Imaging Partner Meeting Notes
Specification Revision Update
U.S. Environmental Protection Agency Offices
501 3rd Street NW
Washington, D.C.
1:30 p.m. – 5:00 p.m. (EST)
April 16, 2003

Scheduled Agenda:

1:30 – 1:45 p.m.	Introductions/Review of Agenda
1:45 – 3:15 p.m.	ITI/Industry Review of its Proposal
3:15 – 4:15 p.m.	Discussion/Question and Answer Session
4:15 – 4:30 p.m.	Break
4:30 – 5:00 p.m.	EPA Presentation on Next Steps/Timeline
5:00 p.m.	Wrap Up and Adjourn

Craig Hershberg, EPA, Introduction to Meeting

- An industry representative noted that not all industry players contributed to the ITI proposal.
- While ITI's proposal will help jumpstart the specification-revision process, EPA views it as a draft, since it is early in the process.
- The next step following the meeting is to gather data and meet with companies – particularly companies that were not involved in the ITI proposal creation.
- The main goal of revising the ENERGY STAR specification is to achieve more energy and carbon savings.
- Other goals include greater consistency with terms and language, a reflection of new technologies now available, and greater simplicity.
- EPA feels that ENERGY STAR has been successful, in part because it tries to keep its processes simple.

Ken Salaets, ITI, Introduction of Proposal

- The ITI proposal-creation process began in April 2002. ITI's efforts may save EPA one year of work.
- ITI views ENERGY STAR as a partnership.
- ITI and member organizations went through twelve drafts to create the proposal sent to EPA.
- Lexmark, Panasonic, and Canon were noted as being key players in the proposal creation, and JBMIA, EICTA, and CIAJ provided support. Representatives from Brazil and China were thanked for attending the meeting.

Jim Booth and Chris Saunders, Lexmark, Review of Proposal

- The testing procedure has not been completed yet.
- ITI originally began their proposal in MOU format back on April 5, 2002, but changed it to Eligibility Criteria format in December after seeing the format of the Monitor Draft Specification.
- Because functionality can be a similar attribute throughout the different imaging equipment categories, ITI decided to develop the specification per functionality.
- ITI attempted to outline both mainstream and non-mainstream marking technologies, but "may have missed some."
- Asked why ITI used the term Plug-in Off rather than Standby, an industry representative replied that Standby could suggest unplugged for some products. Another industry attendee

interjected that the ASTM testing methodology defines Standby as being Ready mode. Most attendees agreed that there are different definitions for Standby.

- A representative from LBNL explained that FEMP considers Standby as a power level, and not as an operating mode, contrasted with Off, which is an operating mode.
- ITI noted that the proposal explains that Plug-in Off is defined in a footnote in the document.
- The ITI presenter offered that various contributors felt very strongly about "off mode" terminology and that three versions had been considered.
- ITI only addressed power-saving modes in the proposal and not other modes (e.g., Active). A representative of EPA commented that EPA tries to define all applicable modes in its specifications, regardless of whether they are required for eligibility. Other industry representatives agreed that this is important.
- In defining sizes, ITI went against the approach it used in defining modes. More sizes are defined than required.
- ITI explained that it invented the term "MSD" because it wanted a "home" for photo printers. When asked about this term, the ITI presenter explained that industry recognizes this size format, but not necessarily the name "MSD." This term is supposedly consistent with international paper sizes. ITI agreed that the term MSD could be confusing.
- Asked why network scanners are considered in their own category, an ITI representative defined a network scanner as being a stand-alone scanner on a network (functional without a computer), whereas a normal scanner is useless without a computer. The function of a stand-alone, non-network scanner is electronic capture with no requirement to print. Other imaging products do not necessarily have this distinction. Network scanners can scan to remote locations, to e-mail, to .pdf, and to fax machines.
- A contributor to the ITI proposal suggested that print speed should be measured as maximum speed (monochrome speed) because serial color power is driven by monochrome engine. The old specification categorizes by color speed, which some believe, "doesn't work." "Maximum claimed speed" as defined by ITI, is employed to correct the fact that explanations in the old MOUs are not necessarily consistent with the physics of the devices.
- Asked if there are any marking technologies or product sizes not covered by the ITI proposal, the ITI presenter replied that the proposal is meant to be exhaustive. Another industry representative elaborated that different people call sizes different names, such as A3 and "large format" or A4 and "standard format." ITI meant for the proposal to cover "the universe inclusively."
- ITI did not move away from traditional ENERGY STAR language unless there was a compelling reason.
- Industry recognizes two types of multifunction products:
    - MFDs; and
    - Printer/faxes or faxes, which are inherently functionally rich.
- Printer/fax combinations are considered fax machines in the ITI proposal because of their functionality. ITI struggled with this categorization but was comfortable with where they landed.
- To differentiate stand-alone fax machines with copy and print functionality from MFDs, an industry representative explained that generally those with speeds of 0-20 ipm are in "fax machine territory," while those with speeds of 20+ ipm are in "MFD territory."
- An industry representative explained that how a product is marketed largely determines how that product is classified. Though companies will sell fax machines with cordless handset capability, the products are usually still marketed as fax machines.
- ITI feels that Plug-in Off mode is not helpful for fax machines because fax machines are continually on for "answering the phone."
- Asked why ITI added the extra 1.5 wattage allowance to standby levels for certain products, the ITI presenter explained that an average equipment procurement officer does not give much weight to FEMP standby levels, because if they can't make a purchase according to FEMP they can do so according to ENERGY STAR.
- ITI believes that ENERGY STAR's requirements should be different than FEMP's. A representative from EPA replied that EPA would like to harmonize ENERGY STAR with FEMP "down the road."

