Report and Commentary on the IES San Francisco Section Event June 11, 2019

IES San Francisco Section

Contents

Session Description

California often leads the nation in implementing codes and standards for energy efficiency and environmental benefits. We have a history of regulatory successes that have reduced pollution, improved products, and saved huge amounts of energy and water. Title 24 has had a significant impact on reducing energy use for lighting (we have pretty much achieved practical limits for energy efficiency in lighting) and for effecting the market adoption of LEDs.

But the regulatory process is not perfect – mistakes are made, and codes and standards are living documents meant to be constantly updated and improved. In order to achieve compliance and meet the goals of reducing energy use, improving product quality, and creating a better, healthier built environment, the regulatory process requires active and evenly distributed participation from a wide range of stakeholders – manufacturers, industry associations, designers and specifiers, and building owners and operators. As we're caught up in the day-to-day business of building, we forget that we share ownership of the government process that makes regulations and codes and that we can take an active part in it. This is crucial as codes impact everyone's business.

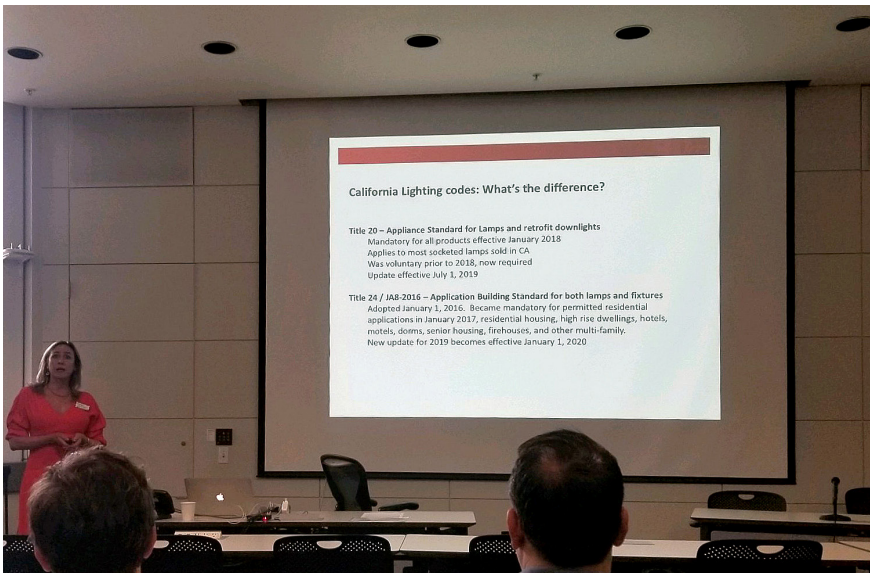
This presentation and panel discussion presented a brief update on the current state of California's Title 24 and planned efforts to improve the code; explained the regulatory process and timelines; demonstrated how codes and standards impact lighting industry stakeholders directly and indirectly; and showed you how different stakeholders can get more involved in shaping and improving California's energy codes.

Agenda

5:30- 6:00	Networking
6:00- 6:05	Introductions, safety announcements, IESSF update
6:05- 7:15	Brief presentations: Clifton Stanley Lemon- introduction
	Jim Benya: History & Process
	John Martin: Current joint efforts with IES/CEA/IALD perspective as an NGO
	Susan Larson: T20, T24/JA8 Explainer
	Kelly Cunningham: Utility role; planned changes in 2022 cycle; info & resources
	David Patton: Perspective as a practitioner; Simon Lee: brief perspective from CEC
7:15- 8:15	Moderated panel discussion: Prepared Topics Audience Questions & Topics

Panel Discussion Topics

1. How can we use IT to improve the regulatory process?
2. What does streamlining code actually look like? How does it happen?
3. What's the prognosis for outcome based codes?
4. What happens when enforcement becomes untenable?
5. What are the behavioral drivers for stakeholders to get more involved?
6. What happens when there's no more efficiency left to capture in lighting? Is that even possible?
7. Do we really understand the relationship between quality and efficiency?



