on either empirical data demonstrating compliance or analytical test data demonstrating compliance

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1.5 Mercury

1.5.1 Mandatory – Reporting on amount of mercury used in light sources

Product Criterion: If mercury used for light sources, report on how many lamps used and mercury content per lamp in accordance with the following ranges: >0-5 mg; >5-10 mg; >10-50 mg; >50-100 mg; >100-1000 mg; >1,000 mg.

Applies to: All products that use mercury in light sources (i.e. flat panel monitors, laptop/notebook computers)

Verification Requirements:
1) Declaration from manufacturer
2) Evidence of certification from component manufacturers that is based on either empirical data demonstrating compliance or analytical test data demonstrating compliance

1.5.2 Optional – Low threshold for amount of mercury used in light sources

Product Criterion: Maximum average of 3 mg. mercury per light bulb.

Applies to: All products that use mercury in light sources (i.e. flat panel monitors, laptop/notebook computers)

Verification Requirements:
1) Declaration from manufacturer
2) Evidence of certification from component manufacturers that is based on either empirical data demonstrating compliance or analytical test data demonstrating compliance

1.6 Flame Retardants and Plasticizers

1.6.1 Mandatory – Elimination of intentional use of SCCP flame retardants and plasticizers in certain applications

Product Criterion: Paints, coatings, plastics, rubbers and seals are free from flame retardants and / or softeners containing Short Chain Chlorinated Paraffins (SCCPs) with more than 0.1% by weight, 10-13 carbon atoms, minimum 48% chlorine by weight

Applies to: All covered products

Verification Requirements:
1) Declaration from manufacturer
2) Evidence of certification from component manufacturers that is based on either empirical data demonstrating compliance or analytical test data demonstrating compliance

1.6.2 Optional – Elimination of intentional use of Deca-BDE

Product Criterion: Monitor development of RoHS to see if Deca-BDE is covered in final version. If yes, the criterion is covered under the RoHS criterion. If not, EPEAT Host Organization should evaluate other action on Deca-BDE (e.g. Swedish ban, risk assessment in US, etc), to see if an Optional Point criterion is appropriate for reducing or eliminating use of Deca-BDE.

Applies to: All covered products

Verification Requirements:
1) Declaration from manufacturer
2) Evidence of certification from component manufacturers that is based on either empirical data demonstrating compliance or analytical test data demonstrating compliance

1.6.3 Optional – Large plastic parts free of flame retardants

Product Criterion: Plastic parts >25g are free from flame retardants (above 0.1%) that are classified under Directive 67/548/EEC

Applies to: All covered products

Verification Requirements:
1) Declaration from manufacturer
2) Evidence of certification from component manufacturers that is based on either empirical data demonstrating compliance or analytical test data demonstrating compliance

References and Details: Plastic parts are classified under Directive 67/548/EEC as the following:
- R45 may cause cancer
- R46 may cause heritable genetic damage
- R50-51-52 very toxic to aquatic organisms
- R60 – may impair fertility
- R61 – may cause harm to unborn child

NOTE: Recognize that many flame retardants may not have these classifications because they have not been tested. To gain this Optional Point, OEMS and suppliers would have to request that the materials be tested if they aren't currently classified. As a result, this point may not be claimed for a while, but it provides incentives for chemical companies to run the necessary tests in order to satisfy demand by OEMs and suppliers. It also helps ensure that any alternatives to current flame retardants would have to meet minimum requirements for hazard evaluation.

2. Materials Selection

2.1 Total Recycled Content

2.1.1 Mandatory – Declaration of post-consumer recycled content

Product Criterion: Manufacturer declares whether product contains post consumer recycled plastic, or does not. Option to declare actual post consumer resin greater than 1.0%.

Applies to: All products that contain plastics (not PWB).

Verification Requirements:
1) Declaration from manufacturer
2) Supplier letter
3) Documentation of calculation

References and Details: A yes/no declaration. Checking either "yes" OR "no" satisfies requirement. "Yes" declaration defined as a minimum of 1.0% post consumer recycled resin measured as percentage (by weight) of total resin in each product. The % of recycled content will be calculated by taking a weighted average of the % recycled content in all resins in the product

2.1.2 Optional – Minimum content of post-consumer recycled material

Product Criterion: Product contains on average a minimum of 10% post-consumer recycled resin, measured as a percentage of total resin (by weight) in the product.

