Information Technology Industry Council
Leading Policy for the Innovation Economy

TO: **Kathleen Vokes**
U.S. Environmental Protection Agency

FROM: **Ken J. Salaets**
Director

DATE: **May 2, 2010**

SUBJECT: **Comments on proposed changes to ENERGY STAR® testing and verification requirements**

The Information Technology Industry Council (ITI) appreciates the opportunity to provide comments on the referenced subject. ITI represents the leading global innovators of information and communications technology (ICT) and, along with our member companies, has been an advocate and supporter of ENERGY STAR® from its inception.

As we have stated previously, ITI recognizes and is sensitive to the responsibility of the Environmental Protection Agency (EPA) and the U.S. Department of Energy (DoE) to ensure the continued integrity of the ENERGY STAR program. ENERGY STAR Partners share in this responsibility, and have gone to considerable effort and expense to adhere to the many requirements that have been imposed on manufacturers to achieve this goal. We offer these comments as an industry that remains committed to providing ENERGY STAR-qualified products that are innovative, energy- and cost-efficient, and which enable our customers throughout the world to maximize productivity while minimizing carbon.

One of the goals of ENERGY STAR is to increase the availability of energy efficient product~~s~~ offerings available to businesses and consumers. This is consistent with industry's goal, i.e., to provide more efficient products at the most attractive pricing possible. Unfortunately, we and many other stakeholders are convinced that the current Testing and Verification proposal, which has been implemented irrespective of actual experience and without sufficient consideration of potential unintended consequences, works against both of these goals.

Continuing with the established practice of product qualification in manufacturers' or third party facility – per manufacturer preference and with or without accreditation and/or witness – provides the best opportunity for the industry to continue to help the agencies achieve both purposes.

As always, we would welcome the opportunity to provide greater detail regarding these recommendations. Our comments follow.

Summary of Principle Industry Positions

The ENERGY STAR Enhanced Testing and Verification requirements announced by EPA should be designed to encourage the valid use of the ENERGY STAR label, and to allow the OEMs or manufacturers to retain self certification using certification testing from approved laboratory environments. The approved lab should be capable of meeting the test measurements and verification requirements and showing testing proficiency and independence through accreditation to ISO 17025. A mutually agreed-upon audit program with 3rd party audits is acceptable to industry with the option of on-site validations of manufacturer tests as per the ISO 17025 process.

The ICT industry disagrees with EPA's proposal to require independent 3rd party lab verification beginning in 2011. As we comment below, imposing a 3rd party lab testing requirement places additional cost on manufacturers and could potentially lead to a reduction in participation in the ENERGY STAR program due to the added burden of process and cost. In addition, manufacturers have concerns that third party testing labs may become back logged, delaying time to market of some ENERGY STAR-labeled products. Rather than require independent testing, industry recommends that ENERGY STAR use standards that are already in place to certify manufacturing and quality control of internal testing lab processes. For example, ISO9001 is the ISO standard which designates the requirements for quality management systems and is the global standard for providing quality assurance requirements. A company with ISO9001 certification has reviews by a 3rd party accrediting body to show that it can consistently and reliably manage its processes and activities such that its products meet the intended objectives and requirements. A company with this certification would then be obligated to report its actual testing results as well as follow the required testing procedures.

If EPA finds this proposal unacceptable, industry recommends accepting lab results from an ISO17025 certified lab as opposed to requiring independent 3rd party testing for compliance. This internationally recognized standard specifies general requirements for the competence to complete lab tests, calibrations and sampling methodologies. It is applicable to all organizations performing tests and/or calibrations and may apply to internal or third-party laboratories.

Impact on Industry

Testing and enhanced verification activities could be prohibitively expensive ICT for manufacturers for several reasons. For example, some systems or equipment that is selected for compliance testing may not be resold as new. Many of the enterprise server systems, whether transported in racks or stand alone, are extremely bulky. Others are also very heavy (e.g., UPS

systems) and the expense of transport to a laboratory for measurement would also be very expensive, as well as carbon intensive. Finally, some systems are unique to the purchaser and are not replicated as industry standard models.

The span of storage products expected to be included in the ENERGY STAR specifications for Data Center Storage, when populated with disks, cost anywhere from $7,000 to over $500,000. Similarly, the span of server products expected to be included in the Energy Star specification for data center server Tier 2, could cost from $2,500 to $300,000 each. Business-grade imaging equipment is normally $2000 to $150,000 per unit. In addition, some workstations can range in prices as high as $50,000 per unit.

