II

(Acts whose publication is not obligatory)

COMMISSION

COMMISSION DECISION

of 22 December 2004

determining the Community position for a decision of the Management entities under the Agreement between the Government of the United States of America and the European Community on the coordination of energy-efficient labelling programmes for office equipment on the revision of Annex C, part II, defining monitor specifications

(2005/42/EC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Council Decision 2003/269/EC of 8 April 2003 concerning the conclusion on behalf of the Community of the Agreement between the Government of the United States of America and the European Community on the coordination of energy-efficient labelling programmes for office equipment [1], and in particular Article 3(3) thereof,

Whereas:

(1) The Agreement provides for the European Commission, together with the United States Environmental Protection Agency (EPA), to reassess the specifications for label qualification of office equipment listed in Annex C to the Agreement as market conditions change. Developments in the field of computer monitors have led to a revision of the specifications.

(2) The position of the Community with regard to amendments of the specifications shall be determined by the Commission, after consultation with the special committee designated by the Council.

(3) The measures provided for in this Decision take account of the opinion given by the European Community Energy Star Board referred to in Articles 8 and 11 of Regulation (EC) No 2422/2001 of the European Parliament and of the Council of 6 November 2001 on a Community energy efficiency labelling programme for office equipment [2].

(4) With a view to adopting the Community position, the Commission has consulted the special committee designated by the Council.

(5) The monitor specifications in Annex C, part II, should be repealed and replaced by the specifications annexed to this Decision,

DECIDES:

Sole Article

The position to be adopted by the European Community for a decision by the Management entities, under the Agreement between the Government of the United States of America and the European Community on the coordination of energy-efficient labelling programmes for office equipment, on the monitor specifications in Annex C, part II, to the Agreement shall be based on the attached draft decision.

Done at Brussels, 22 December 2004.

For the Commission
Jacques BARROT
Vice-President

[1] OJ L 99, 17.4.2003, p. 47.

[2] OJ L 332, 15.12.2001, p. 1.

ANNEX

DECISION

of …

of the Management entities under the Agreement between the Government of the United States of America and the European Community on the coordination of energy-efficient labelling programmes for office equipment on the revision of the Annex C, part II, defining monitor specifications

THE MANAGEMENT ENTITIES,

Having regard to the Agreement between the Government of the United States of America and the European Community on the coordination of energy-efficient labelling programmes for office equipment, and in particular Article X(2) thereof,

Whereas the monitor specifications in part II of Annex C to the Agreement should be amended,

HAVE DECIDED AS FOLLOWS:

The monitor specifications in Annex C, part II, to the Agreement are hereby repealed and replaced by the specifications in the Annex to this Decision.

This Decision, done in duplicate, shall be signed by the Co-chairs. The Decision shall be applicable as from 1 January 2005.

Signed in Washington DC, ….

On behalf of the United States Environmental Protection Agency

…

Signed in Brussels, ….

On behalf of the European Community

…

ANNEX C, PART II TO THE AGREEMENT

II. COMPUTER MONITOR SPECIFICATIONS

1. Definitions

A. *Computer monitor (also referred to as 'monitor')*

A commercially available, electronic product with a display screen and its associated electronics encased in a single housing that is capable of displaying output information from a computer via one or more inputs, such as VGA, DVI, and/or IEEE 1394. The monitor usually relies upon a cathode-ray tube (CRT), liquid crystal display (LCD), or other display device. This definition is intended primarily to cover standard monitors designed for use with computers. To qualify, the computer monitor must have a viewable diagonal screen size greater than 12 inches and must be capable of being powered by a separate AC wall outlet or a battery unit that is sold with an AC adapter. Computer monitors with a tuner/receiver may qualify as Energy Star under this specification as long as they are marketed and sold to consumers as computer monitors (i.e. focusing on computer monitor as the primary function) or as dual function computer monitors and televisions. However, products with a tuner/receiver and computer capability that are marketed and sold as televisions are not included in this specification.