Applies to: All products that contain plastics (not PWB).

Verification Requirements:
1) Declaration from manufacturer
2) Supplier letter
3) Documentation of calculation

2.1.3 Optional – Higher content of post-consumer recycled material

Product Criterion: Product contains on average a minimum of 25% post-consumer recycled resin, measured as a percentage of total resin (by weight) in the product.

Applies to: All products that contain plastics (not PWB).

Verification Requirements:
1) Declaration from manufacturer
2) Supplier letter
3) Documentation of calculation

2.2 Renewable/Bio-Based Materials

2.2.1 Mandatory – Content declaration of renewable/bio-based materials

Product Criterion: Manufacturer declares whether product contains renewable/bio-based materials, or does not.

Applies to: All molded plastic parts, excluding packaging.

Verification Requirements:
1) Declaration from manufacturer
2) Supplier letter
3) Documentation of calculation

References and Details: A yes/no declaration. Checking either "yes" OR "no" satisfies requirement. "Yes" declaration defined as a minimum of 1.0% bio-based/renewable resin measured as percentage (by weight) of total resin in each product. The % of bio-based/renewable resin will be calculated by taking a weighted average of the % bio-based/renewable resin in all resins in the product

Refer to Federal Register Vol. 68, No 244, p. 70730, Dec 19, 2003 for bio-based guidelines. The ASTM test method and certification requirements are provided here. (Can we list the ASTM test method? Are we requiring this method to be used for the calculation/verification the material is bio-based?)

2.2.2 Optional – Minimum content of renewable/bio-based material

Product Criterion: Product contains on average a minimum of 10% renewable/bio-based resin, measured as a percentage of total resin (by weight) in the product.

Applies to: All molded plastic parts, excluding packaging.

Verification Requirements:
1) Declaration from manufacturer
2) Supplier letter
3) Documentation of calculation

References and Details: Refer to Federal Register Vol. 68, No. 244, p. 70730, Dec 19, 2003 for bio-based guidelines. The ASTM test method and certification requirements are provided here. (Can we list the ASTM test method? Are we requiring this method to be used for the calculation/verification the material is bio-based?)

2.3 Dematerialization

2.3.1 Mandatory – Declaration of product weight

Criterion: Manufacturer declares product weight.

Applies to: Each individual product submitted.

Verification Requirements:
Declaration of product weight +/- 5%
Written weight provided by manufacturer.

3. Design for End of Life

3.1 Design for Recovery through Recycling Systems that Utilize Shredding

3.1.1 Mandatory – Identification of materials with special handling needs

Product Criterion: Manufacturer provides treatment information to reuse and recycling facilities that identifies the presence and location of materials that require special handling, especially non-standard or new substances or new technologies, and including components such as batteries.

Applies to: All products.

Verification Requirements:
Information provided electronically or web link to where information is available

References and Details: "Non-standard or new substances or new technologies" shall refer to substances or technologies that are rarely encountered in the end-of-life stream of products such

that recycling and reuse enterprises would not develop methods to deal with them. If a new substance or technology is introduced and in time becomes commonplace such that recycling and reuse enterprises develop methods of dealing with them, then they shall no longer meet this definition.

3.1.2 Mandatory – No incompatible paints or coatings

Product Criterion: No paints & coatings that are incompatible with recycling or reuse, including metal coatings, on plastic parts >100 g., unless plastic part contains >25% recycled resin.

Applies to: All products

Verification Requirements:
1.Declaration from manufacturer
2. Common knowledge or documentation showing manufacturer test

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3.1.3 Mandatory – Easy disassembly of housings

Product Criterion: Housings can be easily removed by one person alone with commonly available tools.

Applies to: All products

Verification Requirements:
1. Declaration from manufacturer
2. Description of how the housing can be easily removed
3. Documentation showing manufacturer test

3.1.4 Mandatory – Marking of plastics

Product Criterion: Plastic components >100g are material coded in accordance with ISO 11469:2000.

