Revision of the ENERGY STAR Specifications for Imaging Equipment Products
Stakeholder Meeting
July 14, 2004
Washington, DC
Meeting Notes

Introduction
In this document, EPA summarizes the comments it heard from industry during the stakeholder meeting on July 14, 2004. Feedback has been grouped by topic area for clarity, and similar comments have been condensed for conciseness. That is to say, each line item should not necessarily be attributed to a single commenter. Due to the varied interests in the room that day, readers will note that some comments conflict others. This document does not attempt to resolve apparent inconsistency or draw conclusions. It simply presents the points made during the meeting so that all stakeholders may review what was discussed that day.

Main Topics Discussed:
- Frameworks for Specification Revision
- Product Categorization
- Test Procedures
- Remanufactured Products
- Long Term Roadmap for Moving Forward
- Short Term Action Items

Frameworks for Specification Revision

Viability of TEC and/or Modal Approach

ENERGY STAR should focus on ready and on modes for these products.

TEC is the best chance to address the power used in ready mode. It makes the most sense where the possible savings are greater.

First, EPA should decide if they will address ready/active, then decide how.

If EPA **insists** on addressing active, TEC is better than the alternatives (i.e., addressing active in a modal approach). Industry would prefer active power not be addressed at all.

If the goal is to address active mode power, then EPA should look to where active power is highest. Do not test to TEC, but know active power of products on the market now using operational mode data. Industry doesn't measure pages printed; we measure how much toner we use, from which we then derive speed. From this, one can then derive on-mode power. This data is already out there now, published in aggregate form.

Intuitively, TEC makes sense.

Printing power is technology-driven. There is no opportunity to lower active (production) power. It is possible that sleep power could be slightly lower, but it is already very low. Ready is the only place for improvement; however, ready is technology-dependent, relying upon intellectual

property. Therefore, the only opportunity is to shorten the time a product spends in ready mode, which makes consumers unhappy.

TEC should mimic real life usage patterns, where possible. If consumers have different profiles, their end use could be different. TEC is more like a ranking system or method of comparison. Users will influence it.

Be careful about setting a specification on different modal power levels because consumers change or disable settings. It is difficult in the field to be certain of how the product is being used.

Either do TEC for all products or for none. Do not combine approaches.

Do TEC for printers, copiers, and MFDs. (If you buy a copier, you print with it, so do them all the same way.)

TEC is applicable for EP-based MFDs where imaging power is high. It is not appropriate for Ink Jet products. As a better alternative for these products, EPA could shorten default-time to sleep as opposed to shortening recovery-time from sleep.

TEC works best where responsiveness is less of an issue (i.e., higher speed machines).

TEC may not be a good approach for wide format machines.

TEC is not appropriate for Ink Jet and low-end products.

Disabling

Disabling is the Achilles heel of ENERGY STAR. The specification should target enabling since it greatly affects savings. If TEC can't address disabling, it's a waste of time.

How long of recovery will users tolerate? If a copier, printer, etc., is not awake when the user reaches it, the recovery is too long.

TEC goes the wrong way to discourage disabling. Instead, permit manufacturers to resolve the disabling issue themselves through product design.

TEC may reduce enabling rates for walk-up products. We would need to test to confirm this.

If a manufacturer sells a product that lacks the capability to shut off power management, that product will not sell.

Both enabling and active power are concerns of EPA; these two goals go together.

Timing

Industry is still chasing the existing specification. Product development cycles are extremely long, and ENERGY STAR specifications change too quickly.

TEC is a good forward-thinking approach to maximize energy savings, but will be difficult to develop. It challenges technology and suppliers. Industry can't change overnight though; vendors and manufactures need time to prepare for TEC.

Collection of Data

In order to make an informed decision about whether to proceed with TEC, EPA needs to understand how products are used, volumes, market, etc. Valid test data will ensure EPA does not arrive at the wrong conclusion.

The bottom line is to drive down power consumption. First, we need to know the typical usage of products. TEC's assumptions, i.e., 8 hours in use per day, are reasonably close to reality. EPA should create a measurement pattern first, which is as close to real life as possible, then manage user issues and needs, i.e., recovery time.

Industry has data on machine usage. We need to collect data for analysis first to better understand energy conservation; then decide on framework. Average volume will indicate which modes are most important.

Products weren't designed with TEC optimization in mind; they were designed to meet low power specifications. EPA should collect new data.

Other

EPA should consider the embodied energy in paper; duplex copying is important. EPA should address the ease and speed of duplex copying.

EPA should address the energy content of toner as well as network interfaces where energy consumption is non-trivial for the network link.

EPA should keep an eye on emerging technologies.

Product Categorization

Complexity versus Simplicity

The complexity of specification doesn't matter to consumers. The ENERGY STAR mark on the product shows it is efficient; the number of product categories doesn't matter.

The product categories should be kept simple.

Simplicity isn't necessary, but there's a reasonable limit.

Product Groupings

Similar products should be grouped in the same category according to functionality. This will drive the consumer's selection of more efficient technologies. Don't separate Ink Jet, Solid Ink, etc. Perhaps separate by monochrome and color.

There's no real difference between printers and copiers; they're interchangeable today in terms of use.

Under a TEC approach product categories should be separated due to different operating patterns. Copiers and printers **are** different.

ITI's document was categorized into 19 tables/groupings. It may be possible to reduce the total number of categories to 15, but definitely no fewer than that.