Susan Larson presenting

Speakers Bios

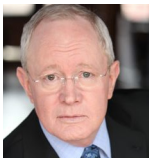
Clifton Stanley Lemon, CEO, Clifton Lemon Associates, President IES San Francisco Section (Outgoing)
Clifton is the founder of Clifton Lemon Associates, which provides education, strategy, product development, marketing, and customer experience consulting services to lighting manufacturers and design organizations. He was formerly Marketing Communications Manager for Soraa and Director of Business Development at Integral Group. He is on the advisory Boards of Strategies in Light and LightShow West.

James Benya, PE, FIES, FIALD, Principal, Benya Burnett Consultancy
James is an illuminating engineer and lighting designer recognized worldwide as a consummate professional whose CV includes all facets of the lighting industry. As the recipient of over 251 lighting design awards including five Edison Awards for Environmental Design, he is regarded as North America's premier designer for environmental responsible lighting design, daylighting design, and energy efficient street lighting sensitive to the biological needs of all living beings.

Susan Larson, CEO, 90 Plus Lighting
90 Plus Lighting is a division of SaveEnergy, the largest lamp OEM in Brazil, and only carries products that are approved to meet the CEC's rigorous Title 20 and JA8-2016/Title 24 standards for quality and efficacy. All 90 Plus products are 90+ CRI, R9>50 and flicker <30%. The products also meet Energy Star or DLC. Susan held various VP positions at Soraa and was instrumental in the company launch in 2012.

Kelly Cunningham, Senior Customer Care Program Manager, Codes and Standards, PG&E
Kelly's role includes leading the development of proposals to enhance California's Building Energy Efficiency Standards (Title 24) on a triennial update cycle. Ms. Cunningham is also the PG&E lead for supporting jurisdictions that express interest in adopting a local energy Reach Code as well as supports increasing compliance with the current standards as part of Energy Code Ace.

David Wilds Patton. Owner & Principal, David Wilds Patton Lighting Design
David has been an independent lighting designer based in the Bay Area for the past thirty years. His work is primarily focused on residential design. Along with a small group of other practitioners, he has been actively attending California Energy Commission meetings and participating in comments on Title 24 and lighting codes since 2005.



John Martin, Co Chair, California Energy Alliance
John directed public policy efforts for the International Association of Lighting Designers (IALD) from 2008 until 2018, working with IALD's members to increase the visibility and impact of the lighting design profession, and to influence codes, standards, and government actions that might affect lighting design. His background includes service as a staff member in the U.S. House of Representatives, as a lobbyist for education, as an electrical contractor, and as a corporate training director. Dr. Martin holds a BA degree from the University of California at Santa Cruz, and masters and doctoral degrees from the Harvard Graduate School of Education, Harvard University.

Simon Lee, Electrical Engineer, Lighting Staff, Building Standards Office, California Energy Commission
Mr. Lee has worked on the code development and updates of lighting sections of the 2016 and the 2019 Standards (aka Title 24 Part 6, or the Energy Code). His interests include applications of lighting technologies, daylighting in buildings, and use of software tools for modeling. Simon is a licensed engineer in California.

IALD Statement

IALD's Director of Public Policy, Dawn Latham, and Senior Public Policy Coordinator, Emily Bowers, are steadily advocating for California-based policies that better reflect the needs of the association's members. Our strategic goal is to modify Title 24 in a way that best meets our members' needs, and at the same time, elevate the profile of the lighting design profession. To that end, JA8 is of specific concern to IALD; and by working with the California Energy Alliance (CEA), as well as the Governmental Affairs and Public Policy team at the Illuminating Engineering Society (IES), we hope to make the necessary modifications that address our interests in California. IALD welcomes any chance to collaboratively work with CEA, IES, and other external groups to help address the challenges that the lighting community is facing with the current policies.

