Kichler Lighting Group Comments on ENERGY STAR Program Requirements for Residential Light Fixtures Draft 1 Eligibility Criteria – Version 4.0

I have just completed my review of Energy Star Qualified Residential Lighting Fixture Eligibility Criteria 4.0, the proposed compliance changes for lighting fixtures. I am disheartened to learn two things:

1. Before Energy Star rated product has had an opportunity to develop a foothold on the industry and only a few short years after the first round of major rule changes, they are again altering fundamental requirements for partners.
2. The rule changes have again and continue to place an increasing burden of responsibility on the backs of lighting fixture manufacturers, rather than distributing that burden fairly among all responsible parties.

As a distributor of residential lighting fixtures, we have not seen an increased demand for Energy Star certified product. The public has not been educated to the need, the benefit or the societal responsibility. The general population still associates energy efficient product with the fluorescent-blue light of their youth. Without having expanded the demand, you are now forcing a cost increase that could substantially alienate the few buyers who may be aware of the positive aspects and byproducts of Energy Star lighting.

Residential lighting fixture manufactures make lighting fixtures. We do not make light bulbs, we do not manufacture socket, we do not build and engineer ballast. The lighting fixture industry is a fashion-driven business geared to complement the décor of a residence and provide light for evening/night time activities. Lighting fixture manufactures do not want to be in the light bulb business; we do not want to be in the socket business; we do not want to be in the ballast business. The new Version 4.0 rules again ignores the reality of the business they attempt to influence and have returned to their initial proposal for lighting fixture manufacturers to take responsibility for light bulbs and ballast. As I have done in the past, I must again strongly urge you to attacking this problem in the different way.

Energy Star has had admirable success convincing other industries to manufacturer product that meets their standard. Air Conditioners now consume less power, hot-water heaters require less fuel and furnaces run more efficiently. Those are big industries manufacturing product that sells in the thousands to hundreds of thousands of units. Those successes in place, on a list of energy consumption, lighting was next. While commercial lighting may involve more mass production, residential lighting is a different industry. Most product sells in

VERY small quantities. Life span is comparatively tiny. Many aspects of residential lighting are hand made. Using the same template as those established for mass-produced goods and even for those covering commercial lighting will not work for residential lighting. There must be an alternate tack.

To convey Energy Star needs to the manufacturer of residential lighting fixtures, twenty-nine pages of specifications were required. It could be done in a simpler, more straightforward way in which only a few rules would need to be set in place for each applicable industry. The ballast manufacturers, who have an expertise in ballasts and their engineering minutia, would be given parameters for Energy Star certification. Following them would allow the ballast manufacturer to emblazon their product with the Energy Star logo, or some such other symbol. Light bulb manufactures, experts in light bulbs, would take on the responsibility for lamp testing and like the ballast manufacturer, add Energy Star, ES or some agreed-upon emblem to the product and catalogs. The lighting fixture manufacturer would simply choose a ballast and a light bulb that met the needs of the luminaire, add the specified labeling, instruction sheet data, carton markings and consumer protection, thus producing an Energy Star luminaire. Instead, you are forcing the lighting fixture manufacturer with no specific knowledge of either ballasts or light bulbs to regulate and test both.

The concept I defined is in no way revolutionary. Underwriters Laboratories has been in business almost 100 years. They prescribe similar methods for product construction. A fixture manufacturer must use UL listed socket, wire and label material within construction confines detailed in a rulebook for the fixture manufacturer. The combination is tested and listed. The same thing could work for Energy Star and compliance would be far simpler.

Please consider the following as a template for an easier path to Energy Star listed lighting fixtures.

