

## Summary and Response to Stakeholder Comments

### ENERGY STAR Program Test Method for Determining Imaging Equipment Energy Use Version 2.0 Draft 2 (Rev. Nov-2011)

Issue No.	Document Section	Topic	Subtopic	Comment	Response
1	General	General		Stakeholders provided comments regarding various formatting issues throughout the document.	DOE will update the test method to ensure consistency with the ENERGY STAR Test Method Style Guide.
2	Section 4	Measurements	Uncertainty	Stakeholders expressed support for providing specific directions for measurement uncertainty rather than referencing another standard.	DOE appreciates stakeholders' comments in support of the proposed changes. The proposed language will remain in the test method.
3	Section 4	Measurements	Uncertainty	One stakeholder requested that the levels required be changed to mirror those in IEC 62301 Ed. 2.	DOE will change the requirement to mirror IEC 62301 Ed. 2, but will continue to use ENERGY STAR language.  DOE will update section 4.1.G.2 to read:  "Measurements of less than 0.5 W shall have an uncertainty of 0.02 W or better at the 95% confidence level."
4	Section 4	Measurements	Time Measurement	Stakeholders requested that additional time measurement instruments be allowed during testing.	DOE will include language stating that time measurements may be performed with a standard stopwatch or other time keeping device with resolution of at least 1 second.
5	Section 4	Low Voltage DC Products		One stakeholder commented that many units connected to PC's via USB measure the power coming from the USB and enter a low power mode when the attached computer does. The stakeholder is concerned that this function is not taken into account during testing.	DOE and EPA believe this is not an issue for OM products as all low power modes (regardless of delay time) are measured as part of the test method. DOE and EPA believe this is not an issue for TEC products as well as the lowest power mode is measured for all products and used for determining TEC values.

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6	Section 4	Low Voltage DC Products	Power Measurement	A stakeholder stated that the dc power consumption of low-voltage dc products should be measured instead of the ac power consumption of the power supply.	DOE and EPA appreciate the comment and recognize the concern; however, DOE and EPA were unable to obtain enough data during this revision cycle to support a modification to the test method. DOE and EPA may explore this topic further with the next revision. Additional data from stakeholders using this approach is welcome.
7	Section 4	Input Power		One stakeholder asked what voltage/frequency to use for products with rated inputs different from those designated in Tables 2 and 3.	Products with rated voltage/frequency that differ from those specified in Tables 2 and 3 should be tested at the regional combination that most closely matches the rated voltage/frequency. For example:  A product in the North American market (115 volts/60 hertz) with a rated voltage/frequency of 230 volts/60 hertz should be tested at the European market levels (230 volts/50 hertz).
8	Section 6	Product Speed	Reporting Speed	Most stakeholders agreed that the highest claimed speed should be used, but proposed a number of different possibilities for wording the reporting speed requirements.	DOE reviewed stakeholder wording proposals, but has decided to retain the language proposed in Draft 2 for defining the reporting speed.
9	Section 6	Product Speed	Reporting vs. Testing Speed	One stakeholder stated that the speed for reporting and calculations should be the same as the speed used for testing.	After reviewing comments, DOE has decided not to modify the requirements for reporting and calculation speed in order to ensure all units are being reported at the same speed. Manufacturers will report the resolution values listed in the printer driver for both standard, and draft speed, if available, so that EPA can better understand stakeholder "as shipped" behavior.
10	Section 6	Network	Connections Table	One stakeholder requested that a second network connection table be included for standard-format ink jet and impact printers and MFDs.	After reviewing the comments, DOE has decided not to modify the current network connection table in order to ensure consistency across all tests.