IALD Contact Information:
Director of Public Policy: Dawn Latham, **dawn@iald.org**
Senior Coordinator of Public Policy, Emily Bowers, **emily@iald.org**

Introduction

On June 11, IES San Francisco Section held an important meeting of the minds on energy codes and regulations as they affect the lighting industry. My goals in organizing the event were: first, to convene a group of speakers who represented the diversity of code stakeholders – manufacturers, utilities, specifiers, consultants, NGOs, and government; second to explain to our local lighting community how they can impact the code rather than simply reacting to it and to inspire them to do that; third, to elicit feedback and dialog; and finally, to capture the ideas from this session and share them with the world, which is what this blog and the accompanying report are about.

This was the final regular season IES event of my last term as Section President, and I was quite pleased that we met all of these goals and then some. Several new surprising ideas came up in the session, the most important of which was a suggestion that IES San Francisco Section take the lead in coordinating communication efforts between the California Energy Commission (CEC) and its members. In most group educational situations – seminars, classes, speeches, or lectures – we may have warm feelings of revelation and enlightenment during the event, especially if the speaker and material is compelling, but we quickly forget most of what we learned or heard. As educators, my colleagues and I are always trying to overcome this behavioral inertia and inspire action after learning. I can say that more than almost any event I've produced, this one felt like a great beginning, I truly believe some very important initiatives will spring from it. For me this is particularly encouraging because the problems we face are entrenched and complex.

The main point I demonstrated with this meeting was that we, the people, own the government and the process that makes the regulations that protect us and make business, science, technology, and quality of life possible. It may not feel like we have control or power most of the time, but getting involved in commenting on and helping to shape codes is rather like voting. And if you're not concerned enough about what might well be the gradual and increasingly alarming erosion of representative democracy to get out and vote in every election, then you have to bear responsibility for the state of things.

Actively commenting on code is, of course not as straightforward as voting, but regulatory bodies are actually somewhat desperate for representative feedback from stakeholders. This is a problem we can solve. No particular outcome, good or bad, is inevitable, but if we don't organize to improve codes, we'll have to settle for complaining about it and adapt as best we can. Not all of us will necessarily adapt very well of course.

The format of the event was meant to stimulate constructive discussions and audience comment, after a thorough briefing on the state of California's Title 20, JA8, and Title 24 from a very distinguished panel of speakers.

Our session we generated a lot of material, dialog and ideas, and I captured as much as I could. Here I sum up what I thought were the most important observations.

1. Current California lighting codes are too confusing, for practitioners and manufacturers alike. Many, perhaps most, don't quite understand the relationship between Title 24, JA8, and Title 24. Although confusion is well known, hearing directly from stakeholders was quite instructive.

2. The IES, specifically including the San Fran-

cisco Section and other Sections in California, should take a leadership role in communicating between its members and the CEC.

3. All efforts are needed – even better if they're coordinated. Current efforts by CEA and PG&E to help this along are important and well received. We all want the same things fundamentally: we all want codes that work; the CEC needs more and better feedback and to improve compliance; and utilities need to maintain efficiency as a major part of their energy portfolios.

4. There is confusion and lack of awareness not only with the codes themselves but a lack of understanding about how they get made, who makes them, and who gets to decide what's in the pipeline for new or changed regulations.

5. Merely the fact of meeting in person, presenting multiple viewpoints, and hearing different perspectives and experiences generated new ideas for future improvements.

Judging by the excellent turnout and level of participation we had, I trust that our Bay Area lighting community is dedicated and geeky enough to get into the weeds on this stuff and get busy working for change. I would hope that you all will refer to this post more than once for future ideas and action.

This report represents my takeaways from our session. I captured audience comments, speaker points, and added many of my own ideas and commentary.

Again I thank all our speakers and attendees for their commitment, participation, and providing us with ideas and resources. And I especially thank Angela McDonald and Linda Sanford of PG&E's Pacific Energy Center for partnering with IESSF for so many years and for allowing us to hold the event in their facility.