Applies to: All plastic components >100g in the product

Verification Requirements:
1. Declaration from manufacturer
2. Visual inspection

3.1.5 Mandatory – Identification and removal of batteries and circuit boards

Product Criterion: Batteries and circuit boards >10 cm^2 (if they contain hazardous materials), and other hazardous components can be safely and easily identified and removed.

Applies to: Products with batteries and circuit boards > 10 cm^2

Verification Requirements:
1. Declaration from manufacturer
2. Supplier letter
3. Description of locations and removal method
4. Internal test data by manufacturer showing that method works

References and Details: Hazardous materials as defined under WEEE.

3.1.6 Optional – Reduced number of plastic resins

Product Criterion: Only one resin type is used in each plastic enclosure part >100 g.

Applies to: Enclosures for all products

Verification Requirements:
1. Declaration from manufacturer
2. Supplier letter

3.1.7 Optional – Molded/glued in metal eliminated or removable

Product Criterion: Plastic enclosures do not contain molded-in or glued-on metal unless metal inserts are easy to remove by one person alone with commonly available tools.

Applies to: All Products

Verification Requirements:
1. Declaration from manufacturer
2. Description of locations and removal method
3. Internal test data by manufacturer showing that method works

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3.1.8 Optional – Minimum 65 percent reusable/recyclable

Product Criterion: 65% or greater of materials and components by weight are reusable or recyclable within the current infrastructure and using demonstrated technologies.

Applies to: All Products

Verification Requirements:
1. Declaration from manufacturer
2. Test data showing demonstrated recycling technologies
3. Demonstration that material is normally recyclable or, if not, that there exists a market/use

References and Details: Self declaration by manufacturer of the material & components and how they can be recycled or reused within the existing infrastructure & demonstrated technologies.

3.1.9 Optional – Minimum 90 percent reusable/recyclable

Product Criterion: >90% of materials and components by weight are reusable or recyclable within the current infrastructure and using demonstrated technologies.

Applies to: All Products

Verification Requirements:
1. Declaration from manufacturer
2. Test data showing demonstrated recycling technologies
3. Demonstration that material is normally recyclable or, if not, that there exists a market/use

References and Details: Self declaration by manufacturer of the material & components and how they can be recycled or reused within the existing infrastructure & demonstrated technologies.

3.2 Design for Recovery through Disassembly

3.2.1 Optional – Manual separation of plastics

Product Criterion: All plastic resins in parts >25 g used in product can be manually separated by one person alone with commonly available tools into either pure streams, or recyclable resin streams.

Applies to: All Products

Verification Requirements:
1. Declaration from manufacturer
2. Description of removal method of applicable parts
3. Internal test data by manufacturer showing method works and resin streams are pure or recyclable

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3.2.2 Optional – Marking of plastics

Product Criterion: Plastic components >25g are material coded in accordance with ISO 11469:2000.

Applies to: All plastic components >25g

Verification Requirements:
1. Declaration from manufacturer
2. Visual inspection

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4. Product Longevity/Life Cycle Extension

4.1 Manufacturer Warranty/Service Agreement

4.1.1 Mandatory – Availability of additional 3-year warranty or service agreement

Product Criterion: Additional product warranty or service contract of at least three years is available for customer purchase.

Applies to: All Products

Verification Requirements:
1. Declaration from manufacturer
2. Documentation of warranty or service contract

4.2 Upgradeability

4.2.1 Mandatory – Upgradeable with common tools

Product Criterion: Upgradeable with commonly available tools:
1. Hard disk, DVD, floppy can be changed or extended (e.g. by fire wire or USB)
2. Memory and cards can be changed or extended (e.g. by fire wire).

Applies to: System units and Notebook/laptops only.

Verification Requirements:
1. Declaration from manufacturer
2. Description of upgrade method
3. Internal test data by manufacturer showing that method works

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4.2.2 Optional – Modular design

Product Criterion: Modular design – for example major components/processor can be changed.

Applies to: System units and notebook/laptops only.

Verification Requirements:
1. Declaration from manufacturer
2. Description of product modules
3. Description of module change method

4.3 Product Life Extension

4.3.1 Optional – Availability of replacement parts

Product Criterion: Spare parts and or compatible replacement parts are available 5 years after end of production.

