ENERGY STAR Qualified Imaging Equipment Stakeholder Meeting
March 16, 2005, Washington, DC
Meeting Notes

Following is a summary of the discussions among attendees of the March 16, 2005 Imaging Equipment stakeholder meeting held in Washington, DC regarding the ENERGY STAR specification revision process for imaging equipment (IE) products.

Typical Electricity Consumption (TEC) Testing

Comments:
- EPA needs a complete set of test data for all models currently available on the market to make a correct assessment for the future specification. This will take time to collect. Otherwise, the specification will be based on a minority of products.
- EPA does not need data on every model in the market; collecting this data would be overly burdensome. EPA should collect data on a representative population of models and set a Tier 1 specification based on this data. Future tiers would then be based on additional test results and on non-qualifying product data.

EPA: EPA does not expect manufacturers to test every model they manufacture and report this data to EPA. Rather, EPA asks that manufacturers test a representative set of models currently for sale, from which the specification line will be drawn. EPA suggests testing the most popular or best-selling products first. EPA will explore collecting non-qualifying product data for setting future specification tiers and/or new specifications.

TEC Test Procedure

Accuracy

Comments:
- Meter accuracy is less important than testing accuracy among different units of a single product line. Stakeholders cannot devote the required two hours of TEC testing time to collect data on various units of a single model for statistical purposes.
- An accuracy clause should be used for IE similar to monitors, where if the test result falls within 15% of the specification, the partner must test two additional units.
- Reporting error on every measurement is burdensome. EPA should consider having manufacturers only report the error when it is greater than a certain threshold, e.g., 5%.
- Only one job should be required in the test procedure; additional jobs should be optional.

EPA: EPA wants to simplify the procedure wherever possible, while not sacrificing accuracy. EPA will consider the issue of meter accuracy further based on additional interim testing. In addition, EPA will explore the possibility that variance between different units of a single product line may be a greater source of concern than the accuracy of the meter.

Color vs. Monochrome Testing

Comment: Consumers know when they are purchasing a serial versus parallel machine in the store; these products should not be compared to one another in the revised specification.
EPA: These machines will not be compared to one another if the test data supports separating them.

Comments/Questions:
- The additional interim test results for color jobs summarized in EPA's presentation are based on parallel color machines; test results for rotary (serial) machines would be totally different.

- Product performance while producing images in color is different than when producing images in monochrome.
- Does EPA intend to ask manufacturers to test any jobs in color?

EPA: EPA continues to believe that testing in color is not necessary to correctly rank products but will seek limited test data from manufacturers in the immediate future to confirm or contradict this belief.

Digital Duplicators

Comment: A typo was made in the presentation on the slide named "Digital Duplicators", where "200 ipm" was quoted. JBMIA recommends that the number of images produced per job be 200, not that the machine be tested at 200 ipm.
EPA: Specifying a different number of images from what the Job Table specifies will prevent digital duplicators from being compared to other IE, e.g., copiers. EPA prefers to reference the Job Table and the associated calculations based on highest claimed speed to determine the number of images to produce during the TEC test. EPA will work closely with digital duplicator manufacturers to ensure that this is the best approach moving forward.

Duplexing

Comment: The TEC test procedure does not clearly state whether the Job Table should be referenced based on claimed simplex speed or claimed duplex speed.
EPA: The Job Table is based on highest claimed simplex speed. EPA will clarify this in the final TEC test procedure.

Comments:
- EPA's method of discouraging "slow duplexers" is not appropriate for printers. Printers duplex very differently than copiers do.
- EPA is not giving the consumer enough credit; the consumer will choose products that duplex based on education, not on whether it is part of the ENERGY STAR specification.
- If EPA wants to recognize duplexing, then EPA should borrow from other eco labels, such as Blue Angel, which require that duplexing be an option on products higher than a certain speed. The TEC test procedure itself should not be performed in duplex mode.
- Products must be a certain size in order to have duplex capability. Products such as the printer tested in the meeting demonstration do not duplex because the paper path is not long enough to fit more than one piece of paper at a time.
- EPA should be careful to avoid supporting the notion that consumers should purchase machines that are larger and more expensive (at the same rated speed) than what the consumer needs simply to have duplex capability.
- No company in the industry disagrees with EPA that duplexing is important; duplexing saves significant amounts of money, paper, etc.
- Slower duplexers should not be penalized for being "inefficient"; these machines are still better than machines of equal size that only produce images in simplex.
- Duplexing capability is offered as an option on certain machines based on customer surveys, not on product image speed.

