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March 10, 2006

Mr. John Wilson
Mr. Tim Tutt
Mr. Gary Flamm
California Energy Commission
1516 Ninth Street, MS-25
Sacramento, CA 95814-5512

Subject: Title 20 – 15 day language for Metal Halide Luminaires

This letter is a continuing communication with the CEC regarding the proposed Metal Halide luminaire regulations. As you are aware, my company has provided detailed communications on July 15 and October 17, 2005. I have not found these letters posted on the CEC site for public review, so I am including them for your reference. We have also participated in the August 30 2005 meeting at the California Lighting Technology Center and the most recent February 14 hearing. In addition, we have contributed to the NEMA comments on this topic since May 2004 – including the most recent February 7, 2006 document.

We appreciate the ongoing communications regarding this topic and the fact that the regulations for Metal Halide luminaires have been delayed in order to discuss critical issues. We remain perplexed with the fact that although these discussions have been ongoing for almost two years, there are several key issues that we have brought to the CEC that have not been revised and we have not received a response. We are also concerned that a completely new proposal was presented on February 14 for ballast efficiency that had not been discussed with the industry prior to the workshop. We recognize concessions have been made both on behalf of the CEC and industry to find an acceptable approach, however industry simply cannot evaluate the impact of the new proposal within the 15-day language comment period.

We would like to reiterate our concerns related to Metal Halide Luminaires and would appreciate your response to these issues:

(1) Lamp orientation for non-probe start MH luminaires

The NEMA 2/7/06 letter indicated concerns regarding the definition of vertical operation and inclusion of all lamp positions by 2008.

- The current definition of vertical would cover luminaires that are designed to be operated in any orientation since they are rated to operate within 15° of vertical. I do not believe that was the intent of CEC and it is not technologically feasible. Please consult Appendix A, which was provided to CEC in July 2005 and was approved by all four lamp manufacturers. You will note that universal lamps are widely available from all four major manufacturers for the 150w ONLY. The 320w is available in universal burn from only one manufacturer. For all other wattages, there are no universal lamps available from any manufacturer today. Since vertical base-up regulations went into effect January 1, 2006, the definition of

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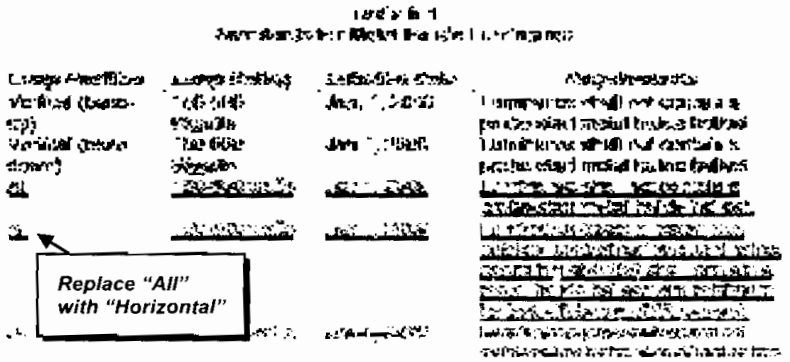
vertical is not currently feasible nor can it be enforced for universal position luminaires, such as floodlights.

- Table N-1 includes a regulation of "all" lamp orientations effective January 1, 2008. The NEMA 2/7/06 letter recommended regulating only horizontal and vertical lamp orientations for the same reasons related to availability of lamps for universal positions.

RECOMMENDATIONS:

- Revise the note for Table N-1 as follows:
  Notes: Fixtures are covered if they are capable of operating lamps that fall within the range of included lamp wattages. Vertical includes products rated only for use within 15° of vertical.
- Revise Table N-1 as follows, which will regulate vertical base-up, vertical base-down and horizontal by Jan 1, 2008:



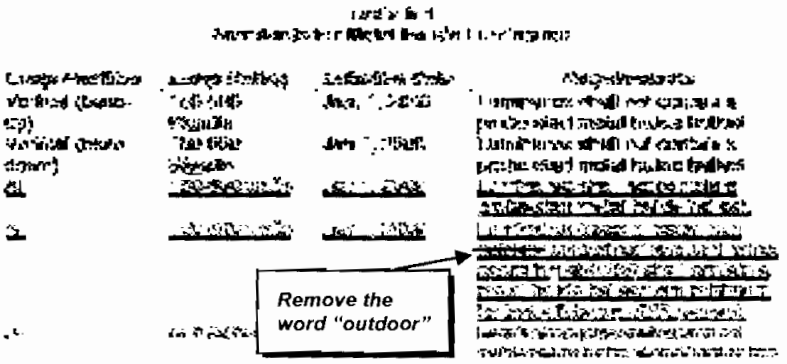
(2) Exempted luminaires

This issue was also covered in the NEMA 2/7/06 letter. We indicated at the August 2005 meeting that the current definition of "exempted outdoor luminaires" does not exempt <u>any</u> products because ballasts are not rated for ambient temperature. As the lighting industry has evaluated ballast efficiency relative to high ambient and outdoor conditions, we have concluded that regulations requiring electronic components for these application types subject the public to less reliable performance and higher failure rates. It was recommended that outdoor lighting and high temperature applications should both be exempt.