Applies to: All products

Verification Requirements:
1. Declaration from manufacturer
2. Description of how product user is informed about how to obtain replacement parts

5. Energy Conservation

5.1 Power Management System

5.1.1 Mandatory – Energy Star® 3.0

Product Criterion: Desktop Computer and Workstation:
- Must enter sleep mode within 30 minute period of inactivity
- Maximum power usage in sleep mode:

Maximum Continuous Output Rating of Power Supply	Watts in Sleep Mode
≤ 200W	≤ 15W
> 200W ≤ 300W	≤ 20W
> 300W ≤ 350W	≤ 25W
> 350W ≤ 400W	≤ 30W
>400W	≤ 10% of Max power rating

Portable Computers and Integrated Computer:
- Must enter sleep mode within 30 minute period of inactivity
- Maximum power usage in sleep mode ≤ 15W
- Sleep on networks and respond to wake events

Monitors: (for the display portion only)
- Maximum power usage in first sleep: ≤ 15W
- Maximum power usage in second 'deep' sleep: ≤ 8W

Power management features must be activated before shipping with initial preset default times.

Applies To: All Products

Verification Requirements:
1. Declaration from manufacturer
2. Demonstration of Energy Star® 3.0 certification or compliance with criteria

5.1.2 Optional – Lower power usage

Product Criterion: Desktop Computer, Workstation, & Portable Computer:
- Must enter sleep mode within 30 minute period of inactivity – factory setting is 15 minutes
- Maximum power usage in sleep mode ≤ 5W
- Maximum power usage in off mode ≤ 2W

- Maximum power usage external power supply for portable computers when not hooked to computer ≤ 1W

CRT Monitor:
- Maximum power usage in first sleep: ≤ 10W
- Maximum power usage in second 'deep' sleep: ≤ 5W
- Maximum power usage in off mode: ≤ 1W

Flat Panel Display:
- Maximum power usage in sleep mode ≤ 3 W
- Maximum power usage in off mode: ≤ 2W

Power management features must be activated before shipping with initial preset default times.

Applies to: All Products

Verification Requirements:
1. Declaration from manufacturer
2. Demonstration of Blue Angel certification or criteria compliance

References and Details: Equivalent to the German Environmental Label, Blue Angel: www.blauer-engel.de

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5.1.3 Optional – Tier 2 Energy Star® 4.0

Product Criterion:
- Maximum power usage in sleep mode ≤ 2W
- Maximum power usage in off mode: ≤ 1W
- Maximum on mode/active power usage: Based on pixel count.

Applies to: VDU only

Verification Requirements:
1. Declaration from manufacturer
2. Demonstration of Tier 2 Energy Star® 4.0 certification or criteria compliance

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5.1.4 Optional – FEMP "Executive Order 13221"

Product Criterion: FEMP Best Available for Stand-by Power ("off mode")
Desktop Computer: ≤ 2W
Integrated Computer (with built-in display): ≤ 3.5W
Portable Computer (measured with external power supply disconnected from portable computer): ≤ 1W
Workstation: ≤ 2W

Applies to: System units and laptop/notebooks only.

Verification Requirements:

1. Declaration from manufacturer
2. Demonstration of FEMP certification or criteria compliance

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5.2 Power Management

5.2.1 Mandatory – Documented power management features

Product Criterion: Documentation describes power management system, energy savings benefits, and explains how to disable or change settings. Documentation includes online, electronic, or printed materials.

Applies to: All products

Verification Requirements:
1. Declaration from manufacturer
2. Copy of user documentation

5.3 Use of Renewable Energy

5.3.1 Optional – Renewable energy accessory available

Product Criterion: Accessory for powering product using renewable energy is commercially available for purchase with the product.

Applies to: All products

Verification Requirements:
1. Declaration from manufacturer
2. Commercial documentation of product availability

5.3.2 Optional – Renewable energy accessory standard

Product Criterion: Product is shipped with a standard component (either internal or external) that allows for use of renewable energy to power the product.