Ballast Manufacturer

In order to offer a ballast that is Energy Star certified, they must:

- Develop ballast(s) that drive intended lamps to their initial Lumen Per Watt efficacy
- Develop "end of life" protection for ballasts that drive T4 or T5 lamps
- Provide ballasts with a Class A sound rating
- Provide power factors of ≥0.5
- Provide Lamp Current Crest factor of ≤1.7
- Prevent against Electromagnetic and Radio Frequency Interference
- Provide Ballast Frequency of 20 to 33 kHz or ≤ 40 kHz
- Provide Ballasts with transient protection

- If dimmable ballasts are manufactured and they are to carry Energy Star certification, they must be dimmable to 30% or switchable at three levels, beyond the "off" pole position

If I understand the requirements, all of these specifications can be met today. Listing the specific ballast(s) with Energy Star would be the final task.

Light Bulb Manufacturer

In order to offer lamps that are Energy Star certified, they must:

- Develop specific Initial Lumen Per Watt efficacy, when driven by a ballast that provides a specified wattage input
- Meet average rated lamp life specifications
- Meet average lumen maintenance of 80% at 40% of average life
- Meet specified color rendering index
- Meet the specified Correlated Color Temperature (Compliance with the Mac Adams color tolerance oval/ellipse)

If I understand the requirements, all of these specifications can be met today. Listing the specific lamp(s) with Energy Star would be the final task.

Lighting Fixture Manufacturer

In order to offer a fixture that is Energy Star certified, they must:

- Match the appropriate ballast to the appropriate lamp
- Mark the product with information to the customer about the appropriate lamp replacement
- Use ANSI standardized lamp and socket bases. In lieu of an ANSI standard base, it would be the fixture manufacturers responsibility to provide custom lamp specification sheets (in accordance with the parameters established in Energy Star guidelines)
- Not use magnetic ballasts unless they are building HID product
- Test and insure a ballast case temperature of 75°C or less for each ballast/lamp luminaire application
- Warranty the fixture for two years
- Include certified ES lamps with each Interior fixture (linear lamps excluded)
- Make ballast replacement possible along with instructions required to inform the customer how to replace the ballast
- Provide product packaging requirements necessary for the customer to select the correct replacement lamp
- Prove the product has been tested and listed for safety and electric viability through Underwriters Laboratories against the standard that is applicable for the product type
- Include a photocell/time-of-day sensor in outdoor lighting product
- If system controlled product were manufactured, include a motion sensors along with all of the package-based consumer warnings

- Provide Restricted Air Movement testing and compliance

By allowing those manufacturers who fully understand their business to do the work required for compliance, the consumer can purchase a more fairly priced product. If lighting fixture manufacturers are charged with testing a fixture beyond the existing UL required investigation, those costs will surely be passed on to the consumer.

Finally, you are proposing a testing expiration after three years. By adopting a more equitable distribution of responsibility, it will be unnecessary to have certification expire. The ballast, lamp and fixture manufacturers currently exist in a world where "blind" tests are conducted to insure continue UL compliance of their product. The same could be done with Energy Star. Expiration again will result in increased cost for Energy Star product, further alienating the consumer. New rules can certainly be adopted and initiated as the EPA sees fit, but asking for revolving confirmation of known statistics is wasteful and costly.

Please think seriously about a new approach. The lighting industry does not have the volume of individual units found in categories of product previously included in the Energy Star family. Those products have also not required the end consumer to alter their lifestyle to use. Together, the EPA and the lighting fixture manufacturers are fighting an uphill battle. We are asking the consumer to accept a more expensive product that alters the aesthetic surrounding of their home. (Regardless of the advances made in fluorescent lighting, they are different and are perceived to be different. Our customer research has made this point very clear.) When washing machines became Energy Star listed, the clothes still went in the machine and came out clean. Energy Star air-conditioners still cooled the air and Energy Star water heaters warmed the home's water. Energy Star was invisible, yet helpful, with no obvious difference in performance. The Energy Star lighting movement is a different issue. We must do everything in our power to make the transition to efficient light as seamless and simple as possible. Altering your approach in some way similar to that suggested here, will help ease that move.

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