California Energy Commission
Attn: Docket 15-BSTD-01
Dockets Office
1516 Ninth Street, MS-4
Sacramento, CA 95814
Docket@energy.ca.gov

California Energy Commission
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Re: 2016 Building Standards Update; 15-BSTD-01 Rulemaking Comments of the Rural Hard to Reach Local Government Partnerships' Working Group on Lighting Alterations Language

Members of the Rural Hard to Reach Local Government Partnerships' Working Group (RHTR) have been deeply involved with the development of the 2016 Code's lighting aspects and we appreciate the opportunity to comment in this proceeding. Title 24 2013's requirements for lighting retrofits are overly burdensome, and customers have responded to the new rules by simply not retrofitting old equipment. Instead they are maintaining existing inefficient equipment, stranding an enormous quantity of energy savings throughout California. For the past year a diverse group of interested parties have worked with CEC to craft new language that would eliminate the unintended negative consequences of 2013 Title 24 while also saving more energy than current regulations. As a collaborative of agencies, representing seven utility Local Government Partnerships with Pacific Gas & Electric Company, Southern California Edison and Southern California Gas Company, we strive to deliver the greatest possible benefit to the utility ratepayers we serve with our energy efficiency programs. As such, we strongly support adoption of the proposed 15-Day Lighting Alterations language.

Title 24 2013 rolled out the most sweeping changes in the Code's history, including a major increase in the stringency for lighting projects. With great optimism and the best of intentions, the 2013 Code mandated multilevel lighting and complex daylighting controls for both new construction and for most retrofits to existing, functional lighting systems. Unfortunately, what is comparatively straightforward and affordable for new construction projects is the exact opposite in the existing built environment. Are the anticipated savings for these complex multilevel controls actually being achieved in the retrofit market? Regretfully, all docketed data unequivocally show that these savings are not being realized.

Opponents of the proposed 15-Day Language contend that the 2013 Code is a rousing success and that everything is perfectly fine in the lighting retrofit industry. They disparage stakeholders who favor the proposed changes as "shallow retrofitters" who have no interest in installing comprehensive lighting upgrades. These claims are false, and are primarily coming from sources who don't actually perform the retrofits in question. Further, not one of the opponents have docketed a single piece of market-based evidence to substantiate their allegations.

In contrast, numerous stakeholders favoring the proposed changes have delivered extensive data to CEC detailing the unintended but severe consequences that the 2013 Code has inflicted on the lighting retrofit marketplace. These real-world impacts are not "anecdotal" as opponents have alleged; they are substantive, credible and factual (summary of impacts attached). These data show that after the 2013

Code took effect last July, significant negative repercussions immediately began to affect the lighting retrofit community. We believe the Commission should be greatly concerned by the many lighting contractors and C-10 electricians who since last July have had to lay off 25% to 80% of their staffs due to plummeting revenues. Also concerning are the wholesale distributors who have seen their LED fixture replacement sales plunge by 90%, and the implementers and ESCOs who are forced to meet program goals by turning to lamp-only jobs because Code-triggering jobs are not selling. If the 2013 Code is really working and these complex controls are truly cost effective, then why do Small and Medium Business customers continue to overwhelmingly reject such projects?

California's recently enacted Senate Bill 350 doubled our statewide energy efficiency goals. Unfortunately, the current Code has created a situation in which less energy savings is being achieved rather than more. Because current Code requires complex and expensive lighting controls that customers in this market don't want and simply cannot afford, they are choosing to maintain their existing systems rather than purchase new equipment. When Code requirements are overly aggressive, customers will continue to use older inefficient equipment rather than upgrade. Docketed evidence shows that thousands of lighting retrofit projects that would install reliable, long-term wattage reductions of 60-70% in ceilings across California are being rejected by customers because the added costs for complex controls and compliance puts the payback far beyond acceptable levels. The result is California is failing to capture much-needed energy and GHG savings.

The proposed 15-Day Language embodies a hard-won compromise that balances the concerns of the various parties and has the broad (if grudging) support of the stakeholders who actually engage in the business of lighting upgrades in existing buildings and whose livelihoods depend on delivering real – not imaginary – energy savings. Many of these companies and organizations in support of the changes are listed below.

