



**NRDC Comments on the Department of Energy's
Draft Screw-Based ENERGY STAR CFL Specification**

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Submitted to:
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The Natural Resource Defense Council (NRDC) respectfully submits its comments on the DOE's 12/12/02 draft screw-based CFL Energy Star specification. We are grateful for this opportunity to provide comments and are available to discuss these issues further with you.

I. We support the intent of DOE's decision to require full data submission by manufacturers in order to earn the Energy Star label for their products.

We concur with DOE's intention to discontinue its current practice of allowing product manufacturers the ability to label their products with the Energy Star label prior to submitting their long-term performance data. While we recognize the delay this may cause new or innovative products from entering the market, we believe the extra time is warranted, as it will help ensure consumers receive only quality CFL products. For example, if a manufacturer chooses to place an extended life claim of say 10,000 hours on their Energy Star labeled product, then the burden of proof should be on that manufacturer to demonstrate that the product performs as promised. Without the existence of such data, what basis does the manufacturer have for making such a claim?

The proposed modification greatly reduces the likelihood of the current scenario in which a manufacturer submits its initial data, earns the Energy Star label and sells labeled product, which might have poor lifetime performance. In this case, the manufacturer obtains a substantial grace period prior to the required submission of lifetime and 40% of life lumen depreciation test data. If the results from these tests are poor, the manufacturer was able to sell its Energy Star labeled products for a year or more and undeservedly benefited from the incentives and promotional activities the utilities and others provide to Energy Star products. In an extreme case, the manufacturer could then simply pull the product and resubmit an application for the same product under a new model number and start the clock and its year plus grace period all over again.

If the product manufacturers grossly object to this requirement, we are prepared to work with DOE and other interested stakeholders to come up with an acceptable compromise that optimally balances the need for products to perform as promised with an approval process that more optimally aligns with manufacturer's "time to market" concerns.

II. NRDC recommends keeping both the rapid cycle switching and 1,000-hour lumen maintenance tests in the revised specification.

In order to generate a relatively timely assessment of a product's performance, NRDC strongly recommends retaining both the rapid cycle and 1,000-hour lumen maintenance tests. These early indicator tests, both of which were originally proposed and supported by NEMA and are contained in the current version of the spec, will provide DOE and other interested parties with two meaningful tests to gauge the longer term performance of a labeled product in a reasonable timeframe. Without these measures, DOE or watchdog organizations like PEARL will be without a timely tool for assessing product longevity. In the absence of these tests being part of the spec, one would have to wait till the completion of the life time testing, which can take more than a year to complete, to respond to consumer or retailer complaints of early product failure. While DOE or PEARL could do the rapid cycle test to get a quicker feel for a product's performance, this data would not be actionable as there would be no rapid cycle requirement in the spec.

The rapid cycle test also provides a meaningful indicator of how products will perform in the field. Products fail for two reasons: a) the stress on the ballast and filaments from repeated and somewhat frequent switching, and b) heat buildup and component degradation over extended hours of operation. The rapid cycle test is necessary to determine how a product will do when cycled on and off repeatedly, as might be the case in a bathroom or bedroom light where the light could be turned on and off twenty or more times a day. The average rated product life test properly addresses the issue of long burn hours.

III. NRDC believes the current practice of product grandfathering should be discontinued and that all manufacturers should be required to retest their products every two years.

The Energy Star program does not require any follow-up testing for products once they join the program. For the multiple reasons listed below, we believe Energy Star partner manufacturers should perform mandatory follow-up testing every two years:

- As a product category, CFL quality remains problematic.
- Compared to other Energy Star labeled products, companies frequently change the manufacturing location of their product, primarily due to their use of contract manufacturers to produce their product. The substitute

factories and their manufacturing practices can dramatically influence the final product quality.

- CFL manufacturers frequently change their component suppliers. Some of these changes may result in reduced product quality.
- CFLs are the poster child of energy efficiency and are the Energy Star product category that touches the most consumers of all those in the Energy Star product portfolio. Consumer dissatisfaction with Energy Star rated CFLs due to shortened life, dim light levels, etc can easily translate to distrust of the Energy Star label in general. Such a development would be tragic as the potential energy savings from a multitude of Energy Star products far beyond those provided from CFLs could be lost.

NRDC is open to a somewhat reduced testing regime (i.e. fewer samples per model) for products already in the program.

IV. More clarity is needed in the specification regarding how to process and report the data.

For the efficacy requirements, the spec does not state whether to average the data or whether all 10 samples must meet the efficacy requirement. The same comment pertains to power factor and run-up time. If all 10 samples must meet the requirement, this should be stated explicitly.

V. The specification authors should provide additional guidance on how to treat data when one or more tested samples fail during testing.

During recent testing done by PEARL, two different types of “product failures” were seen. In the first case, a product might have failed prior to completion of the 1,000 hour or 40% of life lumen depreciation testing. In this case, how does one generate the average for the sample set for a given product? Do you record a zero for the failed products as they are no longer giving off any lumens and include this data point in the average?

Another scenario requiring clarity is when the product housing fails but the product continues to give off light during testing. For example, recent testing for reflector lamps resulted in the product enclosure cracking or literally breaking off leaving a sharp and potentially dangerous enclosure. Even if the hazard is only perceived, consumers may conclude that these are indeed inferior products and will not buy additional ones in the future. In the example where the enclosure breaks off, the lumen light output and therefore the efficacy would actually increase as the absence of the enclosure allows more light to be emitted. NRDC believes that even though the lamp is still giving off light, when the product and/or its housing develops more than a hairline crack, it should be treated as having failed and the data handled accordingly.

VI. Products designed to be used primarily in recessed cans should be tested in a simulated environment that more realistically mimics actual usage conditions.

Recessed cans are a dominant fixture category in both the new and remodeling residential markets. Unlike the commercial market, the vast majority of these fixtures have screw based and not pin-based sockets. In addition, many of these cans are installed in insulation contact (IC) environments that result in elevated temperature operating environments that can cause early ballast and product failure. (Note many states are mandating cans to be IC rated in their new building energy codes.)

In order to help prevent the potential qualification and usage of poor performing Energy Star labeled reflector lamps in the millions of installed recessed cans, we believe the testing should be done in an environment that better simulates the elevated temperatures that occur. Otherwise many Energy Star labeled CFLs will be sold that fail prematurely in recessed cans and result in dissatisfied customers and lost energy savings.

Discussions with interested stakeholders with expertise in this area including PNL, LRC, and NEMA should be held to develop consensus language on the test method and related issues. If a consensus test method cannot be developed in a timely basis, we encourage DOE to add some placeholder language on this subject in the specification and to formally announce its intention to require in-situ testing for these products by a specific date.