

## **GREEN CHOICE PHILIPPINES**

### **NELP-GCP 20080024 COMPUTER MONITOR**

#### **1. ENVIRONMENTAL SCENARIO**

Information and communication technologies which include computers are widely used across any kind of business sector and just as widely for personal use. A 2002 survey of information and communication technologies conducted by Philippine Business and Industry shows that 90 to 100% of ICT and some non-ICT establishments are using these technologies (National Statistics Office, 2003).

The environmental problems associated with computer display monitors are mainly due to power consumption and the amount of waste produced. The computer display monitor, which is almost always a personal computer peripheral, also impacts the environment throughout its life-cycle. It contributes to resource depletion, mainly due to the resources and energy consumed during its production and use. There is also a possible health impact due to chemical exposure and emissions during production. The most apparent environmental impact of display monitors is the increasing volume of toxic and hazardous solid waste generated when products have outlived its usefulness and are discarded for newer monitors.

The following set requirements focuses on the recyclability of computer display monitors in order to reduce the amount of waste entering the waste stream, minimize health impacts, and prolong the useful life of the product and its parts to minimize production by promoting reuse and recycling of modules and parts.

#### **2. DEFINITION OF TERMS**

##### **2.1. 3R**

Reduce, Reuse, Recycle

##### **2.2. DENR ADMINISTRATIVE ORDER 2005-05 (DENR AO 2005-05)**

Toxic Chemical Substances for Issuance of Chemical Control Orders

##### **2.3. DENR ADMINISTRATIVE ORDER 2005-27 (DENR AO 2005-27)**

Revised Priority Chemical List

##### **2.4. DISPLAY DEVICES**

Refer to output devices, in the form of Cathode Ray Tubes (CRT) and Liquid Crystal Displays (LCD).

##### **2.5. HAZARDOUS WASTES**

Refer to by-products, side-products, process residues, spent reaction media, contaminated plant or equipment or other substances from manufacturing operations as well as consumer discards of manufactured products which present unreasonable risk and/or injury to health and safety and to the environment.

**2.6. RE-USE**

Shall refer to the process of recovering materials intended for the same or different purpose without the alteration of physical and chemical characteristics.

**2.7. RECYCLING**

Shall refer to the reprocessing the production process of waste materials for their original purpose or for other purposes, but excluding energy recovery.

**2.8. REPUBLIC ACT 6969 (RA 6969)**

Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990

**2.9. REPUBLIC ACT 9003 (RA 9003)**

Ecological Solid Waste Management Act of 2000

**2.10. RESTRICTION OF HAZARDOUS SUBSTANCES DIRECTIVE (ROHS)**

A European Union Directive which restricts the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE) in new electrical and electronic equipments.

**2.11. TAKE-BACK SYSTEM**

It requires the producers either take back spent products and manage them through reuse, recycling, or remanufacturing, or delegate this responsibility to a third party. It is also known as Extended Producer Responsibility (EPR). The idea underlying EPR is that placing responsibility for waste management with producers creates a strong incentive for them to redesign products with an aim toward less material use and improved recyclability.

**2.12. TRANSPORT**

Includes all conveyances used in air, water and land.

**3. SCOPE**

These criteria are applicable to Computer Display Devices: CRT and LCD monitor.

**4. GREEN CHOICE REQUIREMENTS**

**4.1. Product Quality Performance**

**4.1.1. Quality Performance**

The product shall comply with the performance requirements of the relevant Philippine National Standard for its intended application in Table 1 and any other internationally accepted standard.

**Table 1 – Applicable Philippine National Standards for I.T. Equipment**

<b>Standard No.</b>	<b>Title</b>
PNS 60950-2005	Information Technology Equipment – Safety Part 1: General Requirements

**4.1.2. Warranty**

The manufacturer or reseller shall offer a commercial guarantee on the quality of the product, provided the product is used for its intended purpose. The period of this guarantee must be at least two (2) years.

## **4.2. Product Environmental Performance**

### **4.2.1. Compliance to Environmental Regulations**

The applicant is required to comply with relevant environmental legislations. This includes production process, transport and disposal features of the product.

### **4.2.2. 3R Design**

The criteria for the design of computer display monitors are established based on its modularity. Each part of the product or module can be separated from the whole, hence can be treated as a single entity for the purpose of recyclability, disassembly and reparability. The following requirements have to be fulfilled:

- The parts of the product shall be recyclable.
- There shall be no inseparable joints between different materials such as glued or welded joints.
- Modules shall be easily removed.
- Connections between parts must be easily located
- Labels and/or stickers shall be made up of the same material as the part in which they are attached and/or it must not be treated in a manner that would pose difficulty in recycling.