- Clifton Stanley Lemon. MIES
IES SF Section President 2017-2019

Problems & Attitudes

1. Confusion with T24/T20 & JA8
We all knew about this problem long before I convened the meeting, but hearing about it directly from many different audience members was revealing. It doesn't help that Title 20 is part of the appliance code, Title 24 is part of the energy code, and JA8 is, literally Joint Appendix 8 of Title 24, a special flavor of code regulating lamps and luminaires for residential use only. So the confusion here is on many levels, including: 1) not even knowing that there is a code governing products as appliances rather than components of building systems, 2) not understanding the difference between the two code systems and how they interact (as in: if it meets Title 20 does it automatically meet Title 24 or JA8?), 3) not understanding the specific requirements of each part of the code, and 4) not understanding the process for compliance or the costs involved in making products or buildings compliant.

2. Stockpiling T20 Product
Ms. Larson pointed out an issue with enforcement of Title 20 approved products. After the last revision of Title 20 in 2017, which imposed new more stringent efficacy standards on LED replacement lamps that manufactured on or after January 1, 2018, manufacturers complained that the T20 requirements would be a burden, stockpiled pre-2018 inventory, and shipped large volumes to retailers to take maximum advantage of selling product that was not yet constrained by the new regulations. There is still a notable lack of enforcement of the new Title 20 regulations, non-compliant product is still being shipped, and there is confusion in the marketplace about what is compliant. A better approach to this issue would be to close this loophole and constrain manufacturers from shipping non-compliant product on the date the regulation goes into effect, and to require clear labeling on product that indicates that it is compliant. As in the past in many product categories, manufacturers' knee-jerk response to perceived threats to profits is always that they represent an unreasonable burden. The process of making codes more effective requires careful coalition building with many stakeholder groups so that benefits can accrue to all– this is entirely possible, it just requires a different approach and level of organization than we are currently used to.

3. Codes are Hard Work
Rulemaking is process oriented work and fundamentally different in quality from the kind of work that we as specifiers and builders mostly do, which is project based. Projects have something a linear timeline – there's a beginning, a middle and an end, and at the end there is a very tangible result, something big you can walk around inside – and process work never ends and shows incremental results that are often difficult to see or understand until long after the actual work is done. Something that's common to both is that results are usually difficult to change once they're achieved.

Remodels and retrofits to existing buildings are usually more complicated and less interesting to design professionals than new projects, although they're crucial to the health and efficiency of the built environment. Laws, codes, and regulations don't capture the creative imagination of very many people, except those who understand their importance. It's important for design professionals to have a better understanding of how this process works- the best designers understand that the proactive of design thrives with a clear understanding of limits.

4. Value of Face-to-Face Meetings
David Patton related his long history of interacting with the California Energy Commission (CEC), in the early days of which he became used to in person meetings, and gradually came to feel left out of them as the process of soliciting stakeholder feedback changed.

Being left out of face-to-face meetings is a pervasive unfortunate fact of business today. Phone calls are now becoming rare and in-person meetings rarer. Of course we've all had the experience of wasting massive amounts of time in useless meetings and no one wants to (or, can afford to) prolong this inefficient practice. But it often seems that everyone wants to only do business over email and text, despite the fact that we're all aware of the massive potential for miscommunication in these media. "Quantitative" market research that relies only on automated Survey Monkey results tends to prove conclusions already reached rather than provide the crucial between-the-lines insights that are game changers for issues like energy policy. The reason these simplified semi-automated "research" surveys done is that they're cheap and easy and provide "quantitative" and numerical results that look convincing. But they're liable to entirely miss the most important questions and insights.

5. Contractors Approach- How Can We Get Around This?
A few audience members commented on the attitude among contractors, specifiers, and installers of seeking to circumvent regulations that don't make sense (which happens to be more and more of them). This has been a prevalent, possibly the default, attitude with contractors for some time. We all remember when the typical electrical contractor on a residential installation would install CFLs in the kitchen when the inspector came by, then switch them out after the installation was signed off. Now this is happening with LEDs too.