B. *On Mode/Active Power*

The product is connected to a power source and produces an image. The power requirement in this mode is typically greater than the power requirement in Sleep and Off Modes.

C. *Sleep Mode/Low Power*

The reduced power state that the computer monitor enters after receiving instructions from a computer or via other functions. A blank screen and reduction in power consumption characterise this mode. The computer monitor returns to On Mode with full operational capability upon sensing a request from a user/computer (e.g. user moves the mouse or presses a key on the keyboard).

D. *Off Mode/Standby Power*

The lowest power consumption mode which cannot be switched off (influenced) by the user and that may persist for an indefinite time when a computer monitor is connected to the main electricity supply and used in accordance with the manufacturer's instructions. For purposes of this specification, Off Mode is defined as the power state when the product is connected to a power source, produces no images, and is waiting to be switched to On Mode by a direct signal from a user/computer (e.g. user pushes power switch) [1].

E. *Hard Off Mode*

A condition where the product is still plugged into the mains, but has been disconnected from an external power source. This mode is usually engaged by the consumer via a 'hard off switch'. While in this mode, a product will not draw any electricity and will usually measure 0 watt when metered.

F. *Disconnect*

The product has been unplugged from the mains and therefore is disconnected from all external power sources.

2. Qualifying products

In order to qualify as Energy Star, a computer monitor model must meet the definition in Section 1.A and the specification requirements provided in Section 3 below. As explained in Section 1, this specification does not cover products with computer capability that are marketed and sold as televisions.

3. Energy-efficiency specifications for qualifying products

Only those products listed in Section 2 that meet the following criteria may qualify as Energy Star. Effective dates for Tiers 1 and 2 are provided in Section 6 of this specification.

Widescreen models

Widescreen (e.g. 16:9, 15:9, etc.) models are eligible to earn the Energy Star, provided that they meet the energy-efficiency requirements in these specifications. There are no separate specifications for widescreen models and as such, they must comply with Sections 3.A and 3.B below. For Tier 2, future revisions or clarifications for widescreen models will be evaluated and considered.

[1] This definition is consistent with IEC 62301: Household Electrical Appliances — Measurement of Standby Power as of March 2004.

A. *On Mode/Active Power*

1. Tier 1

To qualify as Energy Star, computer monitor models must not exceed the following maximum active power consumption equation: Y = 38X + 30. Y is expressed in watts and rounded up to the nearest whole number and X is the number of megapixels in decimal form (e.g. 1 920 000 pixels = 1,92 megapixels). For example, the maximum power consumption for a computer monitor with 1 800 × 1 440 resolution, or 2 592 000 pixels, would be: 38(2,592) + 30 = 128,49 or 129 watts when rounded up. Under this metric, maximum allowed power consumption for computer monitors with various standard resolutions is provided below in Table 1.

2. Tier 2

To qualify as Energy Star, computer monitor models must not exceed the following maximum active power consumption equation: If X < 1 megapixel, then Y = 23; if X ≥ 1 megapixel, then Y = 28X. Y is expressed in watts and rounded up to the nearest whole number and X is the number of megapixels in decimal form (e.g. 1 920 000 pixels = 1,92 megapixels). For example, the maximum power consumption for a computer monitor with 1 024 × 768 resolution (or ,78 megapixels) would be Y = 23 watts and for a computer monitor with 1 600 × 1 200 resolution would be 28(1,92) = 53,76 or 54 watts when rounded up.

TABLE 1

Sample Tier 1 On Mode maximum power levels

Resolution	Total pixels	Maximum power use for Tier 1
640 × 480	307 200	42 watts
800 × 600	480 000	49 watts
1 024 × 768	786 432	60 watts
1 280 × 768	983 040	68 watts
1 280 × 1 024	1 310 720	80 watts
1 600 × 1 024	1 638 400	93 watts
1 600 × 1 200	1 920 000	103 watts
1 920 × 1 200	2 304 000	118 watts
1 800 × 1 440	2 592 000	129 watts
2 048 × 1 440	2 949 120	143 watts
2 048 × 1 536	3 145 728	150 watts

To qualify a computer monitor as Energy Star, it must be tested according to the protocol outlined in Section 4, Test methodology.

