



3/23/06

Dear Commissioners,

We very much appreciate your staff keeping us apprised of changes being made to the proposed standards in preparation for publication of the 15 day language. We know that Commission staff has worked very hard on the lighting standards that are about to be published in 15 day language. As Commission staff is aware, we are disappointed that in the end the general service incandescent lamp standards could not be structured in a way more likely to ensure significant lamp efficacy improvements. Yet, we appreciate the lamp wattage reductions that the standard is expected to deliver and the consequent statewide energy savings and bill reduction benefits. Similarly, we had strongly supported metal halide ballast standards that primarily encourage electronic ballasts. None-the-less, we accept the Commission's decision to start with a less rigorous ballast efficiency requirement allowing manufacturers more time to transition toward electronic metal halide ballasts.

PG&E is extremely concerned, however, with two significant changes made at the very end of this long but important proceeding—1) omission of performance requirements for modified spectrum general service lamps and 2) establishment of a flat 88% efficiency requirement for metal halide luminaire ballasts. Given the hurried schedule, we are concerned the implications of these changes have not been fully appreciated. We believe adoption of the standards as currently described will enshrine **two loop holes that may in fact increase energy use beyond the pre-standard baseline**. We do not want to take up your time restating all of the arguments made on these issues over the last several years, so will just focus on a few newer key points.

1. "Modified Spectrum" General Service Incandescent Lamps

Modified spectrum lamps, which were covered throughout the proceeding and in the 45 day language, have been dropped from coverage in the current draft of the 15 day language. Industry asserts that this product category occupies a minor market niche that can be addressed later. These products may represent less than 10% of unit sales today, but they would be the only general service incandescent products on the shelf offered at familiar wattages if exempted from the standards. All other 40, 60, 75, and 100 watt bulbs would be dropped to wattages of 38, 57, 71, and 95 watts respectively. If the Commission allows modified spectrum lamps to continue selling at 40, 60, 75, and 100 watts, it will undermine the success of the much more important soft white and clear/frost standards. This exemption will give consumers an obvious reason to favor modified spectrum lamps instead – *the least efficient incandescent lamps on the market today*. It will also undercut the strength and simplicity of the planned Flex Your Power marketing message, explaining to consumers that the new, lower wattage lamps can fully replace the old models consumers were previously buying at higher wattages.

Several factors conspire to overwhelm the presumed soft white and clear/frost lamp standards impacts:

1. Dramatically lower, recent pricing for modified spectrum lamps

Incremental costs for modified spectrum lamps had been expressed in terms of dollars until recently. Store visits in the last weeks revealed that Wal*Mart now sells 4 packs of modified spectrum bulbs for less than 60 cents per bulb. These lamps carry the GE brand, but are made in China and include 40 cent instant discount coupons and a chance to win thousands of prizes from GE. Home Depot currently sells comparable products for 35 cents apiece. These were random visits to local stores showing apparently every day prices, not unique, special deals specially selected by us to make our point. Please see Exhibit A below where we summarize the lamp model and price data for the 60 watt lamps. By no means is this data presented as a statistically significant survey, however, we visited stores whose general service lamps sales are believed to account for over 50% of sales of such lamps. Thus, we believe data are qualitatively meaningful. **Modified spectrum lamps are approaching just twice the cost of the lowest cost soft white lamps, where the cost difference is so small as to not be a significant factor in the consumer's purchase decision.** Further price decreases seem likely as competition in this category increases.

2. Aggressive marketing of modified spectrum lamps

Our team has analyzed this market carefully and concluded that GE is positioning its modified spectrum products to receive the largest advertising budgets and most prominent retail shelf positioning (end-cap displays) in the hopes of greatly increasing sales for general purpose use. Our recent visits indicated that modified spectrum lamps are getting significant shelf space in addition to good positioning. Furthermore, as can be seen in the notes section in Exhibit A, the modified spectrum lamps continue to be positioned as a high quality lighting alternative, e.g., **“clean, beautiful light” for the Reveal versus “regular everyday light” for the GE Soft White 60.** Packaging for the modified spectrum lamps are much more visually compelling than for standard bulbs. With decreasing incremental costs, it is hard to imagine these marketing efforts failing to capture significant market share.