EPA: EPA has decided that the TEC test procedure should be performed in simplex mode across the board. This change will be reflected in the revised TEC test procedure. EPA intends to address duplexing in the specification, but the method by which this will be done is still under consideration. One option is to require duplexing be present on copiers above a certain speed and be an option for printers above a certain speed. EPA seeks input on possible requirements that could lead to increased use of duplexing, e.g., consumer education.

Product Categorization

Comment: Ink Jet machines should also be addressed by the TEC test procedure; how will consumers compare Ink Jet with Electrophotographic (EP) if these technologies are not held to the testing requirements?
EPA: It is possible that Ink Jet devices will be covered by TEC at some point in the future, but for this specification revision, Ink Jet will fall under the Operational Mode (OM) procedure. The reasons for moving EP products to the TEC approach do not hold true for Ink Jet products.

Comment: There is a difference between high-end productivity products and consumer-oriented products.

Test Parameters/Conditions

Comments:
- The TEC test procedure should group the US and Canada together when specifying testing voltage/frequency and paper weight.
- The European experts agree with EPA's proposal to test products at both regional voltage/frequency combinations as well as regional paper sizes and weights.
- Similar to paper size, paper weight varies by region. An A4 sheet of paper made in the US is cut from US-made rolls and so has a different weight (usually 75 g/m^2) than the most typical A4 sheet of paper produced in the EU (80 g/m^2).
- JBMIA will confirm whether 60 or 64 g/m2 is the appropriate paper weight for the Japanese market.
- Claimed speed also varies by market, depending on paper size and weight. EPA should only use maximum claimed speed for its ENERGY STAR test procedures and future revised specification, regardless of market.

EPA: Using a single maximum claimed speed is reasonable. This will be clarified in the final TEC test procedure.

Usage Patterns

Comments/Questions:
- Total page count and net job-energy as a percent of TEC seem abnormally high for printers, as compared with how products seem to be used in the real world.
- How can EPA say that "the TEC method is not meant to precisely replicate average operating patterns" and also expect that the "key result of the TEC test procedure is a value for typical weekly electricity consumption"?
- Highly utilized multi-user machines do not enter a lunch break during a typical work day. This period should be removed from the calculations.

EPA: The TEC test procedure and result has been constructed to be as typical as possible, based on available data and balanced among international markets (e.g., a 40 hour work week, an incorporated lunch hour); however, it does not perfectly reflect every scenario possible for the assumed usage patterns. Removing the assumed lunch period should not affect the relative "ranking" of products since all manufacturers would be measuring and calculating the TEC value in the same way.

Default-Delay and Recovery Times

Comments:
- Some companies may set extremely short default delay times during the test procedure, which would advantage these products in the resultant TEC value.
- No company would set an unrealistic default delay time – this would be bad business. Shipping a product with a low default delay time that it cannot realistically support would make customers unhappy.

- Users want quick response time; this will require that multi-user machines are tested mainly in Ready mode under TEC rather than Sleep.
- Products that have fast-heating fuser technology can be tested while in Sleep and still recover quickly. Specifying a quick recovery time and incorporating first copy time in the TEC test procedure will give an advantage to the few companies who use patent-protected fast-heating fuser technology in their machines.
- EPA should not double-specify recovery time. The TEC test procedure already accounts for it by encouraging products that can recover from power management quickly.
- There are advantages to specifying recovery time. This issue should not be thrown out without further consideration. However, if EPA is going to specify recovery time, they must decide very soon, or else all test data collected to date will be useless.

EPA: EPA has decided not to specify a recovery time for products covered by TEC, since the TEC test procedure should favor products that recover from power management quickly.

Standard Test Image

Comments—OM:
- Selecting a single standard test image for an Ink Jet machine is difficult since there are so many different usage patterns.
- A standard test image would be welcome in the OM procedure since it would standardize the methodology.
- The Printer/Fax and MFD/UDC MOUs specify different print speed rates. In the Printer/Fax MOU the speed is defined as the speed at which the machine is set to default, whereas in the MFD/UDC MOU, the speed is defined as the speed advertised. This should be clarified in the revised specification.