B. *Sleep and Off Modes*

1. Tiers 1 and 2

Maximum power consumption levels for Sleep and Off Modes are provided in Table 2 below. Computer monitors capable of multiple Sleep Modes (i.e. Sleep and Deep Sleep) shall meet the Sleep Mode requirement below in all such modes. For example, under Tier 1, a computer monitor tested at 7 watts in Sleep and 3 watts in Deep Sleep would not qualify because one of the Sleep Modes exceeds 4 watts.

2. Sleep Mode exception

Computer monitors that have the capability to proceed automatically from On Mode/Active Power to an Off Mode/Standby Power of 2 watts or less in Tier 1 and 1 watt or less in Tier 2 comply with these energy consumption requirements. The computer monitor's Off Mode/Standby Power must be activated within 30 minutes of user inactivity or as otherwise defined in future versions of the Computer Agreement (issued after current Version 3.0). Upon resumption of user activity (e.g. user moves the mouse or presses a key on the keyboard), the computer monitor must return to full operational capability. In other words, a Sleep Mode is not necessary if the computer monitor can proceed from On Mode/Active Power to Off Mode/Standby Power and meet the Energy Star requirements in the Off Mode/Standby Power.

TABLE 2

Energy-efficiency criteria for Sleep and Off Modes (Tiers 1 and 2)

	Tier 1	Tier 2
Sleep Mode	≤ 4 watts	≤ 2 watts
Off Mode	≤ 2 watts	≤ 1 watt

3. Sleep Mode enabling

Energy savings from the computer monitor's Sleep Mode can only be achieved if this power-saving mode is enabled. Enabling and default times are driven by the computer; where feasible (e.g. where monitor manufacturer has a business relationship with specific computer manufacturers or where monitor manufacturer also sells its own computers or bundled products), monitor manufacturer should ensure that Energy Star qualified computer monitors have their Sleep Modes enabled when shipped to the customer. Further, the computer shall activate the computer monitor's Sleep Mode within 30 minutes of user inactivity or as otherwise defined. **If a computer monitor has the capability to proceed automatically from On Mode/Active Power to Off Mode/Standby Power, then, consistent with the Sleep Mode requirements, the computer monitor's Off Mode/Standby Power must be activated within 30 minutes of user inactivity or as otherwise defined**.

4. **Test methodology**

Product testing set-up, methodology, and documentation

The testing and measurement methods below reference published specifications from the Video Electronics Standards Association (VESA) Display Metrology Committee and the International Electrotechnical Commission (IEC), and supplement those guidelines where necessary with methods developed in cooperation with the computer monitor industry.

Manufacturers are required to perform tests and self-certify those product models that meet the Energy Star guidelines. Families of computer monitor models that are built on the same chassis and are identical in every respect but housing and colour may be qualified through submission of test data for a single, representative model. Likewise, models that are unchanged or that differ only in finish from those sold in a previous year may remain qualified without the submission of new test data, assuming the specification remains unchanged.

The power requirement shall be measured from the outlet or power source to the product under test. The average true power consumption of the computer monitor shall be measured during the On Mode/Active Power, the Sleep Mode/Low Power, and the Off Mode/Standby Power. When performing measurements to self-certify a product model, the product being tested must initially be in the same condition (e.g. configuration and settings) as when shipped to the customer, unless adjustments need to be made pursuant to instructions below.

To ensure a consistent means for measuring the power consumption of electronic products, the following protocol must be followed, which has three main components:

Product testing set-up and conditions: outlined below in Sections A through H are the ambient test conditions and measurement protocols that must be respected when performing power measurements.