Applies to: All products

Verification Requirements:
1. Declaration from manufacturer
2. Commercial documentation of product availability

5.4 Efficiency of Power Supplies

5.4.1 Optional – Efficiency threshold and disclosure of efficiency

Product Criterion: Disclosure of efficiency and actual efficiency of power supply meets a minimum level.
Internal Power supply: at least 70% efficiency @ 50% loading
External Power supply: at least 80% average efficiency from 25, 50, 75, and 100% loading.

Applies to: All products with a power supply

Verification Requirements:
1. Declaration from manufacturer
2. Documentation of energy efficiency
3. Internal test data by manufacturer

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6. End of Life Management

6.1 Product Take-Back

6.1.1 Mandatory – Provision of product take-back service

Annual Report Criterion: Must provide a take-back or recycling service at a competitive price that meets EPA's "Plug-In To eCycling: Guidelines for Materials Management".

Applies to: All products

Verification Requirements:
1. Declaration from manufacturer
2. Documentation of take-back service
3. Documentation of notification of user of take-back service
4. Documentation of service certification to EPA Guidelines
5. Documentation that demonstrates the service is offered at a competitive price

References and Details: Details on the "Plug-In To eCycling: Guidelines for Materials Management" should be viewed at: http://www.epa.gov/epaoswer/osw/conserve/plugin/guide.htm

Purchaser is not obligated to contract with OEM for end of life management service.

If an electronics recycling program is provided for EPEAT qualifying products within a specific geography (e.g. California), and if that program provides a comparable service to the purchaser as would be provided by the manufacturer under this criterion, then the manufacturer can meet this criterion, applicable only for that geography, by notifying the purchaser of that service.

EOL management services may be provided via contracts.

6.2 Rechargeable Battery Recycling

6.2.1 Optional – Provision of a rechargeable battery recycling program

Annual Report Criterion: Provide a battery recycling program that is equivalent to or better than RBRC and that applies to EPEAT covered products, and information about that program.

Applies to: Batteries in EPEAT covered products

Verification Requirements:
1. Declaration from manufacturer
2. Documentation of battery recycling program
3. Documentation of notification of user of battery recycling service
4. Documentation of amounts returned
5. Demonstration that in comparison to RBRC it is equivalent or less in cost to the user and is equivalently convenient for the user

References and Details: Covers Li-ion batteries used in laptop computers. Affix RBRC seal, or appropriate recycling system notification, to battery and make information available on website or product literature.

If a program other than RBRC is provided, it must report amounts returned and demonstrate that in comparison to RBRC it is equivalent or less in cost to the user and is equivalently convenient for the user.

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7. Corporate Performance

7.1 Corporate Environmental Policy

7.1.1 Mandatory – Demonstration of corporate environmental policy consistent with ISO 14001

Annual Report Criterion: Companies demonstrate the existence and public availability of a written corporate environmental policy consistent with the all aspects of the policy requirements laid out in the ISO 14001 standard.

Applies to: All companies with EPEAT qualified products

Verification Requirements:
1. Declaration from manufacturer
2. Copy of environmental policy indexed to ISO 14001 requirements

References and Details: Policy requirements:
- Appropriate to the nature, scale and environmental impacts of the organization's activities, products and services
- Commitment to continual improvement and prevention of pollution
- Commitment to comply with environmental legislation and regulations, and with other requirements to which the organization subscribes
- A framework for setting and reviewing environmental objectives and targets
- EMS is documented, implemented and maintained and is communicated to all employees
- Available to the public.

7.2 Environmental Management System

7.2.1 Mandatory – Self-certified environmental management system for manufacturing facilities

Annual Report Criterion: OEM self-certifies, with or without independent assessment, that its OEM-owned manufacturing facilities have an operational Environmental Management System that meets either:
1. The requirements of ISO 14001, or
2. The EMS requirements of the National Environmental Performance Track program*.

Applies to: All companies with EPEAT qualified products

Verification Requirements:
1. Declaration from manufacturer
2. Documentation of self-certification to the specified standard

References and Details: *This does not require participation in the Performance Track program. These requirements are described in the Performance Track Application (questions 1-11) and the corresponding EMS Worksheet section of its Application Help instructions document. These documents are available at http://www.epa.gov/performancetrack/apps/app.htm.