EPA: Based on considerations of suggestions from industry, EPA intends that the specification will direct manufacturers to reference the highest claimed speed in the product literature. To ensure that the Sleep mode wattage does not vary based on the image that is produced, EPA intends to specify a standard test image to use during testing. Stakeholders who have specific test images in mind for the OM test procedure should send these suggestions to EPA. EP-based OM products (e.g., large format EP) need not use the same test page as used in Ink Jet products.

Comments—TEC:
- A standard test page would increase consistency during testing in the TEC test procedure.
- Color machines print at varying speeds according to whether they are printing in color or in monochrome. Speeds have potential to vary 4:1 (monochrome:color) depending on the machine and its color process.
- While EP machines have much less variation in speed depending on the content of the page as compared to Ink Jet, there may still be some variation. For Thermal Transfer, there is definitely variation.

EPA: To increase consistency, EPA has decided that a standard test page will be adopted for performing the TEC test procedure. The monochrome test image that has been selected is Test Pattern A from ISO/IEC Standard 10561:1999. This new test parameter will be included in the final revision of the TEC test procedure.

Definitions and Terminology

Comment: Use the term “Off” instead of “Standby.”
EPA: EPA will use “Off” wherever possible and where appropriate.

First Draft Specification

Comment: If products covered by the OM test procedure must meet FEMP requirements in Standby (Off) mode, then this requirement should also be included in the TEC test procedure.
EPA: Based on how the TEC test procedure is designed, EPA prefers not to specify Off for products covered by TEC, however, EPA invites stakeholder feedback regarding this topic.

Question: Will the OM specification address Active?
EPA: No, since the time spent and energy consumed in this mode for these products is minimal as compared to time spent in Sleep or other low-power modes.

Question: How will external, separately-powered DFEs be addressed?
EPA: If an MFD is sold with an external, separately-powered DFE and the combination of these two products is marketed together as a set, then the external DFE must meet the ENERGY STAR Computer specification and the MFD must meet the ENERGY STAR IE specification.

Comments:
- When setting the specification, EPA should base its analysis on "worst case" test data.
- Will EPA allow a product to qualify in one regional market but not in another?

EPA: Under the current MOUs and the Version 4.0 monitors specification, yes; a product may meet the ENERGY STAR requirements in one market, at one voltage/frequency combination, but not qualify in others. However, in cooperation with international program implementers, EPA has decided that moving forward, manufacturers will need to test and report qualified product information at all voltage/frequency combinations (for countries where they plan to sell the product) and the product must meet ENERGY STAR requirements under all the combinations before it is eligible to earn the ENERGY STAR. Because manufacturers must already test their products under the applicable voltage/frequency combinations for countries where they wish to sell their products to earn the required UL labels, this should not add too much additional burden.

Power Supplies

Comments:
- How will internal power supplies be addressed in the revised IE specification?
- If TEC is designed to cover all aspects of IE energy consumption, EPA shouldn't also specify that a product meet the external power supply (EPS) specification.
- If EPA is going to address power supplies for imaging, then the timeline for revising the specification needs to reflect this. Addressing power supplies will require more time for consideration.

EPA: It is expected that the ENERGY STAR EPS specification will be a part of the IE specification for products covered by the OM approach.

Timeline

Comment: Industry needs to know that the test procedure is completely final before beginning to test. Do we test in monochrome or color, simplex or duplex, etc.?
EPA: EPA concurs. Test in simplex; this will be clarified in the revised TEC test procedure. Continue to perform all testing in monochrome for the TEC test procedure; however, also perform additional jobs in color for each color machine tested. This additional data will help EPA determine if a color job is necessary for testing color machines.

Comment: Industry needs time to adjust if EPA decides to end grandfathering. Product manufacturing cycles for IE are longer than for other products.

EPA: EPA is looking at ways to help manufacturers make the transition. Possible options include allowing the use of old product packaging that bears the ENERGY STAR mark until supply is depleted, but requiring immediate removal of the mark from company Web sites, advertisements, etc., if the product does not meet the new specification.

Comment: EPA should confirm the next meeting-date soon so that interested stakeholders can make arrangements to attend.
EPA: EPA is looking at possible dates and will provide industry with adequate lead time to accommodate busy schedules.