RECOMMENDATIONS:

- With the revisions below, item (1) will exempt outdoor lighting and item (2) will exempt luminaires designed to operate at high ambient temperature:
  "Exempted ~~Outdoor~~ Luminaire" means a luminaire certified by the manufacturer to the Commission as meeting all the following criteria:
  (1) Is rated for use in wet locations as required by the National Electrical Code, Section 410.4(A); ~~and~~ or
  ~~***(2) Contains a ballast that is rated to operate at ambient air temperatures above 55°C, as specified by UL 1029.***~~
  (2) Is rated to operate at ambient air temperatures at above 55°C, as specified by UL 1598.

- Table N-1 would require the following revision:



(3) Ballast efficiency requirements

We are very encouraged that the ballast efficiency approach has been greatly simplified with a proposal for all ballast to have a minimum efficiency of 88 percent. While this appears to be achievable for ballast manufacturers, our company has not had sufficient time to coordinate with the ballast vendors to verify which ballasts meet and which ones do not. We were provided the 15-day language on 2/28/06. Our major ballast manufacturers have not had sufficient time to determine what the implications will be for ballast redesign for impacted ballasts. Some manufacturers have indicated that redesigned ballasts will be a larger size, which will require modifications to the housing of the luminaire. We also do not know what the changes in thermal performance will be until those ballasts are redesigned. Key issues to luminaire manufacturers are:

- Changes in ballast size will very likely require redesigned ballast housings or other modifications to the luminaire in order to accommodate the ballast.
- New ballasts will have to go through a series of thermal tests for different luminaire types. If the thermal performance is higher than previously approved ballasts additional testing and safety certification will be required from UL.
- Changes to ballast or fixture housings and thermal testing/certification are a timely process. If a large number of luminaires are impacted, this could take as long as 18-24 months and can begin ONLY AFTER the ballast manufacturers have provided us with their redesigned ballasts. This regulation is proposed to take effect 21 months from now and we are likely several months away from having redesigned ballasts for those that do not meet the efficiency requirements. It is very probable that the redesigned ballasts will be available before Jan 1 2008, however the Jan 1 2008 date does not allow sufficient time for luminaire modifications. Proceeding with regulations based on a date that has no justification or evaluation to substantiate it does not meet the feasibility requirement for California Appliance Standards.

RECOMMENDATIONS:
Change the effective date for the minimum ballast efficiency requirements to **January 1, 2010**. It is likely that we could meet an earlier date if we find that only a minimal number of luminaires have to be redesigned when we are provided with the details of the ballast redesigns. We will make a commitment to you to evaluate the scope of luminaire redesign once we have the ballast details. If it is feasible to complete luminaire redesigns by 2009 date without significant disruption to our business, we will petition to have Title 20 MH ballast efficiency requirements revised to a more aggressive date. You may also want to consider conduction an independent study as recommended in the NEMA 2/7/06 letter.

I hope you will seriously consider the recommendations in this letter. Acuity Brands Lighting is committed to working aggressively to promote energy efficiency in both redesigned products and new technologies. We do not oppose the concept of improved MH luminaire energy efficiency; however it is our opinion that the regulation has not been supported with appropriate technical or market analysis and is more appropriately addressed in Title 24 building standards. We have provided recommendations for revisions that are specific, achievable and aggressive and support the intent of the California Appliance Standards.

I look forward to receiving your response to these issue and welcome the opportunity to provide additional information or clarification.

Best regards,

Cheryl R English

Cheryl English
Vice President, Engineering Services & Industry Relations

cc: Kyle Pitsor
Fred Carpenter
Mike Minarczyk

Appendix A – Availability of Pulse Start Lamps

Lamp Wattage	Position	GE	OSI	Philips	Venture	NOTES
150	Vertical BU					Universal burn available for Vertical Base Up
	Vertical BD				X	Universal burn available for Vertical Base Down
	Horizontal					Universal burn available for horizontal position
	Universal	X	X	X	X	
175	Vertical BU	X	X	X	X	
	Vertical BD					No vendors available for Vertical Base Down
	Horizontal					No vendors available for Horizontal
	Universal					No vendors for Universal
200	Vertical BU		X		X	Only two vendors for Vertical Base Up
	Vertical BD				X	Only one vendor for Vertical Base Down
	Horizontal				X	Only one vendor for Horizontal
	Universal					No vendors for Universal
250	Vertical BU	X	X	X	X	
	Vertical BD				X	Only one vendor for Vertical Base Down
	Horizontal				X	Only one vendor for Horizontal
	Universal					No vendors for Universal
300	Vertical BU					
	Vertical BD				X	Only one vendor for Vertical Base Down
	Horizontal				X	Only two vendors for Horizontal
	Universal					No vendors for Universal
320	Vertical BU	X	X		X	
	Vertical BD				X	Only two vendors for Vertical BD / Universal
	Horizontal		X		X	
	Universal			X		Only one vendor for Universal
350	Vertical BU	X	X	X	X	
	Vertical BD				X	Only one vendor for Vertical Base Down
	Horizontal				X	Only one vendor for Horizontal
	Universal					No vendors for Universal
400	Vertical BU	X	X	X	X	
	Vertical BD	X	X		X	
	Horizontal			X	X	Only two vendors for Horizontal
	Universal					No vendors for Universal
450	Vertical BU				X	Only one vendor for Vertical Base Up
	Vertical BD				X	Only one vendor for Vertical Base Down
	Horizontal					No vendors for Horizontal
	Universal					No vendors for Universal