### **4.2.3. Energy**

Energy consumption shall comply with the Energy Star at the time of the application.

### **4.2.4. Hazardous Substances**

- The product shall not contain substances listed in DENR AO 2005-05 and/or with ROHS.
- Mercury is allowed only in the illumination lamps of LCD displays at no more than 5 grams.

### **4.2.5. Packaging Requirements**

The packaging material shall be reusable and recyclable. The following requirements have to be fulfilled:

- Primary packaging shall have a plastic resin identification code.
- Packaging materials shall not be treated or made in a manner that would prevent reusing and recycling.
- Cardboard packaging shall consist of at least 80% recycled content.

### **4.2.6. Take Back and Recycling**

The applicant shall have an established and validated retrieval or take back system equivalent to not less than 10% of its total units sold.

## **4.3. OTHER CRITERIA**

### **4.3.1 Consumer Information**

The following technical information shall be specified in the user's manual:

- Instructions on the positioning of the machine
- Information about how and where the used and decommissioned products/parts can be returned for recycling and/or disposal.

## 5. EVALUATION AND VALIDATION

PRODUCT CRITERIA	EVALUATION AND VALIDATION
<b>4.1 PRODUCT QUALITY PERFORMANCE</b>	
4.1.1 Quality Performance	The applicant shall submit a certification from duly recognized/ accredited laboratories and/or accreditation bodies.*
4.1.2 Warranty	The applicant shall submit a portfolio and be accompanied by the relevant documentations such as warranty certificate.
<b>4.2 PRODUCT ENVIRONMENTAL REQUIREMENTS</b>	
4.2.1 Compliance to Environmental Regulations	Submission of applicable licenses and permits to operate indicating the manufacturer's compliance with agreements on environmental regulations applicable to the area where the plant is located.**
4.2.2 3R Design	The applicant shall submit a portfolio and statement in writing signed by the Chief Executive Officer or counterpart of the company and shall be accompanied by the relevant documentations.**
4.2.3 Energy	
4.2.5 Hazardous Substances	
4.2.6 Packaging Requirements	
4.2.7 Take Back and Recycling	The applicant shall submit its program on take back program. The program shall ensure a 10% retrieval of the annual sales.**  %Retrieval = $\frac{\text{no. units retrieve (end of life)}}{\text{no. units sold}}$
<b>4.3 OTHER CRITERIA</b>	
4.3.2 Consumer Information	The applicant shall submit a portfolio and statement in writing signed by the Chief Executive Officer or counterpart of the company and shall be accompanied by the relevant documentations.**

\* Laboratories accepted by national or international accreditation bodies such as the Asia Pacific Laboratory Accreditation Cooperation (APLAC) or International Laboratory Accreditation Cooperation (ILAC)

\*\* Notarized documents

## 6. PERIOD OF VALIDITY

The product criteria shall take effect for three (3) years from the date of its approval, and subject to change or withdrawal by the **Green Choice Philippines-NELP Board**, if proven necessary at any period of time.

## **7. REFERENCES:**

American Chemical Society. (2000). Is Extended Producer Responsibility Effective? *Environmental Science & Technology* , 170-175.

*DENR Administrative Order 2005-05: Toxic Chemical Substances for Issuance of Chemical Control Orders*

*DENR Administrative Order 2005-27: Revised Priority Chemical List*  
*Republic Act 6969: Toxic Substances, Hazardous and Nuclear Waste Control Act*

European Union. (2003, January 27). DIRECTIVE 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment

Greenmark-Government of the Republic of China; Criteria No. 10: Monitors; 2007.

Hong Kong Green Label Scheme; Product Environmental Criteria for Computer Monitor GL-006-002; 2001.

Japan Environment Association; Eco Mark Product Category No. 119: Personal Computers, Version 2.2 Certification Criteria.

Korea Eco-Label; EL 144-1999/4/2005-68: Personal Computers and Monitors

National Statistics Office. (2003, December 3). *2002 Survey of Information and Communication Technology (SICT) Highlights*. Retrieved March 2, 2008, from National Statistics Office Website: <http://www.census.gov.ph/data/sectordata/sr0373tx.html>

PNS 60950:2005 – Information Technology Equipment – Safety, Part 1: General Requirements

RAL German Institute for Quality Assurance and Certification; Computers RAL-UZ 78; 2006.

**GREEN CHOICE PHILIPPINES**  
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