

ENERGY STAR THIRD PARTY TESTING AND VERIFICATION PROGRAM FOR CFLs

The purpose of this document is to outline the process for establishing a Third Party Testing and Verification Program for ENERGY STAR qualified compact fluorescent lamps (CFLs). The language describing the program, along with information related to the overall program requirement text, will be incorporated into the next revision of the Program Requirements and Criteria for CFLs. *(There is also discussion within this document for informational and clarification purposes, which will not be inserted into the program requirement revision.)*

ENERGY STAR CFL Qualification Process

Qualification will remain as stipulated in Version 3.0 of the ENERGY STAR Program Requirements and Criteria for CFLs, dated October 30, 2003. However, beginning with the next revision, a listed model will no longer remain qualified indefinitely. Once a model is qualified, it must be requalified every 36 months to ensure ongoing design or manufacturing changes maintain overall performance against the program requirements.

ENERGY STAR CFL Requalification Procedure

To requalify a product, partners must follow the current ENERGY STAR CFL qualification testing procedure. D&R International, the ENERGY STAR CFL Program Coordinator for the Department of Energy, will track and inform partners when their qualified products must begin testing for requalification. The 36-month requalification clock will not start until the end-of-life testing of a qualified product is completed. Specifically, partners must:

1. Submit their product for requalification testing at an accredited National Voluntary Laboratory Accreditation Program (NVLAP) testing facility within 45 days of notification from D&R International.
2. Submit the test qualification reports and product packaging to D&R International for review and approval. Products that meet the ENERGY STAR criteria will continue to be recognized as ENERGY STAR qualified. Products that fail to meet the criteria will be immediately disqualified as ENERGY STAR.

Manufacturer Quality Assurance and Control

Original Equipment Manufacturers (OEM) partners will be asked to provide a manufacturing process control plan as compliance documentation on measures they are taking to assure their ENERGY STAR qualified CFLs and those products they sell to private labelers meet program and criteria requirements. A detailed description of these requirements will be incorporated into the upcoming revisions to the ENERGY STAR CFL Program Requirements.

Third Party Testing and Verification

A. Testing Facilities

All participating testing facilities will be required to have current accreditation by NVLAP. The “Third Party Testing Administrator” function will be established to perform the duties as discussed below. This entity will be operated by D&R International, which will have the functional responsibility of managing test data and reporting.

B. Establishment of Third Party Testing Administrator

As the Third Party Testing Administrator, D&R International will work with program stakeholders, including manufacturers and energy efficiency program sponsors to establish a separate, independent entity to facilitate the Third Party Testing System. An independent corporation has been selected as the means for third party testing for several fundamental reasons, including:

- It will allow for fair and open discussion regarding the procedures and protocols used in pursuing a third-party testing system designed to further the prerequisites of the ENERGY STAR CFL Program.
- It will allow for fair and open assessment of third party test data and recommendations to the U.S. Department of Energy regarding such data.
- It will serve as an effective firewall for proprietary data because under federal corporate law the handling and ownership of the third party test data can be determined by the Corporations Board of Directors.
- It will serve as an effective fire-wall for proprietary data sent to the U.S. Department of Energy and/or the U.S. Environmental Protection Agency because under the Freedom of Information Act (FOIA) 5 U.S.C. § 552, as amended by Public Law No. 104-231, 110 Stat. 3048, the Department of Energy and Environmental Protection Agency are exempted from FOIA requests for trade secrets and commercial or financial information obtained from a person and are privileged or confidential.

The legal structure of this yet to be named organization is proposed as follows:

- A 501(c)(3) non-profit scientific and educational corporation, under rules set for by the U.S. Internal Revenue Service, and registered as a C-Corporation in the State of Maryland. The State of Maryland has very favorable laws and regulations regarding such organizations.
- Such corporations are deemed viable and appropriate under the IRS code because they are private non-profit corporations acting in lieu of government.
- Incorporation signatories to include one or more manufacturers, one or more utilities, states or efficiency program sponsors.
- Incorporation to occur in April/May 2005 with operations to begin no later than October 2005.
- Initial funding for incorporation from the Federal government and perhaps from utilities, states or efficiency program sponsors.
- Sustainable funding to emanate from revenues from third party testing and pledges from efficiency providers.