Product testing methodology: the actual test steps for measuring power in On Mode/Active Power, Sleep Mode/Low Power, and Off Mode/Standby Power are provided in Section I below.

Product testing documentation: documentation requirements for submittal of qualified product data are detailed in Section J below.

This protocol ensures that outside factors do not adversely affect the test results and that the test results can be consistently reproduced. Manufacturers may elect to use an in-house or independent laboratory to provide the test results. A sample of test facilities and recommended test equipment will be provided in the near future on the Energy Star website at www.energystar.gov.

Product testing set-up and conditions

A. *Test conditions*

General criteria

Supply voltage (*)	Europe:	230 (± 1 %) volts AC, 50 Hz (± 1 %)
	North America:	115 (± 1 %) volts AC, 60 Hz (± 1 %)
	Australia/New Zealand:	230 (± 1 %) volts AC, 50 Hz (± 1 %)
	Japan:	100 (± 1 %) volts AC, 50 Hz (± 1 %)/60 Hz (± 1 %)
Total harmonic distortion (voltage):	< 2 % THD	
Ambient temperature:	20 °C ± 5 °C	
Relative humidity:	30–80 %	
Line impedance:	< 0,25 ohm	

(*) **Supply voltage**: Manufacturers shall test their computer monitors based on the market in which the models will be sold. Manufacturers must ensure that qualifying products marketed and sold in any region as Energy Star do not exceed the power levels declared on the Qualifying Product Information (QPI) form (and stored in the Energy Star database) at the standard mains voltage and frequency conditions of that region. For equipment that is sold in multiple international markets and therefore rated at multiple input voltages, the manufacturer must test at and report all relevant voltages and power consumption levels if it intends to register the product as Energy Star in the respective markets. For example, a manufacturer that is shipping the same computer monitor model to the United States and Europe must measure and report the On, Sleep, and Off power consumption at both 115 volts/60 Hz and 230 volts/50 Hz.

(Reference IEC 62301: Household Electrical Appliances — Measurement of Standby Power, Sections 3.2, 3.3 and VESA Flat Panel Display Measurements (FPDM) Standard 2.0, Section 301-2)

B. *Dark room conditions*

When performing light measurements, the computer monitor shall be located in a dark room condition. The computer monitor screen illuminance measurement (E), when in Off Mode/Standby Power, must be 1,0 lux or less. Measurements should be made at a point perpendicular to the center of the screen using a Light Measuring Device (LMD) with the computer monitor in Off Mode/Standby Power (Reference VESA FPDM Standard 2.0, Section 301-2F).

C. *Colour controls and peripherals*

All colour controls (hue, saturation, gamma, etc.) shall be placed at their factory default settings. No external devices shall be connected to any included Universal Serial Bus (USB) hubs or ports. Any built-in speakers, TV tuners, etc. may be placed in their minimum power configuration, as adjustable by the user, to minimise power use not associated with the display itself. Circuit removal or other actions not under user control may not be taken to minimise power use.

D. *Power measurement test conditions*

CRT pixel format shall be set at the preferred pixel format with the highest resolution that is intended to be driven at a 75 Hz refresh rate. A VESA Discrete Monitor Timing (DMT) or newer industry standard pixel format timing must be used for the test. The CRT monitor must be capable of meeting all its manufacturer-stated quality specifications in the tested format. For LCDs and other fixed pixel technologies, pixel format shall be set to the native level. LCD refresh rate shall be set to 60 Hz, unless a different refresh rate is specifically recommended by the manufacturer, in which case that rate shall be used.