- A contributor to the ITI proposal suggested that while "FEMP isn't required [for procurement purposes], ENERGY STAR is." A representative from LBNL contradicted that though the Executive Order and other associated regulations acknowledge that there are exceptions to purchasing FEMP qualified products (i.e., fundamental functionality requirements and cost-effectiveness), FEMP is not optional.
- Asked why ITI didn't do any analysis on actual energy savings as a basic starting point, the ITI presenter stated that they should have, but that energy savings were assumed implicitly.
- A contributor to the proposal offered that Ready is ubiquitous and not well defined anywhere. Sleep encompasses the time to get to that state and the power to dissipate heat while there.
- The ITI presenter explained that an "aggressive inclusive" approach allows for greater energy savings. The "inclusion" part is imperative to saving energy.
- Two ITI member companies are currently working on requirements for scanners and network scanners, but have not finished yet.
- Asked how ITI was certain it was taking an "aggressive" approach, the ITI presenter described the process of creating the proposal requirements as being a continual testing process. They would continually ratchet down the levels to determine adequate wattages. ITI members ask the question, "Do I know how to get there?" If no one knows how to do better, the goal is too aggressive.
- ITI thinks that office equipment manufacturers are "doing all you could hope to do" right now with saving energy. They are considering all technology and improvements that are "readily available within a reasonable time," and the result is the success ENERGY STAR has enjoyed to date (cited in LBNL's 2001 annual report for EPA). Broad participation is key, and has contributed to ENERGY STAR's success.
- A representative from LBNL questioned how the "% reductions" in ITI's graph function.
- A representative from EPA commented that the green line in Slide 13 conflicts with the ENERGY STAR philosophy. EPA wants the label to differentiate the market. An industry representative replied that if ENERGY STAR weren't achievable, then the program wouldn't have made the gains it has. It was offered that price is the single most important product consideration for consumers.
- A representative from EPA suggested that the green line method would hamper EPA's leverage with retailers. There was agreement from some industry representatives. The EPA representative emphasized that there are other parts of ENERGY STAR that need to play a role in specification development.
- An ITI representative stated that office products are different than other products covered by ENERGY STAR. ENERGY STAR is not "one-size-fits all," and the same approach may not work for this product category. Energy savings may suffer as a result. It was cautioned that EPA must choose if they want to save energy or promote a brand.
- An LBNL representative interjected that the group shouldn't discuss energy savings in the abstract; empirical data is needed to see what is possible and data needs to guide decisions.
- EPA stated that the top 25% model is not static; more inclusion naturally occurs over time.
- An industry representative commented that industry is reaching a state of diminishing returns.
- Asked how often ITI sees the requirements being ratcheted down over time, a contributor to the ITI proposal replied that timing has not been finalized, but that ITI is currently viewing it simply as "periodic."
- A representative from EPA mentioned older technology, such as impact printers, and asked if redesign has ceased. The ITI presenter said yes, that the only development left in impact printers basically serves to squeeze pennies out of the cost. LBNL questioned if this is also true of power supplies in impact printers and this was confirmed.
- An ITI representative offered that MFDs are inherently efficient when compared to multiple, separate machines.
- Asked how representative the data on the graph is of the next three years, the ITI presenter responded that it "will trend up."
- A contributor to the ITI proposal said industry is "out of tricks to play in saving energy." One such trick, for example, involves turning off the fuser.
- An industry representative commented that companies begin engineering products to be more energy efficient years in advance of any new specification. They want "a jump on the

competition." So, in effect, manufacturers are always "chasing" new, more aggressive goals. Another representative furthered that, "there are other modes included in the proposal that companies will need to meet."