7.2.2 Optional – Third-party certified environmental management system for manufacturing facilities

Annual Report Criterion: OEM certifies that all OEM-owned manufacturing facilities have registered ISO14001 Environmental Management Systems.
OR
OEM certifies that its EMS meets EMS requirements of the Performance Track system, including a successful independent assessment by a qualified lead auditor (see notes).

Applies to: All companies with EPEAT qualified products

Verification Requirements:
1. Declaration from manufacturer
2. Documentation of registration to ISO or documentation of third-party certification to Performance Track

References and Details: There are two ways to get this point.

Performance Track found that self-certification was not adequate – survey showed significant EMS issues, and on Feb 1, 2004, PT began requiring an EMS Assessment by an independent qualified lead auditor within three years prior to applying.

This Optional Point rewards companies with independent assessment – either through the ISO process or through the more flexible requirements of Performance Track.

http://www.epa.gov/performancetrack/

7.3 Corporate Reporting

7.3.1 Mandatory – Corporate Report consistent with Performance Track

Annual Report Criterion: OEM produces an annual report that meets the first three Performance Track reporting requirements. The word "corporation" may be substituted for "facility" in the requirements.

Applies to: All companies with EPEAT qualified products

Verification Requirements:
1. Declaration from manufacturer
2. Copy of annual report
3. Index to report showing reports compliance with first three Performance Track requirements

References and Details: The Performance Track Annual Performance Report requirements include the following:

- A summary of the facility's EMS assessment activities and progress towards meeting EMS objectives and targets, including brief descriptions of audits conducted and improvements made.
- A brief report on progress made in meeting the facility's environmental performance commitments.
- A summary of the facility's public outreach activities.

Manufacturers may meet the reporting criteria on the corporate level, rather than the facility level as specified in the Performance Track requirements.

An Annual Performance Report format and preparation instructions are available from the EPA web site. http://www.epa.gov/performancetrack/

7.3.2 Optional – Corporate report based on Global Reporting Initiative (GRI)

Annual Report Criterion: OEM produces an annual public report that is based on, but not limited to, certain elements of the Global Reporting Initiative (GRI) Sustainability Guidelines. An index is provided to indicate which portions of the GRI Sustainability Guidelines are covered and not covered in the report.

Applies to: All companies with EPEAT qualified products

Verification Requirements:
1. Declaration from manufacturer
2. Copy of annual report
3. Index to report showing how report is based on GRI

References and Details: http://www.globalreporting.org/

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8. Packaging

8.1 Toxics in Packaging

8.1.1 Mandatory – Reduction/elimination of toxics in packaging

Product Criterion: Heavy metals shall not be intentionally added to any packaging or packaging component. For incidental presence (not intentionally introduced), the sum of the concentration levels of lead, cadmium, mercury and hexavalent chromium present in any package or packaging component shall not exceed 100 parts per million by weight (0.01%).

Applies to: Packaging of EPEAT products

Verification Requirements:
1. Declaration from manufacturer
2. Supplier letter

References and Details: "Intentional Introduction" means: The act of deliberately utilizing a regulated metal in the formation of a package or packaging component where its continued presence is desired in the final package or packaging component to provide a specific characteristic, appearance, or quality. The use of a regulated metal as a processing agent or intermediate to impart certain chemical or physical changes during manufacturing, whereupon the incidental retention of a residue of said metal in the final package or packaging component is neither desired nor deliberate, is not considered intentional introduction for the purposes of this Act where said final package or packaging component is in compliance with subsection c of Section 4 of this Act. The use of recycled materials as feedstock for the manufacture of new packaging materials, where some portion of the recycled materials may contain amounts of the regulated metals, is not considered intentional introduction for the purposes of this Act where the new package or packaging component is in compliance with subsection c of Section 4 of this Act. "Incidental Presence" means: The presence of a regulated metal as an unintended or undesired ingredient of a package or packaging component.

Recycled Content Exemption:
Packages and packaging components that would not exceed the maximum contaminant levels set forth in subsection c of Section 4 of this Act but for the addition of recycled materials; and provided that the exemption for this subparagraph shall expire January 1, 2010. This exemption shall not apply to any cadmium, lead, mercury or hexavalent chromium that has been recovered and/or separated from other materials for use as a metal or metallic compound.