E. *Power measurement protocols*

Computer monitor power consumption shall be measured in watts with an imposed test pattern. Warm-up time shall be a minimum of a 20-minute period (Reference VESA FPDM Standard 2.0, Section 301-2D or 305-3 for warm-up test). A true RMS power meter with a crest factor of at least five shall be used to measure the power use of each randomly chosen unit at one or more, as appropriate, of the voltage/frequency combinations provided in Section 4.A (Reference VESA Standard: Display Specifications and Measurement Procedures, Version 1.0, Revision 1.0, Section 8.1.3). Measurements shall be taken after wattage values are stable over a three-minute period. Measurements are considered stable if the wattage reading does not vary more than 1 % over the three-minute period (Reference IEC 4.3.1). (Manufacturers shall ignore the input sync signal check cycle when metering the model in Sleep Mode/Low Power and Off Mode/Standby Power.) Manufacturers shall use calibrated measuring equipment capable of measurements accurate to one-tenth of a watt or better.

Borrowing from European Norm 50301 (Reference BSI 03-2001, BS EN 50301:2001, Methods of Measurement for the Power Consumption of Audio, Video, and Related Equipment, Annex A), EPA has established a test procedure where the number of units required for test depends on the test results for the first unit. For the purposes of Energy Star, if a tested computer monitor uses at least 15 % less power (i.e. greater than or equal to 15 %) than the Energy Star specification in all three operating modes (On Mode/Active Power, Sleep Mode/Low Power, and Off Mode/Standby Power), then it only has to be tested once. However, if a tested computer monitor is within 15 % (i.e. less than 15 %) of the Energy Star specification in any of the three operating modes, then two more units have to be tested. None of the test values may exceed the Energy Star specification for the model to qualify as Energy Star. All of the test results as well as the average values (based on the three or more data points) must be reported on an Energy Star QPI form.

The following example further illustrates this approach:

Example: For simplicity, assume the specification is 100 watts or less and only applies to one operational mode. 85 watts would represent the 15 % threshold…

— If the first unit is measured at 80 watts, no more testing is needed and the model qualifies (80 watts is at least 15 % more efficient than the specification and is 'outside' the 15 % threshold).

— If the first unit is measured at 85 watts, no more testing is needed and the model qualifies (85 watts is exactly 15 % more efficient than the specification).

— If the first unit is measured at 90 watts, then two more units must be tested to determine qualification (90 watts is only 10 % more efficient than the specification and is 'within' the 15 % threshold).

— If three units are tested at 90, 98 and 105 watts, the model does not qualify as Energy Star—even though the average is 98 watts— because one of the values (105) exceeds the Energy Star specification.

F. *Luminance test patterns and procedures*

For CRT monitors, the technician shall initiate the AT01P (Alignment Target 01 Positive Mode) pattern (VESA FPDM Standard 2.0, A112-2F, AT01P) for screen size and use it to set the computer monitor to the manufacturer's recommended image size, which is typically slightly smaller than maximum viewable screen size. Then, test pattern (VESA FPDM Standard 2.0, A112-2F, SET01K) shall be displayed that provides eight shades of gray from full black (0 volt) to full white (0,7 volt) [1]. Input signal levels shall conform to VESA Video Signal Standard (VSIS), Version 1.0, Rev. 2.0, December 2002. The technician shall adjust (where feasible) the computer monitor brightness control downward from its maximum until the lowest black bar luminance level is just slightly visible (VESA FPDM Standard 2.0, Section 301-3K). The technician shall then display a test pattern (VESA FPDM Standard 2.0, A112-2H, L80) that provides a full white (0,7 volt) box that occupies 80 % of the image. The technician shall then adjust the contrast control until the white area of the screen provides at least 100 candelas per square meter of luminance, measured according to VESA FPDM Standard 2.0, Section 302-1.