All copiers have different features, which affect power consumption. EPA should consider features, and not steer industry away from the development of higher functionality. Section 508 means products must be allowed greater power consumption.

Products should be categorized by physics and situational management.

Print quality, cost per page, speed, etc., are the most important distinguishing factors among products.

EPA should look at capability in active as a part of product categorization.

Categorization by print-engine technology would make the most sense if commonality exists.

Some technologies are in the sun-setting phase, i.e., impact and stand-alone faxes.

There is still an application for impact printers in the market.

Serial and parallel EP must be treated differently by ENERGY STAR.

Addressing Solid Ink technology is a key area for industry comment.

Keep in mind other products/technologies that are not currently covered under the existing ENERGY STAR specifications.

Test Procedures

Specific Changes to the Excel File

The 7th row down in the Excel sheet was cut off and should be reformatted.

It is necessary to correct the numbers in Table 2.

Correct cell G25, sleep energy.

Simplify the test procedure by eliminating the following two tests: recovery time from sleep and recovery time from off, since these consume such a small amount of energy.

The test procedure should categorize products with multiple sleep modes as well as create separate procedures for copiers, printers, MFDs, etc.

Usage Patterns / Job Table

Test procedure needs to better account for job time. High-usage environments require different engines and different power supplies, which have different capabilities.

Products are in active or ready throughout the work day. The test procedure increases active by a factor of four over what industry originally envisioned in the Directional Draft (one hour). This magnifies the importance of active/ready.

Consider if this is the best job table to use. Industry should suggest sense of what is typical for test procedure numbers (keeping an eye on international markets).

There is no such thing as a typical usage pattern. It varies greatly; some products are used forever, some are barely used.

Usage patterns that feed into calculations may be complex, based on different types of products. It may be necessary to include different timings, based on speed, marking technologies, etc.

EPA should consider weekends in the TEC test procedure. The results would be closer to actual use if the time period of one week were considered.

Other

Industry may not provide individual TEC numbers used in calculations to EPA.
The test procedure is not particularly/overly burdensome.

Industry could evaluate fully the TEC test procedure by the end of September.

If industry is all testing to the same procedure, the finer details of that test procedure should not make a difference.

Remanufactured Products

Granting the ENERGY STAR mark to remanufactured products is a good thing for EPA. There is no incentive to upgrade if not allowed to qualify remanufactured products.

ISO will be adopted by end of this year or early next year. This standard will provide a level playing field with minimum qualifications and performance standards for remanufactured products. If a manufacturer meets ISO, that should be enough for ENERGY STAR. There is no need to define “remanufactured” in ENERGY STAR.

It’s not clear that recycled products use less energy throughout their lifetime. Industry needs to provide lifecycle energy savings data on remanufactured products for EPA to evaluate.

If ENERGY STAR allows different specifications to be applied to remanufactured imaging equipment products, then this logic should be applied across all product categories.

It must be remembered that ENERGY STAR is not an eco label. ENERGY STAR’s focus should be on energy efficiency.

The rules for ENERGY STAR need to be clear. EPA keeps changing the rules; there isn't a level playing field. If a product is considered new according to ISO, it should be required to meet the new ENERGY STAR standard.

Roadmap

Timing

EPA's goal is to finish revising the imaging equipment specifications by the 2nd quarter of 2005. The effective date is usually nine months to one year later. Other countries are looking at EPA to keep things moving. If we are too slow, they might go off on their own. We don't want to lose their cooperation.

The EC Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) goes into effect in July of 2006. EPA should take this into account and try to avoid this same time frame.

Thoughts on Roadmap Elements

More consultation with industry throughout this process is a good idea. EPA should consider scheduling another industry meeting as EPA is preparing to finalize the specification.

EPA should inform companies with products scheduled for testing, allowing them time to do simultaneous testing. Test data should be shared.

Short Term Action Items

1. EPA will distribute to meeting attendees:
   - short term action items;
   - an attendee list complete with e-mails; and
   - the Operational Mode versus TEC graph and associated assumptions presented in the meeting.

2. EPA will compile meeting notes and will publish all meeting materials on the ENERGY STAR Product Development Web site. Materials will be published by August 31.

3. EPA will provide a list of copiers and multifunction devices (MFDs) scheduled for testing. This list will be provided by the next stakeholder meeting.

4. Lawrence Berkeley National Lab (LBNL) will provide a list of products that have already undergone testing.

5. EPA will post the updated Information Technology Industry Council's (ITI) 2003 proposal on the ENERGY STAR Product Development Web site. [Please note this is currently posted at: http://www.energystar.gov/ia/partners/prod_development/revisions/downloads/img_equi

p/ES_Eligibility_Criteria_for_Imaging_Technology.pdf. The updated document will replace the original.]

6. By August 18, stakeholders will submit questions and comments on the draft Typical Electricity Consumption (TEC) test procedure presented at the meeting. Feedback should be sent to Bruce Nordman of LBNL (bnordman@lbl.gov) with a copy to Craig Hershberg of EPA (hershberg.craig@epa.gov).

7. Based on comments received by August 18, LBNL will add clarification as necessary to the TEC test procedure. LBNL will redistribute the TEC and Operational Mode test procedures to stakeholders for additional review.

8. Stakeholders will submit additional comments on the test procedures to LBNL by September 30 for incorporation into revised test procedures.

9. Industry will provide consumer usage-pattern data to EPA by September 30.