8.2 Recyclable packaging materials

8.2.1 Mandatory – Separable packing materials

Product Criterion: All non-reusable packaging is separable. All the packaging materials must be able to be segregated into like materials without the use of tools (i.e. need to be able to have all the cardboard separable from the foams separable from the plastic bags).

Applies to: Packaging of EPEAT products

Verification Requirements:
1. Declaration from manufacturer

2. Internal test data by manufacturer showing that packaging is separable

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8.2.2 Optional – Packaging 90% recyclable and plastics labeled

Product Criterion: All plastics are identified by material type (SPI, DIN or country specific) and 90% of the packaging (by weight) consists of readily recyclable materials that are commonly accepted in most recycling programs or can be composted or disposed of in municipal sewage programs. This includes: cardboard, boxboard, newsprint, cornstarch, (etc. etc.). Pallets are excluded from the weight calculation.

Applies to: Packaging of EPEAT products

Verification Requirements:
1. Declaration from manufacturer
2. Demonstration that material is normally recyclable or, if not, that there exists a market/use
3. Visual inspections

References and Details: For the definition of "recyclable" refer to Section 260.7(d) of the Federal Trade Commission's Guide for Environmental Marketing Claims: http://www.ftc.gov/bcp/grnrule/guides980427.htm.

For some specific packaging materials, the presence or lack of an infrastructure on a regional basis will need to be considered by the manufacturer wishing to demonstrate compliance with this criterion. Since EPEAT ratings will be used nationally, without regional variations, if a product is declared to this criterion, the manufacturer will need to provide a recycling vendor option in certain areas if the recycling infrastructure is not generally available in a region where the EPEAT product will be used.

8.3 Recycled Content

8.3.1 Mandatory – Declaration of recycled content

Product Criterion: Packaging incorporates recycled content (Y/N) and declares approximate recycled content (by weight or volume specified by manufacturer) in the packaging materials used (Range of recycled content in each material).

Applies to: Packaging of EPEAT products

Verification Requirements:
1. Declaration from manufacturer
2. Supplier letter
3. Declaration of recycled content

References and Details: Manufacturer declares whether or not packaging contains any recycled content AND must list each packaging material with the approximate range of recycled content that is in that material.

For example: Corrugated Cardboard: between 15 and 40%

EPS Foam: 2-5%
Molded Pulp: Minimum of 60% Post consumer, up to 100%

8.3.2 Optional – Minimum post-consumer content guidelines

Product Criterion: PA CPG Guidelines -
Meets or exceeds the minimum post-consumer content for respective packaging in the CPG Guidelines over the course of a year using a weighted average.

Applies to: Packaging of EPEAT products

Verification Requirements:
1. Declaration from manufacturer
2. Supplier letter
3. Designation of CPG guideline that is met

References and Details:
http://www.epa.gov/epaoswer/non-hw/procure/products/paperbrd.htm

Item	Post-consumer Fiber (%)
Corrugated Containers <300 psi	25-50
Corrugated Containers 300 psi	25-30
Solid Fiber Boxes	40
Folding Cartons	40-80
Industrial Paperboard (e.g., tubes, cores, drums, and cans)	45-100
Miscellaneous (e.g., pad backs, covered binders, book covers, mailing tubes, protective packaging)	75-100
Padded Mailers	5-15
Carrierboard	10-15
Brown Papers (wrapping paper and bags)	5-20

8.4 Take-Back Option

8.4.1 Optional – Provision of take-back program for packaging

Product Criterion: Manufacturer offers a take-back program for free where the packaging material can be collected/returned to mfg or recycler for reuse or recycling.

Applies to: Packaging of EPEAT products

Verification Requirements:
1. Declaration from manufacturer
2. Documentation of take-back service
3. Documentation of notification of user of take-back service

8.5 Reuse Option

8.5.1 Optional – Documentation of reusable packaging

Product Criterion: Manufacturer provides a reusable packaging process that reuses the packaging for the same or similar product, at a competitive price. Manufacturer designs packaging for a minimum of 5 reuses.

Applies to: Packaging of EPEAT products

Verification Requirements:
1. Declaration from manufacturer
2. Documentation of packaging reuse system