Extensive analysis by CEC engineering staff confirms that the proposed changes will save 112 GWh more energy than the flawed 2013 Code. Furthermore, the proposed language will be easily enforceable using the same practices already widely used by contractors and program implementers, who routinely supply robust documentation of pre-post fixture wattages to utilities for rebate purposes. Given all these facts and what is at stake, the RHTR strongly urges the Commissioners to break the logjam that has stalled the retrofit market by approving the proposed 15-Day Language on November 12. Let's get back to work delivering the savings that are essential to California's energy future.

Sincerely,

Courtney Kalashian
Co-chair, Rural Hard to Reach Local Government Partnerships' Working Group
San Joaquin Valley Clean Energy Organization
Executive Director
ckalashian@pesc.com

Elisabeth Russell
Association of Monterey Bay Area Governments

Special Projects Manager
erussell@ambag.org

Craig Schlatter
Community Development Commission of Mendocino County
Development and Sustainability Manager
schlattc@cdchousing.org

Rick Phelps
High Sierra Energy Foundation
Executive Director
phelps@highsierraenergy.org

Matthew Marshall
Redwood Coast Energy Authority
Executive Director
mmarshall@redwoodenergy.org

Trevor Keith
County of San Luis Obispo, Planning and Building
Deputy Director, Policies and Programs
tkeith@co.slo.ca.us

Greg Jones
Sierra Business Council
Vice President of Operations
gjones@sierrabusiness.org

(List of supporting organizations and companies follows)

The following is a partial list of organizations and companies who have voiced their support for the proposed 2016 Title 24 15-Day Language governing Lighting Alterations and Modifications:

Business & Trade Associations
Silicon Valley Leadership Group
California Business Property Association
National Lighting Contractors Association of America

Municipal Utility Organizations
California Municipal Utilities Association
Southern California Public Power Authority

Universities
Stanford University

Government Associations & Partnerships
City/County Association of Governments of San Mateo County (C/CAG)
San Francisco Department of the Environment
Association of Monterey Bay Area Governments
East Bay Energy Watch
Redwood Coast Energy Authority
Rural Hard to Reach Local Government Partnerships' Working Group

Utility Program Implementers
Community Energy Services Corporation
Ecology Action
Richard Heath & Associates
Staples Energy
The Energy Alliance Association

Lighting Design, Service & Maintenance Firms
T. Marshall Electrical
Vista Universal, Inc.
Lighting Wizards
ABM Electrical & Lighting Solutions
New Light Energy Design

Licensed Electrical & General Contractors
Controlled Energy
Enlight Energy Efficient Lighting, Inc.
American Lighting
Dana Electric
GFI Electrical and General Contractors
H & S Electric, Inc.
PowerDown Lighting Systems, Inc.
Lighting Right, LLC
Lumenature
Advanced Energy Services, Inc.
Alamo Lighting & Electric
Friel Energy Solutions, Inc.
Building Value Energy Solutions
California Retrofit, Inc.

LED Lighting Manufacturers
Cree, Inc.
Revolution Lighting Technologies, Inc.
Illuminer

Lighting Recyclers
AERC Recycling Solutions
Quick Light Recycling

Information Technology Companies
Oracle Corporation
LightPro Software LLC

Wholesale Lighting Suppliers & Distributors
Royal Wholesale Electric
Regency Lighting
ABI Services, Inc.
Lighting Efficiency & Design
Lighting Systems, LLC
Frontier Illumination LLC

Energy Service Companies
QuEST, Inc.
Lime Energy
Energy Innovation Group
Fluoresco Services
Ameresco, Inc.
EnerPath Services, Inc.
EcoCosm, Inc.
LiteArc Lighting
Opterra Energy Services
FESS Energy, Inc.
Avail Services
Financial Energy Management, Inc.