3. Modified spectrum lamp pricing becoming competitive with expected krypton-fill lamps.

The rapidly decreasing price trend for modified spectrum lamps suggests that their price could very shortly reach parity with the expected price of the very krypton-filled conventional incandescents that the Commission is hoping to encourage through the soft white and clear/frosted standards. Consumers choose the familiar when given the option. The most price conscious customers would likely select the lower wattage, dimmer lamps (good outcome), while too large a fraction of the less price sensitive market seems likely to select the 60 watt modified spectrum lamps (bad outcome) rather than the “weirdly” rated (e.g., 57 watt) krypton-fill lamp (best outcome). The combination of roughly equivalent

pricing, aggressive marketing, and probably most importantly, the familiar 60, 75, 100 watt ratings for **modified spectrum lamps seem likely to win significant market share at the expense of the desired, high-efficacy (e.g., krypton-fill lamps).**

4. Modified spectrum lamps increase energy use relative to current lamps

Modified spectrum lamps use the element neodymium to filter out about 25% of the total light output. So, for example, a 60 watt Reveal bulb produces 630 lumens, while a conventional soft white 60 watt bulb produces 840 lumens. This alone is a significant loss of efficacy. If modified spectrum bulbs sell in increasing numbers, the potential for consumers up-shifting to the next higher wattage category becomes very serious. Consumers have to buy a 75 watt Reveal to obtain as much light as they can get from a 60 watt soft white lamp. Every lamp sale that shifts upward one wattage category wipes out the savings from about 3 to 8 bulbs that comply with the new standards. Thus, we conclude that **the far lower efficacies and growing market share for modified spectrum lamps have a very respectable chance of leading to increased energy use rather than energy savings.** In any event, it seems very probably that net savings will be much diminished if not lost all together. We believe the risk is too significant to ignore at this juncture.

5. Enhanced spectrum light is better provided through CFLs than incandescents
CFLs are much more capable than incandescents of providing enhanced spectrum light to meet the needs of consumer's with that preference. Instead of creating a potential loophole which would offer less enhanced spectrum performance at the lowest efficacy in the market, the standards should work to direct consumers and the market towards the best alternative for enhanced spectrum service, which is CFLs.

6. Federal rulemaking likely to thwart subsequent Commission lamp proceedings

The Commission staff seems to be counting on being able to fix this loophole later if it becomes serious. This is a very risky fall back strategy. The proposed Tier 2 standards take effect in January 2008. DOE is convening its first general service incandescent standards meeting in mid-2006, and has published its intention to finalize those standards no later than June 2009. At that point, California and all other states would likely be pre-empted from making any subsequent general service incandescent lamp regulations. California's ability to *influence* the DOE standards largely rests in 2006 and 2007, as DOE will have selected a preferred course of action for analysis and legal review by early 2008. That means the standards you adopt now represent the most stringent outcome likely to be obtained from DOE. There is no time to monitor the success of your standards during the course of 2008 and adopt an additional modified spectrum requirement (with the Commission's customary one year market lead time) before DOE pre-emption would take effect. **This may be California's one chance to get these standards right.**

We believe that GE is using its least efficient lamps--modified spectrum lamps--as a way to increase profits in the face of ever-growing competition from low cost competitors selling conventional lamps. The Commission standards as written would accelerate rather than deter that move, making modified spectrum bulbs as large of a loophole as ER and BR lamps turned out to be for reflectors a decade ago. The simplest way to protect the energy savings from the soft white and clear/frost standards is to hold modified spectrum bulbs to the same reduced wattages, but with the less stringent lumen levels the CEC already proposed in its 45 day language. Remember that manufacturers should be able to comply with the modified spectrum requirements using krypton fill or, in many cases, the lower cost "dimmer lamp" approach. Retaining that original language is the most important change the Commission can make to its proposed 15 day language

On behalf of PG&E and its millions of customers, I urge you to include requirements for modified spectrum lamps that maintain "plateaus" at the same wattage levels as are in place for clear/frosted and soft white general service incandescent lamps. If the Efficiency Committee omits modified spectrum lamps in the 15 day language, we will vigorously oppose its adoption before the full Commission.

2. Ballast Efficiency Requirements for Metal Halide Luminaires

NEMA has made the argument that their members are not quite ready to meet an electronic ballast requirement for metal halide luminaires. We can live with the general approach taken by the CEC in the draft 15 day language for allowing compliance with higher efficiency models of magnetic ballasts. The flat 88% efficiency requirement across all wattage categories has significant problems, however, that would in our opinion almost certainly lead to increased energy use as a result of the standard compared to a no standards case.

As with the general service lamp standard, several factors conspire to overwhelm the presumed ballast efficiency requirement impacts

1. The 88% efficiency requirement is a stretch for lower wattage products
The 88% efficiency requirement for luminaires with lamps less than 370 watts represents a reasonable opportunity for manufacturers that wish to comply with the standard using improved magnetic ballasts rather than using electronic ballasts. NEMA's support for this compromise suggests that they are comfortable improving magnetic ballasts a few percentage points beyond what is in the market now to get to this level in the 150-370 watt range.