For all fixed pixel displays (e.g. LCDs and others), test pattern (VESA FPDM Standard 2.0, A112-2F, SET01K) shall be displayed that provides eight shades of gray from full black (0 volt) to full white (0,7 volt). Input signal levels shall conform to VESA Video Signal Standard (VSIS), Version 1.0, Rev. 2.0, December 2002. With the brightness and contrast controls at maximum, the technician shall check that, at a minimum, the white and near white gray levels can be distinguished. If white and near white gray levels cannot be distinguished, then contrast shall be adjusted until they can be distinguished. The technician shall next display a test pattern (VESA FPDM Standard 2.0, A112-2H, L80) that provides a full white (0,7 volt) box that occupies 80 % of the image. The technician shall then adjust the brightness control until the white area of the screen provides at least 175 candelas per square meter of luminance, measured according to VESA FPDM Standard 2.0, Section 302-1. [If computer monitor's maximum luminance is less than 175 candelas per square meter (e.g. 150), then technician shall use the maximum luminance (e.g. 150) and report the value to EPA with other required testing documentation. Similarly, if the computer monitor's minimum luminance is greater than 175 candelas per square meter (e.g. 200), then technician shall use the minimum luminance (e.g. 200) and report the value on the Energy Star QPI form.

[1] Corresponding voltage values for digital only interface monitors that correspond to the brightness of the image (0 to 0,7 volt) are:
0 volt (black) = a setting of 0
0,1 volt (darkest shade of gray analogue) = 36 digital gray
0,7 volt (full white analogue) = 255 digital gray
Please note that future digital interface specifications may widen this range, but in all cases, 0 volt shall correspond to black and the maximum value shall correspond to white, with 0,1 volt corresponding to one-seventh of the maximum value.

G. *Light measurement protocols*

When light measurements, such as illuminance and luminance, need to be made, a LMD shall be used with the computer monitor located in dark room conditions. The LMD shall be used to make measurements at the center of, and perpendicular to the computer monitor screen (Reference VESA FPDM Standard 2.0, Appendix A115). The screen surface area to be measured shall cover at least 500 pixels, unless this exceeds the equivalent of a rectangular area with sides of lengths equal to 10 % of the visible screen height and width (in which case this latter limit applies). However, in no case may the illuminated area be smaller than the area the LMD is measuring (Reference VESA FPDM Standard 2.0, Section 301-2H).

H. *Display set-up and characterisation*

The computer monitor test sample characteristics shall be recorded prior to the test. The following information shall be recorded at a minimum:

Product description/category (e.g. 17-inch computer monitor with white housing)
Display technology (e.g. CRT, LCD, Plasma)
Brand name/manufacturer
Model number
Serial number
Rated voltage (VAC) and frequency (Hz)
Viewable diagonal size (inches)
Aspect ratio (e.g. 4:3)
Recommended image size (actual size tested) width × height
Viewing angle (horizontal and vertical degrees)
Screen refresh rate (during test) (Hz)
Number of pixels as tested (horizontal)
Number of pixels as tested (vertical)
Maximum claimed resolution (horizontal)
Maximum claimed resolution (vertical)
Analogue, digital, or both interfaces
Instrumentation information (e.g. type of signal generator)

Product testing methodology

I. *Test method*

Following are the test steps for measuring the true power requirements of the test unit in On Mode/Active Power, Sleep Mode/Low Power, and Off Mode/Standby Power. Manufacturers are required to test their computer monitors using the analogue interface, except in those cases where one is not provided (i.e. digital interface monitors, which are defined as only having a digital interface for purposes of this test method). For digital interface monitors, please see footnote 2 for voltage information and then follow the test method below using a digital signal generator.

On Mode/Active Power

1. Connect the test sample to the outlet or power source and test equipment. For computer monitors shipped with an external power supply, the external power supply (as opposed to a reference power supply) must be used in the test.

2. Power on all test equipment and properly adjust power source voltage and frequency.

3. Check for normal operation of the test unit and leave all customer adjustments set to factory default settings.

4. Bring the test unit into On Mode/Active Power either by using the remote control device or by using the ON/OFF switch on the test unit cabinet. Allow the unit under test to reach operating temperature (approximately 20 minutes).