“Third-Party Administrator” Corporation will be:

- Governed by a Board of Directors or Steering Committee
- Such Board or Steering Committee shall be representative of both manufacturer and non-manufacturer stakeholders.
- Comprised of members that by virtue of their involvement in the ENERGY STAR CFL Program are deemed stakeholders, such definition to be defined as part of the corporations Articles of Incorporation and By-Laws.
- Funded by Stakeholder contributions through subscription fees paid for by non-manufacturer stakeholders and by fees paid by manufacturers for the required third party testing.
- Managed using funds derived from stakeholder subscription fees and a small percentage of testing fees.

C. Duties and Responsibilities of the Third Party Testing Administrator

1. Management of the Participation of NVLAP Accredited Testing Laboratories:
 - Identifies which laboratory will conduct the testing for each product.
 - Develops a rotating testing schedule, to include all laboratories participating in the program, taking into account each facility’s testing capacity.
2. Product Nomination Process:
 - Administrator will work with DOE/EPA, ENERGY STAR utilities, manufacturers, states, and efficiency program sponsors to identify and establish an ongoing testing cycle (*see Product Selection section for more details*)
 - Administrator will assist testing facilities in procuring lamps. Sample products will be collected from across the country from a variety of retail, e-tail, or commercial distribution channels.
3. Management of the Third Party Testing Procedure:
 - Administrator will notify the Partners which laboratory will conduct its tests.
 - Each participating laboratory will provide a quotation to the specific ENERGY STAR CFL partner. This quotation will include the overall testing costs (which will include costs for the purchase of the product samples and shipment to the laboratory) and a confidentiality clause that automatically permits the test laboratory to release the data to the Administrator and to the manufacturer.
 - Partners will send payment directly to the testing facility and will assist in identifying distribution channels to purchase products from. The testing facility will distribute 20% of the testing cost to the Administrator for management and administrative costs. The testing laboratory will be responsible for product procurement and delivery to their testing facility.
 - Administrator will deliver the final individual reports to the individual manufacturers. The Administrator will also deliver the individual and aggregated summary test reports to DOE/EPA to review and identify which products met the ENERGY STAR criteria. Summary reports can include overall pass/fail statistics, pass/fail statistics by product type, statistical scatter plots of measured performance test data, statistical analysis of mean, median, and year

by year or round by round trend data. DOE will notify partners of product qualification or disqualification.

4. Verification of Qualified Products:

D&R International will review the following parameters to assure the most accurate information is being used to manage the program:

- Which products are manufactured and which are private labeled
- Verification of Where Products are Sold/Distributed
- Product Disqualifications or Discontinuations
- Partner Contact Information

D. Tests to be conducted

All tests listed below will be conducted as per the qualification stipulations of the current ENERGY STAR Program Requirements for CFLs. These tests will form the basis for product qualification verification:

- Initial Efficacy
- Rapid Cycle Stress Test
- Correlated Color Temperature (CCT)
- Color Rendering Index (CRI)
- Run-up Time
- Start Time
- 1,000 Hour Lumen Maintenance
- Lumen Maintenance at 40% of rated lifetime
- Interim Life (number of bulb surviving at 40% of Rated Lifetime)

E. Product Disqualification

Products will be disqualified for failing any one of the testing requirements. If a product is disqualified, the original qualified product (which includes the product sold under multiple packaging schemes, SKUs or retail item numbers) and all corresponding privately labeled products of that product will be disqualified. Private labeled products are defined as an ENERGY STAR qualified CFL lamp purchased and marketed under the brand of an ENERGY STAR partner other than the manufacturer of the product.

However, if a product marginally fails to meet one of the qualification criteria, it will be retested for that one test. "Marginal failure" is defined as having one sample exceed the allowable failure rate for the test. For example, if four out of six samples pass the Rapid Cycle Stress Test, that product will be retested for rapid cycle. If seven out of ten samples survive at 40% rated lifetime, that product will be retested for 40% rated life. If a product marginally fails two or more of the required tests, it will be disqualified.