2. Consistency of standards rigor lacking for higher wattage products
Typical magnetic ballast efficiencies increase with the lamp wattage. There are already magnetic ballasts for wattages above 370 that would qualify at 88%, so manufacturers need not make the same increases in magnetic ballast efficiency in the 400 watt range as they will have to do in the 150-370 watt range. **It would be**

more consistent to increase the required efficiency for wattages over 370 to 90% since that creates a similar incremental improvement goal for magnetic ballasts in the 400 watt range as does 88% efficiency for the 150-370 watt range.

3. Relative market share of 400 watt products likely to increase

Much more important than this consistency, however, is the concern that if the requirement is flat across the board, **industry will be likely to push their already complying 400 watt lamp ballast products rather than developing more efficient ballasts for 320 and 350 watt lamps.** In many cases 320 watt and 350 luminaires meet the needs that might otherwise be filled by 400 watt luminaires. Use of 400 watt luminaires instead of the 350 and 320 watt luminaires that are becoming increasingly common will increase energy use.

4. Small shifts in favor of 400 watt products will overwhelm efficiency gains

Based on our calculations, if only three percent (3%) of the market share that would have been served by 350 watt lamp ballasts is up-shifted to 400 watt products, all the savings from the standard will be eliminated. **Any further growth in market share by 400 watt lamp ballast systems at the expense of 320 and 350 watt lamp ballast systems would result in overall energy usage increases.** Tightening the requirement at wattages over 370 would level the playing field between these two wattage categories and prevent unwanted up-shifting.

We urge you to include a second performance requirement, 90% efficiency, for metal halide luminaire ballasts for lamps over 370 watts. Again, because we are so concerned that the proposed standard could lead to increased energy use, we would vigorously oppose its adoption before the full Commission.

Please do not hesitate to contact me with any questions you may have about our concerns and potential negotiated solutions.

Thank you for your consideration of our concerns.

Sincerely,

Gary B. Fernstrom

Pacific Gas & Electric Company

Exhibit A. Recent in-store price shopping results

Purchased From	Date	Brand	Model	Type	Packag e	Cost	Cost/ Lamp	Lumens	Watts	Mean Life / Hours	Notes: Descriptors of product on package
Clear & Frost:											
Wal*Mart	3/20/2006	GE	crystal clear 60	Clear	2	\$2.37	\$1.19	870	60	1000	creative accents in light
Walgreens	3/20/2006	GE	basic 60	Frost	4	\$2.59	\$0.65	865	60	1000	Utility bulbs for direct unfiltered light
Home Depot	3/20/2006	Philips	Inside Frost	Frost	4	\$0.69	\$0.17	890	60	1000	Inside Frost - Indoor Light Bulbs
Average price per Clear/Frosted lamp							\$0.67				
Soft White											
ACE Hardware	3/20/2006	GE	soft white 60	Soft White	4	\$2.99	\$0.75	840	60	1000	Regular soft light
Walgreens	3/20/2006	GE	Extra soft white 60, soft white 60,	Soft White	4	\$3.49	\$0.87	825	60	1000	Regular soft light
ACE Hardware	3/20/2006	GE	double life Soft White Value	Soft White	4	\$4.29	\$1.07	780	60	2000	Double Life Regular soft light
Walgreens	3/20/2006	Feit	12 Pack	Soft White	12	\$3.00	\$0.25	600	60	1000	
Home Depot	3/20/2006	Philips	Soft White	Soft White	4	\$1.44	\$0.36	860	60		Double Life Regular everyday light Easy Sto
Home Depot	3/20/2006	GE	Soft white 60	Soft White	10	\$2.50	\$0.25	780	60	2000	Pantry Pack
Wal*Mart	3/20/2006	GE	Soft white 60	Soft White	8	\$2.00	\$0.25	840	60	1000	regular everyday light
Wal*Mart	3/20/2006	Value		Soft White	4	\$0.77	\$0.19	840	60	1000	"To save energy, find the bulbs with the light output you need, then choose the one with
Costco	3/20/2006	Philips	Dura Max	Soft White	16	\$4.49	\$0.28	770	60	2000	Longer Life Soft White
Average price per Soft White lamp at hardware and drug stores							\$0.59				
Average price per Soft White lamp at big box discount store							\$0.27				
Enhanced Spectrum											
Wal*Mart	3/11/2006	GE	Reveal 60	Enhanced	4	\$2.34	\$0.59	630	60	1000	clean, beautiful light - Made in China
ACE Hardware	3/20/2006	GE	Reveal 60	Enhanced	4	\$4.99	\$1.25	630	60	1000	clean, beautiful light
Home Depot	3/20/2006	GE	Reveal 60	Enhanced	10	\$3.50	\$0.35	630	60	1000	clean beautiful light Easy Store Pantry Paci
Average price per Modified Spectrum lamp at big box discount store							\$0.47				Premium enhanced, vivid light