IMPACT SUMMARY - Stakeholder Numeric Data on Title 24 2013 Impacts			
Organization	**Org. Type**	**Commenter**	**Specific Impacts and Comments**
Los Angeles Department of Water & Power	Municipal Utility	David Jacot, PE	The 2013 code has had severe impacts on our lighting portfolio, especially our Small Business Direct Install program. Negative code-related SBDI impacts include: • Average number of fixture modifications per site decreased by 48%. • 1,139 projects and over 50,000 fixtures were stranded, representing a loss of 10,752,254 kWh in achievable program savings (23% of the total). Going forward, LADWP plans to meet program goals by focusing on jobs that do not trigger Code and by installing tubular LEDs into existing linear fluorescent fixtures.
San Francisco Department of Environment	Government Partnership	Deborah O. Raphael	In our experience the 2013 standards have been counter-productive for retrofit projects and have substantially reduced the real savings achieved by our program. We have seen energy efficiency retrofits to existing buildings drastically curtailed. • Before the 2013 code, bi-level jobs represented 10% of our projects and 23% of program savings. After the code took effect, no bi-level jobs have been sold. • T8 monthly project count is down 53% and T8 achieved kWh savings down by 70%. • Monthly LED project count down 35%, LED fixture achieved savings down 47%. • Overall, total program kWh down 29% and total project count down 14%.
East Bay Energy Watch	Government Partnership	Ali Jones-Bey	After Title 24 was enacted, our BEST program project completion rate for number of projects installed dropped 50%. Our average reported kWh savings dropped 40%, and average kWh committed dropped 36%. Average incentive dollars committed and paid out per project dropped 29%. Pre-T24 payback was at a 2.61 year average, but in 2015 so far the average has been 4.27 years.
Redwood Coast Energy Authority	Government Partnership	Lou Jacobson	Sampled project cost increased by 82%, net cost after incentive doubled; simple payback up by 77% since 2013 code began.
Stanford University	Public University	Gerry Hamilton, PE	Our group re-ballasting program, which has been the university's primary mechanism for widespread adoption of more energy

			efficient lighting, did not proceed with projects last year that would have saved roughly 400,000 kWh annually due to the added cost to comply with the current "Alterations and Modifications" section of the 2013 code and uncertainty about its future.
Avail Services	Energy Services Company	Anthony Orsini	• With the implementation of the 2013 Title 24 Codes we have seen a 63% drop in sales for lighting retrofit projects. • In 2015 we had to lay off 25% of our lighting technicians due to decreased sales, longer than normal sales cycle and increased costs associated with Title 24 lighting retrofit projects. • The majority of customers are opting out of lighting retrofit programs or want a less expensive lamp-only replacement, significantly reducing energy savings. • Before the Title 24 Code changes we had great success with hard to reach small and medium sized customers. After the 2013 Code went into effect this market has become increasingly harder to reach. • Additional product needed to meet the control requirements and lighting code standards, the increased labor, detailed surveys, jurisdictional permitting costs and paperwork required for Title 24 has made retrofit lighting projects cost prohibitive for the average customer and contractor.
Royal Wholesale Electric	Lighting Supplier/ Distributor	Robyn Viviano	As a lighting distributor, I am ready, willing and able to supply the market and make the programs a success, but Title 24 just needs to get out of the way. In my experience, the 2013 standards have nearly eliminated our fixture upgrade-to-LED business. Our business has changed dramatically: • All but a few very small jobs have been shelved. • LED Fixture replacement is down 90%. • Upgrades to T5 highbays has gone to zero. • 89% of our retrofit business is now screw-in lamp replacement, with most of that in HID replacement.

ABI Services	Lighting Supplier/ Distributor	Mark Spahn	Our revenue dropped by 58% in Q3 2014 after Code went into effect. Q2 profit $138K, Q3 loss ($64K). Laborers needed in Q2 was 8-9 FTE, in Q3 down to <1.5 FTE. Costs for Code-compliant projects nearly 2X previous costs. Have only sold 2 Code-compliant jobs since last July. Closed down our full services warehouse on 1/1/15 and split up the company in order to take on more profitable work that does not involve lighting retrofits.
Quick Light Recycling	Lighting Recycling Company	Pamela Woodard	Our business is off by 25% since the 2013 Code took effect due to impacts on lighting retrofitters. Some of them who typically had truck-load shipments now have only an occasional small pick-up over a longer time frame. Our customers in the energy efficiency industry are pretty much dormant and that passes on to us.
Community Energy Services Corporation	Program Implementer	Martin Bond	Impacts on the Smartlights Program since the 2013 Standards have been in effect: Interior linear fluorescent retrofits have decreased. As a percentage of our total lighting savings, interior linear fluorescent kWh savings invoiced dropped by 42% (from 19% to 11%}. Exterior retrofits have decreased. As a percentage of our total lighting savings, exterior lighting kWh savings dropped by 38% (from 45% to 28%}. Exterior lighting projects are not being pursued due to the low threshold for triggering code in exterior applications. Lamp-only jobs are displacing more comprehensive retrofits. Lamp-only jobs (screw-in and pin-based replacements) as a percentage of total lighting savings jumped from 20% to 38%, an increase of 90%.