Industry appreciates that EPA has acknowledged that such products need to be handled differently from the rest of the sector. Industry would welcome the opportunity to work with the EPA to develop appropriate qualification testing and verification protocols. This approach would also need to account for multiple degrees of configuration complexity prevalent in storage and other complex and costly products, including, but not limited to, media type, speeds of operation of different media, capacity variability within each class of media, overall system capacity and client connectivity modes.

Given the degrees of flexibility, along with the range of ICT configurations that might appear in any given product family, the complexity of configuring laptops, desktops, workstations, servers, storage systems and business-grade imaging equipment for test is significant, costly, and requires substantial training and experience as well as operating systems and systems management equipment and knowledge.

Impact on Purchasers

A guiding principle of the ENERGY STAR program is that energy efficiency can be achieved through broadly available, non-proprietary technologies offered by more than one manufacturer. Another guiding principle is that ENERGY STAR labeling is intended to effectively differentiate energy-efficient products on the marketplace. The proposed Enhanced Testing and Verification Program will involve substantial burdens and testing costs for ICT manufacturers as described above, and will likely reduce the number of products and configurations that manufacturers qualify. Reducing the number of qualified product options will harm consumers, and raise questions about the credibility of the ENERGY STAR label if the label loses effectiveness in promoting energy-efficient products, and in differentiating energy-efficient performance.

The General Accountability Office's report involving bogus front companies was intended to perform a limited purpose − to test controls over the documentation process for becoming an ENERGY STAR partner. It should not be used as the rationale in driving EPA's follow-up activities. Indeed, a 2009 report released by the EPA Office of Inspector General found that

when that office tested 120 actual ENERGY STAR-qualified products, 118, or 98 percent, met and in most cases exceeded program requirements for compliance. That report stated:

> *"During our product testing, we did not find any evidence that the self-certification process EPA uses allows for products that do not meet the specifications to enter the program."*

The EPA OIG report did find that a significant issue in real life was that:

> *"Although almost all of the ENERGY STAR products in our test sample met, and in most cases exceeded, the program's performance standards, many of the non-ENERGY STAR products tested comparably to, and in some cases better than, the ENERGY STAR products. Comparable performance affects the image of the ENERGY STAR label as a trusted national symbol for environmental protection through superior energy efficiency. In addition, the results call into question the assumptions used to calculate energy savings and greenhouse gas reductions attributed to this program. Based on our testing of non-ENERGY STAR products, EPA cannot be certain ENERGY STAR products are the more energy efficient and cost-effective choice for consumers."* [EPA OIG Report 10-P-0040, November 30, 2009, pgs. 4-5 and 9, found at http://www.epa.gov/oig/reports/2010/20091130-10-P-0040.pdf]

Actions that may discourage ICT manufacturers from qualifying products and product options may cause serious harm to the reputation of the ENERGY STAR label if energy cost savings that are advertised to buyers as a direct result of purchasing an ENERGY STAR product are considered to be misleading. Potential use of ENERGY STAR as a market entry requirement by some jurisdictions, in conjunction with fewer qualified ICT product configurations made available on the market, are another serious consideration that should be taken into account by EPA.

Approved Laboratory Environments

ENERGY STAR partners and manufacturers should be allowed to test and verify ICT equipment in their own in-house labs. This is an established process for complying with the product safety and EMC requirements. As the agencies are aware, there are existing, widely-accepted laboratory certification standards that could be used to establish a lab's credentials. They are:

System Manufacturing Test Qualified Laboratory (Product Safety) - Programs are in place that audit the laboratory to ISO/IEC 17025. This standard includes requirements for equipment calibration, test environments, training, test processes, test procedures, etc. In the end, the test

data is accepted by the agencies for inclusion in a Certification Body report that is used in the Declaration of Conformity for the CE mark.

ISO 17025 - Accrediting Bodies like the National Voluntary Laboratory Accreditation Program (NVLAP) and the American Association for Laboratory Accreditation (A2LA) accredits public and private laboratories based on evaluation of their technical qualifications and competence to carry out specific tests or calibrations. In addition, ISO 17025 accredited test laboratories must prove that they are free to perform the required testing without undue influence. This certification is used for Acoustics, Chemical Emissions, MIL Standards Testing, EMC and safety testing on many products. This method of testing laboratory accreditation is accepted by many government agencies, including the FCC, GSA, DLA and many others.

The Case for In-house Testing:

- Manufacturers routinely test their equipment for various product safety and benchmark requirements. They are familiar with set-up requirements for both the hardware and the supporting software. Reporting across the range of systems for regulations worldwide is still self certifying with responsible manufacturers delivering declarations of compliance on the test process, and specifics on features and specific regulations the systems meet. On more complex systems such as servers, there is a significant amount of work involved in properly setting up and configuring the system. The servers need to be connected to a hardware management console, which manages the server and validates change management to ensure the server meets the configuration rules.