6. Untenable Enforcement
For me one of the most worrisome aspects of the current code situation in California that arose as part of this session is evidence of widespread lack of enforcement of energy codes, in lighting at least. Authorities Having Jurisdiction seem to be fatigued with the prospect of chasing small potatoes in lighting efficiency; many are confused about what to enforce in the first place; and there is evidence of deliberate non-compliance with manufacturers and contractors because the intended deterrent threat of enforcement is weak in practice.

What's Needed

1. More and Different Voices
Ms Cunningham devotes much of her considerable skills, energy, and intelligence as well as PG&E's resources to both gathering feedback from stakeholders and sharing information about codes to them. Mr Lee and all the speakers agreed that the volume, quality, and depth of stakeholder feedback needs to improve in order for the code process to continue to function and to evolve in pace with technology and the economy.

2. Make It Easier to Understand What's Different
We are very fortunate to have a few consummate experts on hand in our regional community– for example, Charles Knufke, who was at the session – to periodically explain what's changing in upcoming code cycles to small dedicated industry groups like ours. Several audience members

3. More Accessible Qualified Product Lists (QPLs)
Some specifiers commented that finding a comprehensive list of Title 20 and JA8 compliant products is difficult. In my recent searches for specific products on the CEC T20 Products **QPL** I found the tool difficult to use: sorting hung up my computer and search wasn't intuitive. IMO the CEC can take notes from the Design Lights Consortium (DLC), as its **QPL**: is pretty good, and has undergone several recent revisions to make it better. Can DLC cross reference all California code approved products? That might be good for end users.

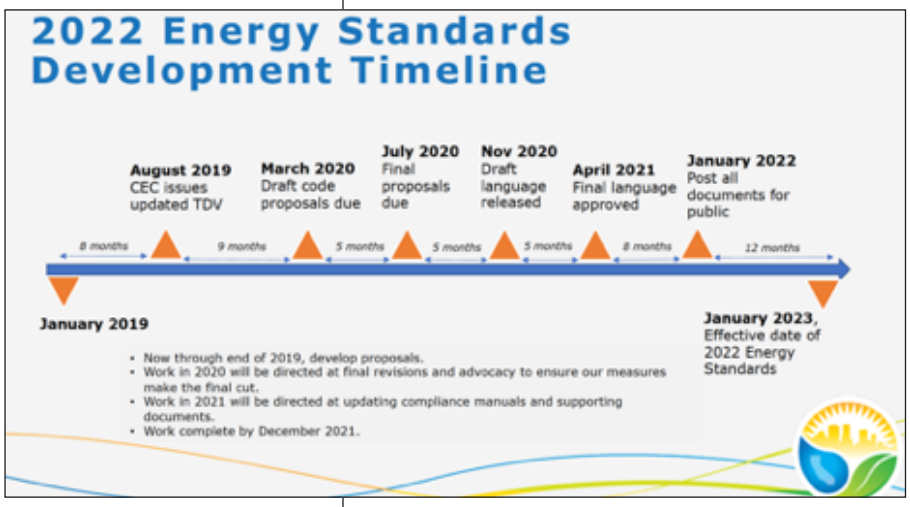
4. Make it Easier for Manufacturers to Understand Code & Get Products Listed
I'm not sure whether this has always been an issue or whether the most recent Title 20 changes have been particularly difficult for manufacturers, but both my experience with specific manufacturers and the experience related by an audience member indicate that many manufacturers are not aware of requirements and their implications, or are having trouble getting their products listed. Certainly there is a real and perceived cost and significant impact on SKU management when variations of basic products need separate certifications, depending on how certification is administered, but we have successful models on how to manage this particular problem. Better communication on the part of the CEC and other stakeholder groups is clearly called for here.

5. Inclusive, Efficient, Practical Online Forums
The lag between technology and government is well understood, it's just that, especially in California we're not taking advantage of innovative ways to deal with it. The CEC website indicates that online forums exist, but it's difficult to find out how to participate and what's required for participation.