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11	Section 6	Network	Connections Table	One stakeholder requested that optional connections be allowed for use during testing.	The test method requires that only connections available on the unit, as shipped, shall be allowed for use during testing.
12	Section 6	Network	Connections Table	Several stakeholders requested that Wi-Fi be moved to a higher priority on the network connections prioritization table.	DOE and EPA have taken the comments into consideration but will maintain the current network prioritization list to maintain testing consistency across different products and test labs.
13	Section 6	Network		A number of stakeholders requested that additional restrictions be put on the type of communication that can occur over the test network. Suggestions included not allowing activity on OSI level 5, other than the print jobs used in TEC testing, as well as allowing units to connect to WANs/Internet during testing.	DOE has decided that no specification will be made about communication over the network, beyond what is included in the Draft 2.0 test setup, to ensure that all units are able to operate properly and fully on the network.  Also, the test setup is the minimum required configuration; the setup may be expanded in order to ensure normal functionality of the unit.
14	Section 6	Functional Adders		Several stakeholders expressed support for the continued use of the functional adders system.	Functional adders are a part of the Imaging Equipment specification and will be addressed by EPA during the specification review process.
15	Section 6	Monochrome Testing		Stakeholders expressed support for continuing to test only in monochrome. One stakeholder asked about units that are unable to print in black and suggested that instructions be included to accommodate these units.	DOE will continue to require testing using a monochrome (black) image, as specified in the Draft 2.0 test method. For those products without black ink, a composite black shall be used. This modification will be included in the next draft of the test method.
16	Section 6	Service /Maintenance Modes		Stakeholders expressed support for requiring that service/maintenance modes be disabled during testing.	DOE appreciates stakeholders' comments in support of the proposed method. The proposed language will remain in the test method.

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17	Section 6	Service /Maintenance Modes		One stakeholder requested that they not be required to provide instructions detailing how to disable the modes.	DOE will continue to require that service / maintenance modes be disabled and instructions be provided when necessary. Guidance will be provided in the test method for cases where these modes cannot be disabled.
18	Section 7	Accessories /Paper Source		Stakeholders requested that language stating the use of certain accessories is at the manufacturer's discretion not be removed from the test method.	DOE understands that the stakeholder comment is referring specifically to paper source and will therefore modify Section 7.1.A)1)a) to state that paper shall be placed in all paper sources designated to hold the paper specified for testing, and the UUT shall pull from the default paper source.
19	Section 7	Print Drivers		Stakeholders stated that the print drivers that the products will ultimately use won't always be available at the time of testing.	DOE understands that the final driver may not be available at the time of testing. As stipulated in Section 7.1.A.1.c of Draft 2.0:  "If the product is connected to a computer, either directly or via a network, during the test, the computer shall be running the newest version of the manufacturer's default driver available at the time of testing using settings corresponding to the default settings upon shipment, unless otherwise specified in the test method. The version of the print driver used shall be recorded. In the event that a setting does not have a default setting and the setting is not specifically defined in the test method, the setting shall be recorded."
20	Section 7	Print Drivers		One stakeholder stated that the print driver settings should apply to all testing, not only when the unit is directly connected to the computer.	DOE agrees and will require that the print driver settings apply to all testing, whether the unit is directly connected to the computer or is connected over a network. DOE will also include clarification that these requirements apply only to the computer sending the print jobs to the unit. This change will be included in Draft 3 of the test method.

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21	Section 8	Auto-off		Stakeholders expressed concern that the Auto-off feature must be disabled for TEC testing on units with print capability and asked about the rationale for this requirement.	DOE believes that many units with print capability in offices are connected to computers via a network and print jobs are sent over this network, so users will disable Auto-off to ensure that the printer is always capable of receiving these print jobs even if it is in a low power mode. Based on the ENERGY STAR definitions, units are not network ready while in Auto-off mode.
22	Section 8	Auto-off		Stakeholders commented that Step 10 of Table 8 is incorrect as written and should include no reference to Auto-off as it is disabled for this testing.	DOE agrees and will remove references to Auto-off in Step 10 of Table 8 in the next draft of the test method.
23	Section 8	Preconditioning		One stakeholder requested that the two hour preconditioning requirements be removed.	DOE will continue to require that EP products be preconditioned for two hours prior to testing to ensure all units begin testing from the same ambient conditions.
24	Section 8	Preconditioning		One stakeholder requested that the 2-hour preconditioning requirement be included in Tables 8, 9, and 10 to provide additional clarity.	DOE will continue to include preconditioning requirements in section 7 only; no preconditioning requirements will be included in Tables 8, 9, and 10.
25	Section 8	Print Jobs		One stakeholder requested clarification regarding when print jobs should be sent to the unit during testing.	DOE will provide clarification in the draft final test method, Section 8.1.D, stating that print jobs should be sent to the product over the network immediately before printing each job.
26	Section 8	Measurements	Units	One stakeholder stated that the units used for reporting results are different from those in the OPS database and should be changed to maintain consistency.	DOE and EPA investigated this comment and found that the measurements were documented in minutes in both the test method and on OPS.