From	*To*	*Copy*
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Subject   **Comments to draft revised test method (ENERGY STAR for Imaging Equipment)**

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1   Introduction

Océ welcomes the opportunity to comment on the draft for the revised test method as part of the ENERGY STAR program requirements for imaging equipment. The following memo will start with a general appreciation, followed by a detailed list of comments on the proposed key modifications as listed in the cover letter of your mail dated July 8, 2011.

2   General appreciation

Increasing the reproducibility/reducing ambiguity.
The proposed changes in the test method include a number of steps towards less ambiguity of test conditions and methods. Océ supports such steps, and has listed a number of remaining unclarities in proposals.

Concerns about increase of test-time
Further the proposed changes in the preconditioning of the UUT do not seem understandable from the point of view of reproducibility of the test, while they add additional burden to the test. Océ kindly request clarification of the arguments underlying these proposals and at the same time we urge the EPA to keep the burden for testing product as low as possible.

Announced changes in the product requirements.
In the document setting out the changes in the test methods and the cover letter, a number of changes that the EPA considers for the product requirements are announced. These changes all will make the requirements more strict, either by removing functional adders and reducing their power allowances or by imposing power level requirements upon DFE's. While Océ is confident that the EPA will thoroughly assess the number of complying models for the various proposed scenario's, we would like to underline the significance of these changes, as they represent reductions of either the energy consumption levels (TEC products) or the power threshold levels (OM products) that will force manufacturers to redesign their product if they want to keep the ENERGY STAR label.

3   Detailed comments on key modifications

Network Connections. Océ welcomes the proposed change in the testmethod as such: it makes the testmethod less open for interpretation and consequently provides a more level playing field for competition. It should be noted however, that imaging equipment with multiple network interfaces will have these all active during both active mode and modes of reduced power (e.g. sleepmode). The reason is, that these network interfaces usually get their power from a single power supply, that is either switched on for all interfaces or switched off for all interfaces (e.g. during standby or offmode). The announced elimination of functional adders will therefore make the requirements more strict and this should be taken into account when determining the power threshold levels later on in the process of revision of the requirements.

Energy-Efficient Ethernet (EEE). Océ supports the requirement that products supporting EEE shall be tested with a connection that supports EEE as well: this will provide a more realistic metric of the energy consumption during sleepmode.

However, Although Line 100 indicates that only one network connection will be used, line 108.109 mentions a connection to a router or switch. It is unclear how many computers are to be connected to that router/switch. We assume at least one, since we must be able to submit a job, but the number of connected computers has a direct influence on the amount of network traffic that the device will see on its ethernet connection and thus potentially on the energy consumption. Further, the table in lines104-105 indicates the priority of network connections to be used during the testing. EEE is not mentioned in this table. Thus it is unclear what network connection shall be declared when using EEE: at moments of intense data traffic, 1 Gigabit/sec may be the bandwidth, while at moments of no traffic, this may be a much lower data bandwidth.
Finally, line 181 mentions that it is not necessary to use the specified network connection to send the test data for printing, so that even during the sending of print-jobs there will be no or little payload traffic on the EEE connection, that will consequently slow down.
Basically, the network setup in which the test with EEE must be conducted is unclear.

Telephone Line. As Océ does not manufacture products with fax functionality, we do not have a position on this proposal.

Driver Settings. Océ supports the requirement to use the default driver settings corresponding to the driver configuration upon shipment. It should be noted however, that often the printer drivers are not shipped physically together with the product (especially for the institutional market), but these are offered for downloading on the manufacturers' websites. It is important that certification and verification bodies share the understanding that downloading drivers from the manufacturers website (and using it with unchanged settings) is the same as using a driver as shipped with the product.
Regarding the statement that it is not required to test with the same driver as installed upon shipment: it is unclear how this relates to the requirement to test with the driver settings upon shipment: a different driver may have different sets of settings, so if a different driver is used, how is the tester (e.g. the verification body) to compare driver settings ?

Unit Preconditioning. Océ does not support the announced extension of pre-test conditioning, based on the following arguments:
- Extension of the pre-test conditioning requirement will cause the test procedure to become 2 hours longer, leading to additional costs for testing. Es[ecially for products tested under the TEC requirements, it will become difficult to test more than 1 product in a single day.
- Under the TEC test procedure, as mentioned in lines 27-28 on page 11, the unit under test (UUT) has to remain in sleepmode for at least 1 hour prior to further testing. This will sufficiently allow the UUT to assume the temperature of the test room, because in sleepmode it can be expected that only the network interface controller is active, while the printer engine (with the fuser in it) will be off.
- Under the OM test procedure, as mentioned in lines 252-253 on page 14, the test requires recording of the ready-power, sleep-power (and if applicable additional sleep power) as well as the standby/off power. The ready power (that may be affected by preconditioning of the UUT) is currently just recorded and not used as a pass/fail criterion in the ENERGY STAR criteria. The sleep power and standby/off power are not affected by preconditioning of the UUT because in these energy modes (expectedly) only the network interface controller is active and the fuser (if present) of the UUT will be off.
Thus for both the TEC and OM tests, an extended preconditioning period has no added value to increase the accuracy and reproducibility of the test, while it adds significant costs to the test procedure.
Further to precoditioning: in lines 144-148 it is prescribed to disable the auto-off function for TEC tests. Océ does not understand the reationale for this requirement: the auto-off function is designed into products in order to reduce energy consumption, i.e. lower the TEC value. The proposed requirement would therefore potentially render a TEC value that is higher than reality. Apparently the TEC tests do not take into account the possibility to reduce energy consumtpion with an auto-off function even for networked products. Océ requests to clarify this apparent inconsistency.

Duplex Testing. Océ welcomes the option to perform duplex testing with products specifically designed to be more productive in duplex mode.

Typical Energy Consumption (TEC) Testing. Océ welcomes the proposal to report the time until the tested product is programmed to reach its final sleepmode or auto-offmode. This will increase reproducibility of the tests, especially for verification purposes.

Digital Front-end (DFE) Testing. The EPA proposes to impose power level threshold criteria on DFE's in sleepmode and ready mode. This will require additional testing of many of Océ's products, since these are mostly equipped with a DFE. Additional testing not just has to take place before the specification revision of the ENERGY STAR program requirements can be finalized, but it can be expected that the test procedures for certification will become longe in order to accommodate these tests. Océ is concerned that this extension of the test procedure will come on top of the proposed extended preconditioning period and thus significantly increase the burden of testing.
Regarding the proposal to record the DC power value for DC powered DFE's, Océ would like to understand if DC-powered DFE's will be assessed with different power levels compared to AC-powered DFE's: due to power supply losses there will be a significant difference (up to a factor of 2) between the DC power level and the AC-power level. A single power level threshold for both types of DFE would represent a significant advantage for DC powered DFE's, without clear energy savings.

IEC 62301. Océ supports the harmonization with IEC62301 Ed 2.

Appendix A: Test reporting Template. In lines 307-312, a test reporting template is given. It is unclear to Océ what this template is intended for. The template in the document sent by EPA seems to be incomplete: it is not possible to enter informaton for DFE's, nor for products falling under the OM requirements. Further, all sorts of additional test data can not be entered, that are needed to assess the compliance with the requirements. Océ kindly requests the EPA to clarify the background of this appendix and it's contents.