- The ITI presenter suggested that power equations are superior to a tiered approach as they are more finely grained. "21 ipm takes more power than 20 ipm." The current specifications have arbitrary boundaries that jump around.
- A contributor to the ITI proposal elaborated that power supplies do jump in levels, but that the choice should be up to the manufacturer on how to meet a requirement.
- Industry plans to prepare a written testing document.
- Asked if ITI worked with FEMP in ironing out the Standby/Plug-in off issue, an ITI representative replied that they had not. LBNL commented that FEMP is about to release a new IEC test procedure that will help. An EPA representative confirmed that the test procedure is near completion. LBNL indicated that it should be approved in October.
- Asked if industry used ASTM, an industry representative claimed that the ASTM test procedure is mainly used for printers and copiers, and it shows Active data. The representative's company uses ASTM for all of their products because consumers request this test data. The representative furthered that though they use it, ASTM isn't necessarily the best method; it has a host of problems.
- Most companies do not use the ASTM standard.
- ITI wants to test products at a common voltage of 115 V (U.S. voltage), not at several different voltages. Mainly only large production units operate at a different voltage.
- ITI feels that test procedures should be done in an office environment and not in an environmental testing chamber; testing procedures should not be that severe. An industry representative conceded that the "office environment" would need to be defined.
- A representative from LBNL asked if the consumer should expect that an average of tested products would meet a given specification, or if it is an upper limit. For certain products, testing a large number of models is not appropriate. An industry representative suggested that the number of test points collected should be left to the manufacturer to decide.
- A representative from ICF Consulting commented that the number of data points for reaching accuracy is only an issue if product consumption is very close to the maximum wattage allowance. ITI replied that they want to draw up a test procedure on how to test a single unit, but the manufacturer will need to determine how to report the data to account for variance (i.e., 8W for X models with little variance, 10W for X models with a lot of variance).
- LBNL commented that ENERGY STAR's test procedures have not been very good in the past. EPA needs to draw up two separate sets of rules: How to test a single unit, and how to report the test results. These two should not be combined.
- An industry representative commented that the IEC test standard is not consistent in regards to line voltages. EPA needs to require the use of a better wattmeter. LBNL assured the room that the soon-to-be-released IEC standard would better address this.
- Asked whether ITI plans to describe rationale behind each item in the Test Procedure, ITI responded affirmatively.
- Anti-humidity devices are very rarely used in the industry now. Asked whether the existence of these devices should affect how the required environment is during testing, an ITI representative conceded that this would need to be investigated.
- An industry representative explained that they use anti-humidity devices in some of their high-speed copiers and MFDs. Another concurred that this is also the case at his/her company; this is an option based on the market to which the product will be shipped. The devices can be a dehumidifier or a resistance heater. Humidity matters whenever fusing is involved.
- LBNL suggested that EPA should collect Active wattages (as does ASTM) regardless of whether this mode is a requirement. Company representatives mentioned that often, Active mode wattages are not constant, but rather, peaked. One industry representative said that companies often test Active power (and peaks) only to ensure they do not "pop" the breakers. The ITI presenter responded that ITI didn't include it in the proposal, but doesn't necessarily think it should be excluded.

- One industry representative said that his company tests active power in BTUs to be able to tell consumers how much equipment waste heat would exist in the room.
- An LBNL representative offered that other criteria are important to consumers to ensure that the ENERGY STAR label designates high-quality products, e.g., sound, and response from sleep. He suggested that the new ENERGY STAR specification consider other criteria in this vein.
- EPA responded that performance issues are important, but that ENERGY STAR is not an eco-label.
- Another LBNL representative pointed out that some factors like time to respond from sleep correlate to energy and should be considered, while others, like noise do not.
- An industry representative explained that customers do not want automatic duplexing, but agreed with a representative from EPA who said that duplexing operates better now than years ago. The computer controls duplexing in printers, but the machine itself controls it in copiers and MFDs.
- One industry representative commented that office equipment should handle grandfathering differently than other product categories because of "re-manufacturing" and "newly manufacturing." These concepts mean that there is a lengthened manufacturing cycle – seven years in development and eight years to market for one product, as an example. If ENERGY STAR specifications are made too aggressive, than manufacturers will "scrap the line," rather than redevelop the product. This is a life cycle, landfill issue. This representative spoke of ten-times the energy embodied from saving the product, compared to scrapping it.
- The representative further explained that there is a demand for re-manufactured and newly manufactured products because consumers are purchasing for functionality. The company follows the "reduce, reuse, and recycle" creed, and re-manufactures over 80% of its machines.
- An industry representative commented that industry is being "forced" into the practice of re-manufacturing due to international, national, and state regulations.
- Newly manufacturing and re-manufacturing both involve taking used products back, dismantling them, and putting them back together. Newly manufactured products retain the same model numbers but not the same serial numbers. Re-manufactured products retain both.
- One industry representative claimed their company would prefer to scrap older models rather than remanufacture them if they cannot carry the ENERGY STAR. It costs too much money to produce new products that meet stricter requirements, and consumers won't pay the additional cost.
- Certain companies remanufacture their ENERGY STAR qualified models and use them to compete against the newer, more expensive models. One representative claimed that their company would not bother spending the money to meet the new specification if that's the only choice they had.
- In summary, ITI asked that grandfathering be put back on the table.