5. Set the proper display mode. Refer to Section D, Power measurement test conditions.

6. Provide dark room conditions. See Sections G, Light measurement protocols, and B, Dark room conditions.

7. Set size and luminance. Refer to Section F, Luminance test patterns and procedures for CRT or fixed pixel displays. Once luminance is set, dark room conditions are no longer needed.

8. Either verify that the wall outlet power is within specifications or adjust the AC power source output as described in Section A (e.g. 115 V ± 1 %, 60 Hz ± 1 %).

9. Set the power meter current range. The full-scale value selected multiplied by the crest factor rating (Ipeak/Irms) of the meter must be greater than the peak current reading from the oscilloscope.

10. Allow the readings on the power meter to stabilise and then take the true power reading in watts from the power meter. Measurements are considered stable if the wattage reading does not vary more than 1 % over the three-minute period. See Section E, Power measurement protocols.

11. Power consumption shall be recorded, as well as total pixel format (horizontal × vertical pixels displayed), to calculate pixels/watt.

12. Record the test conditions and test data.

Sleep Mode/Low Power (Power Switch On, No Video Signal)

1. At the conclusion of the On Mode/Active Power test, initiate the computer monitor's Sleep Mode/Low Power. The method of adjustment shall be documented along with the sequence of events required to reach the Sleep Mode/Low Power. Power on all test equipment and properly adjust operation range.

2. Allow the computer monitor to remain in Sleep Mode/Low Power until stable power readings are measured. Measurements are considered stable if the wattage reading does not vary more than 1 % over the three-minute period. Manufacturers shall ignore the input sync signal check cycle when metering the model in Sleep Mode/Low Power.

3. Record the test conditions and test data. The measurement time shall be sufficiently long to measure the correct average value (i.e. not peak or instantaneous power). If the device has different Sleep Modes that can be manually selected, the measurement should be taken with the device in the most energy consumptive of those modes. If the modes are cycled through automatically, the measurement time should be long enough to obtain a true average that includes all modes.

Off Mode/Standby Power (Power Switch Off)

1. At the conclusion of the Sleep Mode/Low Power test, initiate the computer monitor's Off Mode/Standby Power. If only one power switch is provided (i.e. a soft off or a hard off), press that switch; if two power switches are provided (i.e. a soft off AND a hard off), press the soft off switch. The method of adjustment shall be documented along with the sequence of events required to reach the Off Mode/Standby Power. Power on all test equipment and properly adjust operation range.

2. Allow the computer monitor to remain in Off Mode/Standby Power until stable power readings are measured. Measurements are considered stable if the wattage reading does not vary more than 1 % over the three-minute period. Manufacturers shall ignore the input sync signal check cycle when metering the model in Off Mode/Standby Power.

3. Record the test conditions and test data. The measurement time shall be sufficiently long to measure the correct average value (i.e. not peak or instantaneous power).

Product testing documentation

J. *Submittal of qualified product data*

Partners are required to self-certify those product models that meet the Energy Star guidelines and report information on a QPI form. Energy Star qualifying product lists, including information about new as well as discontinued models, must be provided on an annual basis, or more frequently if desired by the manufacturer.

5. **User interface**

Manufacturers are strongly recommended to design products in accordance with the user interface standards being developed by the Power Management Controls project to make power controls more consistent and intuitive across all electronic devices. For details on this project, see http://eetd.LBL.gov/Controls

6. **Effective date**

The effective date of the present specifications shall be as follows:

A. Qualifying products under Tier 1 of this specification

Tier 1 of this specification shall commence on 1 January 2005. All products, including models originally qualified under previous specifications, with a date of manufacture on or after 1 January 2005, must meet the new requirements in order to qualify for Energy Star (including additional shipments of models originally qualified under the previous version).

B. Qualifying and labelling products under Tier 2 of this specification:

The second phase of this specification, Tier 2, shall commence on 1 January 2006. Specifications for Tier 2 shall apply to products with a date of manufacture on or after 1 January 2006.

C. The date of manufacture is the date (e.g. month and year) on which a specific unit is completely assembled.