F. Product Selection and Nomination Process

1. Products will be selected for third party testing on both a random and nominated basis. It is anticipated the program will test 20% of the total number of current qualified bulbs during a calendar year; approximately 10% will be selected via a random generator, while DOE/EPA, utilities, manufacturers, states, or efficiency program sponsors will nominate the remaining bulbs. The product testing pool will be comprised of both OEM qualified and private labeled CFLs. This will provide the allowance to test the maximum number of products per year. The inclusion of private labeled products will allow testing qualified products that may not be marketed or sold within North America by the OEM. A maximum of six bulbs per CFL partner may be tested within a calendar year.
2. If a manufacturer has at least three products selected for testing (out of the maximum six) and all of the tested products fail, then this will automatically initiate mandatory testing for all of the manufacturer's qualified products.
3. The Third Party Administrator will manage the nomination process. The nomination group will be comprised of manufacturers, utility, state and efficiency program sponsors representatives along with DOE/EPA and their contractors. Product nominations will be held twice a year. Those entities participating within the nomination process will be required to follow the nomination guidelines. The basic guidelines will address the following:
 - Product nomination limits: Participating organizations will be limited to nominate no more than 2 products per manufacturer per testing cycle.
 - Rationale for product nomination: Participating organizations will need to supply evidence on the poor performance of a product, which can include test data, consumer complaints, product returns, etc. Nominations submitted without ample evidence to demonstrate the need for third party testing will be disregarded.

Nominations will be collected and compiled by the Administrator and products will be ranked based on the number of nominations they receive. Conference calls will be held to discuss the product rankings and agree on the list of products to test.

4. Product will be purchased from various retail sources or Internet shopping venues. The partner will be required to compile and submit a list of retail, e-tail, electrical or lighting distributors, and lighting showrooms that carry their products. At least two, and preferably up to four, different date or lot codes will make up the samples of bulbs per model tested. Products will be purchased in accordance with the product procurement protocol developed by DOE/EPA. This protocol will be comprised of store selection, geographic location selection, shipment of products and the collection of the following information:
 - Lot numbers
 - Date code
 - Geographic location of purchase (city, state, zip code, store number)

- Retailer or distributor where product was purchased
5. Bulbs within a six-month deadline prior to requalification will be excluded from an upcoming testing cycle.

G. Data Management

Each partner having product tested will receive the complete testing results for its products directly from the testing laboratory. DOE/EPA will also receive the complete data set. Utility, states, efficiency program sponsors may choose to subscribe each year to receive the summary trend reporting. These subscription fees will be based on the partner type:

- Efficiency Program Sponsor Groups: \$10,000
- Investor-Owned Utilities: \$ 7,500
- Municipal Utilities + States: \$ 5,000

The Third Party Administrator would collect these subscription costs. These funds will be used to help cover administrative costs (test report development, distribution of reports, conference calls, etc.)

I. Costs and Funding of Third Party Certification and Verification Program

1. Partners will pay for the testing of their bulbs. The fee per bulb will vary as a function of the rated lifetime of the product. Included in the fee will be a per model charge for the Third Party Administrator services, which will not exceed 20%, purchasing and shipping of the product to the testing facility. All testing facilities will charge the uniform fee based information below: *(These are representative numbers based on historical group testing and do not include the actual purchase of the bulbs. Actual costs will be determined at a later date.)*

Testing Information:	Testing Costs:
Testing for 6,000 – 7,500 hour CFL:	\$1,800
Testing for 8,000 – 10,000 hour CFL:	\$2,000
Testing for 12,000 – 15,000 hour CFL:	\$2,200

Administrator Fees: *(estimating 20% of overall testing costs)*

- Test Report Development
 - Coordination of accredited NVLAP laboratories
 - Verification of Qualified Product Information
 - Coordination of Technical and Nomination Committees
 - Administrative tasks (conference calls; mailings; etc.)
2. Partners whose products are retested due to marginal failure will pay for the retest and any additional product samples needed to complete the retest.

J. Disqualification Appeals Process

Products marginally failing one test of the program will automatically be retested for that criterion. Products failing one or more tests beyond the definition of marginal failure will be disqualified. DOE will deliver this disqualification notification. Partners will have 45 days after receiving this notification to provide information to DOE not related to the tests conducted by this program that will supply evidence their product should remain qualified.

K. Partner Input to Program

DOE/EPA will work with stakeholders and partners to coordinate, modify and improve all aspects of this program. DOE/EPA will solicit continual input from the partner-working group and will continue to communicate with this group as the program is established and begins activities. DOE/EPA will also work collaboratively with a technical committee, which will be comprised of manufacturer and industry representatives. This committee will focus efforts on addressing and standardizing testing procedures, uncertainty issues, product sampling, and any other technical issues that arise within the program.