- Systems to be shipped to a third party laboratory for certification will require remote tuning for performance measurements. Benchmarks will need to be installed and configured to match the processor and memory configurations.

- For qualification testing, hardware is typically very limited. Moreover, manufacturers do not want systems information being released to third parties for legal, competitive and marketing reasons. Development hardware also typically costs 5-10x the cost of a production unit, drastically increasing the cost to bring the product to market. Also, shipping product to non-OEM locations typically requires 3rd party safety agency approvals that are not usually completed and accepted until one month prior to product announcements.

- Many products, such as imaging equipment using digital front ends, include configurations where detailed technical product knowledge is mandatory in order to test to stated requirements. Conveying this knowledge to a third-party test facility is not practical and it is unlikely they would run a successful test for these circumstances.

- There are considerable additional costs associated with external testing. For example, it is unlikely that a third party lab will be as proficient as manufacturers in performing the testing procedures, resulting in inefficiencies, extra costs, and potential delays. On the other hand, in-house testing allows manufacturers to combine ENERGY STAR testing with other required pre-market or routine testing.

- Unlike some relatively simple products covered by the ENERGY STAR program, data center equipment is produced and shipped in small volumes, arriving from comparatively few well-known vendors. In addition, data center and many other ICT products can vary widely in the number of configurations available for a single piece of equipment.

  Further, in order to measure the power draw with precision from a single piece of data center equipment, you must replicate the entire data center environment because the power draw of each device is dependent upon multiple factors, such as compute load, network load, acoustics, ambient temperature, etc. Therefore, the need for very expensive, tightly controlled test environments to ensure standardized power measurements across multiple product configurations and product families also makes it cost prohibitive.

- ICT equipment vendors have a long history of compliance with many environmental standards, with integrity and confidence. Our industry has manufactured and shipped products for years under these specifications without known instances of fraud or abuse. Further, ICT equipment vendors have built a wealth of experience in complying with ENERGY STAR specifications over the years as we have brought ENERGY STAR-qualified products to market, including workstations, servers, monitors, desktop computers and laptop computers, and imaging equipment.

  ICT equipment vendors have experience and competence in operating in-house testing facilities and maintaining the extensive documentation that is required for audits and verification from third parties certifying our products, such as Underwriter's Laboratory and the Federal Communications Commission. Programs are in place that could audit the laboratory to ISO 17025 requirements.

- Since independent test facilities will be faced with testing more than one manufacturer's or OEM's products simultaneously, their ability to maintain confidentiality is a concern. These facilities would need to demonstrate isolation of each manufacturer or OEM's product from others, and assure no cross-contamination of personnel occur, so that information on unreleased products would not accidentally be transferred to the support

team of another vendor as required by anti-trust law. This is as true for software features as well as for hardware features.

- In regard to ICT industry experience with for-profit third party laboratories, we have found that they are often or nearly always capacity-constrained, and there are a limited number available. Delays in mandatory third party qualification testing could have an adverse impact on the product release schedule, and hurt a company financially by preventing a new product from appearing on the ENERGY STAR list at release, limiting its market appeal versus competitor product releases, and by failing to meet market expectations on release schedules. Ultimately, manufacturers may be forced to introduce products to the market that could qualify for ENERGY STAR, without the ENERGY STAR label, possibly leading to yet another report of an alleged program "failure."

- There will be a need for these labs to be established and validated in various worldwide geographies (Canada, Latin America, Asia, etc.) to minimize impact on cross-border tariffs, duties, customs, cycle time, and shipping fees and logistics.

SAMPLE VERIFICATION PRODUCT SELECTION CRITERIA

We encourage the Energy Star program to set specific criteria for selecting audit products and configurations that are being requested by customers, including those on available for purchase directly from manufacturers. To identify sales leaders in products and configurations, EPA should rely on commercial services such as IDC rather than imposing new data submission requirements on already over-burdened ENERGY STAR Partners.

ENERGY STAR LABELING

ENERGY STAR has modified its position on product labeling following the temporary suspension of the on-line product submittal tool. The program is now demanding that labeling not occur until a product is formally qualified. However, the previous requirements of meeting the extensive labeling requirements for having products, packaging, the web, etc continue to exist. Meeting both these requirement is not feasible when companies market products globally and shipment and supply chains are complex. ENERGY STAR needs to rethink these incompatible requirements and provide options that are feasible for industry to implement.

ADDITIONAL ALTERNATIVES

Within the industry, there seldom exists a single solution for problems. We have reviewed an intriguing possibility for the ENERGY STAR program to consider in the future, namely, the power calculator approach.