



LEDs - What we have to look forward to!

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PG&E

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PG&E's Program Development Challenges

- Variable Product Quality
- High Cost - Marginal Total Resource Cost (TRC)
- Setting Incentive Levels
- Rapid Technology Advancements
- Customer Education
 - HYPE and Expectations vs Reality and Practicality

Lessons Learned by PG&E's ET Team

- Low light output is quite common (vs. claim)
 - Claim – “*Lumens like*” or “*Equal to*” Is it or isn't it?
- Disappointing lifetimes
 - Early failures, not typical lumen depreciation
 - Excessive claims of longevity (“forever”)
- Poor or inconsistent color quality
 - “White” light with CCT over 7500k!
- High variability among samples of same product

PG&E's Specification Based Incentive Approach

- Track DOE ENERGY STAR Specifications
 - Require proof of submittal for ENERGY STAR qualification
- Where no Category “A” in ENERGY STAR, develop CA specification
 - Require LM-79 & LM-80 test results
 - Product Qualifying Database
 - Reference ENERGY STAR where overlap

PG&E's Specification Based Incentive Approach

- Benefits
 - Support DOE ENERGY STAR and industry-standard test methods
 - Maintain high quality
 - Support for SSL Quality Advocates
 - Send signal to the market that quality matters
- Results
 - Higher customer satisfaction
 - Persistent, reliable energy savings

PG&E's Lessons Learned

- Strategies and processes will need to be put in place to ensure that product qualifying specifications and product database keep up with technology advances
- To ensure product quality, there is a need for a quality assurance process, such as:
 - The existing “Program for the Evaluation and Analysis of Residential Lighting” (PEARL) program for CFLs
 - A joint NGLIA/DOE Product Quality Assurance (PQA) team, which has identified critical parameters for luminaires and is developing a *SSL Quality Advocates* program

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Thank you

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