<u>Bruce Nordman, LBNL, Power Management</u>

- It was clarified that power management initiatives do not overlap with ENERGY STAR, and that they are complimentary. Power management is designed to apply to all ENERGY STAR devices.
- The next step is to convert to the IEEE standard. LBNL is poised to do this, but it has not yet begun. LBNL is developing a working group and interested parties were invited to participate.

<u>Craig Hershberg, EPA, Presentation on Next Steps/Timeline</u>

- Asked about Date of Announce, an ITI representative explained that it could cover models not newly manufactured. He offered that Date of Manufacture is only acceptable if there is no grandfathering. Grandfathering is something ITI would like to remain on the table. Date of

Announce is in press releases and announcement letters, and is often used now as "Date Available" on QPI forms according to another industry attendee.

- Another industry representative offered that Date of Announce could be considered the date the product is first available on the market.
- EPA raised "allowance for intervention" in the ITI proposal. EPA suggested that this is generally accepted, but asked if the product could re-enter sleep mode. An ITI representative agreed that further clarity is needed on this point.
- When asked about claimed speed and the need for a standard test page, an ITI representative suggested that each company has their own set of test pages, perhaps three or four. Another industry representative said that more uncertainty would be introduced with the existence of a standard test page.
- A standard test page would not be useful for laser jet printers because they print the same speed regardless of what's on the page (unless it is a very complex design). For ink jet printers, there are many variables to be taken into account. An ITI representative suggested that a test page should only be required when the manufacturer doesn't claim a particular ipm.
- The consumer keeps industry "honest" in regards to print speeds. If actual speed varies much from claimed speed, lawyers usually contact the manufacturers about it.
- One industry representative commented that if a product can reach a particularly high speed, then it should be tested at that speed because it is using more power to do so.
- Another representative implied that there are specific ways that a manufacturer can be "found out" if speed varies from what it should be.
- Speed is #1 on the consumer wish list. ENERGY STAR qualifications are much farther down the list.
- Asked why they left out digital duplicators, ITI replied that it was not intentional. One of the meeting attendees stated his company manufactures these products, but said that it is a niche product. EPA suggested that this technology can be highly efficient, and by not being labeled, consumers may not realize this.
- Asked why a table format was used to define operational modes, an ITI representative responded that the table clearly depicts how a product enters and exits each operational mode, and what actions can be completed while in each mode.
- Asked if other methods had been considered, an ITI representative responded that ITI tried to keep the proposal like the MOUs where this was appropriate.
- Asked about defining "user-action," ITI agreed that this term would need to be defined.
- An ITI representative clarified that the definition of Plug-in Off mode was internally disputed.
- When asked if they considered other specification approaches, ITI stated that they did not look at others. They used the existing MOUs as a starting point. One industry representative explained that the ASTM test approach deals with average energy-use/time, but that this method is extremely complicated.
- Building the eligibility criteria around engine-type was deemed too complex, according to one ITI representative. Using functionality was clearer. A representative from LBNL commented that the existing specifications are constructed around how products are marketed and that an engine approach might be simpler.
- Some companies can build larger-than-necessary power supplies into their printers to allow for more component add-on compatibility. This makes the printer itself less efficient, but allows for the MFD to be more efficient. An industry representative commented that unless these larger power supplies are built in from the beginning, the product couldn't be made into an MFD.
- Various company representatives conceded that the base of an MFD makes power consumption very different. Some companies mainly build from a copier base, whereas others build from a printer base. ITI did not differentiate these bases in the proposal.
- ITI used printer/fax product data from the ENERGY STAR Web site for their analyses, and used copier and MFD data from JBMIA members. EPA requested the pared-down product list that ITI used for its analysis. ITI agreed to provide this, but noted that an explanation is needed since certain models were removed for certain reasons.

- Another meeting attendee mentioned they had done a similar exercise, and seemed willing to share it.