Ecology Action	Program Implementer	Gene Thomas	We reviewed our data on lighting measures across all Ecology Action programs in the 1st half of 2014 vs. the 2nd half after the 2013 Code took effect. Some of the major changes we have experienced as a direct result of the 2013 Code include: • **Costs have doubled for Code-triggering projects.** The costs for establishing multilevel lighting and related controls are resulting in projects that are averaging ~2X their previous cost. • **Code-triggering jobs are not selling.** In the first half of 2014, 53% of our lighting savings came from projects that would have triggered Code under the 2013 rules; after the Code took effect in July, less than 2% of our savings came from Code-triggering projects. We have supplied CEC with actual cost data documenting this. • **Linear fluorescent retrofits have decreased dramatically.** As a percentage of our total lighting savings, LF kWh savings dropped by 46% (from 41% to 22%). Much of the 2013 Code's purported controls savings would supposedly have come from retrofitted ceiling fixtures. • **Lamp-only jobs are displacing more comprehensive retrofits.** Lamp-only jobs (screw-in and pin-based replacements) as a percentage of total lighting savings jumped from 38% to 55%, an increase of 43%. • **Per-project savings is significantly lower.** Average lighting kWh savings per customer dropped by 33%.
Controlled Energy	Lighting Contractor	Don Link	Since the 2013 Code's inception we have laid off 80% of our lighting staff and our sales is down by 80%. Our suppliers are affected too: we are only purchasing a few boxes of lamps and ballasts for the small Code-exempt jobs we are doing vs. the monthly pallet-loads we were purchasing previously, and the recycling companies we use for removed lamps and ballasts are now seeing very little business from us.
American Lighting	Lighting Contractor	Neil Miller	Since July 2014 work has dropped by 50%; field staff has been cut by 40% with more layoffs anticipated; zero out of 100+ Code-

			compliant proposals have been accepted by customers.
Dana Electric	Lighting Contractor	Troy McPeek	I laid off my entire crew due to the 2013 Code.
ABM Electrical & Lighting Solutions	Lighting Contractor	Joe Zentgraf	We have not completed a single Title 24 compliant job since July 2014.
Lumenature	Lighting Contractor	Mark Pursell	• Our normal work crew is half or less than what we had prior to Title 24 2013. • A much higher percentage of our installs are lamp-only. • We have installed only one Title 24 triggering job since July 2014. • Our monthly number of jobs has dropped by 35% and gross volume by 37% in the 10 months following July 1, 2014 as compared to the 12 prior months.
Advanced Energy Services, Inc.	Lighting Contractor	Troy Stokes	Current Title-24 2013 code has had a devastating effect on my lighting retrofit business. We went from 12 full time installers down to 2 part time installers seven months ago as a direct result of the 2013 code. We don't see that changing anytime in the near future unless the current advanced lighting controls requirements are reversed. Of our active projects, they are significantly smaller in size and less comprehensive than what we were doing prior to 2013 code. Our revenue is down 60% from 1st and 2nd Quarters 2014.
Enlight	Lighting Contractor	Matt Tracy	• Our install staff dropped by 41% in 2014 due to uncertainty about Title 24 implementation, and we haven't been able to rehire laid-off employees. • Interior retrofits are almost non-existent due to increased costs for code-compliant projects. • We are spending more money up front to design Title 24 compliant projects that subsequently don't sell because of the increased payback.