Questions

1. Are California Codes Overreaching?
California is a world leader in regulatory initiatives, and is also capable of mistakes and overreaching in regulation: there are many examples of this. One issue we care about in lighting for instance is emphasizing efficiency at the cost of quality. The early adoption of very high CCT streetlights is the prime example of this, and had disastrous results

2. Will Code Favor Fixtures Over Lamps, or Vice Versa?
This question is particularly fascinating to me. A bigger question behind this might be whether regulation is driving design and innovation or the other way around. Outcome based codes are one way to avoid



2022 timeline from John Martin's presentation

favoring any particular technology or market, so when we revise code it's important to envision potential unintended impacts like this. I'm fascinated by the history of planned obsolescence, as it's central to the structure, and even the survival of industrial capitalist economies. Almost a century ago, governments and manufacturers actively colluded to limit the lifetimes of lightbulbs in order to ensure constant demand. We're kind of hardwired to think of luminaires as having replacement parts, previously called bulbs, now called modules. But several things bring this economic model into question: long lifetimes of LEDs, which ostensibly kill the replacement market; lackluster support for and performance of "integrated" LED modules (consumers will not accept having to replace entire fixtures rather than just "bulbs"); and the cognitive dissonance of promoting easy interchangeability for endless future "upgrades" that most users don't understand and therefore don't want. My understanding of current levels of LED installation is that they're still rather low- the last data I could find from DOE was late 2016 at 12%. Global sales of LEDs represent 40% or thereabouts, but what's clear is that many incandescents and fluorescents are remaining in sockets and will for some time. It seems to me that the greater part of what the DOE characterizes as "market transformation" is in replacement lamps, which are easy to integrate into the existing electrical infrastructure. Have we now achieved the market transformation intended by DOE and adequate levels of adoption? This is not clear, and anyway who decides this, the DOE, or California?

3. When are Public Meetings or Comment Periods?
The timing for our session was important because we are now in the 2022 code cycle and can still impact the outcome of the upcoming changes. When I started researching resources for this meeting, I thought I could just go online and find dates and locations of CEC meetings or forums on proposed code change. But they're not too easy to find, at least for me pretending to be a first time user. Here's what I found:

Timeline for the upcoming 2022 code cycle on title24stakeholders.com

CEC info on 2022 Code Cycle

Questions, continued

4. How Can the Average Stakeholder Give Input?
One of the first things you can do is to sign up for email updates on these two websites:

title24stakeholders.com
CEC website

These will get you on the list to receive updates on upcoming workshops and other ways to give input. Also, IES and Title24Stakeholders.com are working on expanding notifications to stakeholders in the near future.

5. What Happens When We Run out of Efficiency in Lighting?
Essentially we don't really know yet. Energy codes, of course are crafted to maximize energy efficiency, and many proponents of efficiency are loath to give up any measure that relaxes efficiency requirements, even if it jeopardizes market transformation, which is a real risk. Organizations and professionals who understand efficiency in other building systems such as HVAC are have traditionally tend to show little understanding of quality in lighting and how it impacts adoption.

Lighting as a product category and building system has delivered dramatic efficiency gains since the introduction of LEDS, lighting power density in many installations seems to be as low as it's practical to get, yet we don't know what will replace the focus on efficiency in lighting.

6. What Metrics Do We need Beyond Efficiency Metrics?
This question came up in our discussion. It's not clear how it relates to codes, but I do address it also in Questions 7 and 8. The metrics that we see discussed the most beyond efficiency all relate to comfort, productivity, and health and wellbeing. All are problematic. With increasing automation in many fields of work, we have no real broadly understood useful definition of productivity on an economic level, so this significantly hampers our ability to measure lighting's quantitative effect on it. Thermal comfort can be computed and measured usefully by mechanical engineers designing buildings, partly as a result of work done by the Center for the Built Environment at U.C. Berkeley, but nothing comparable exists yet for visual comfort. Metrics on health in lighting typically focus on blue light hazard, since this is easy to isolate and measure. Yet the CIE (Commission Internationale de l'Eclairage, or International Commission on Illumination) issued a statement in April of this year that there is no significant risk in the occasional exposure to blue light levels typically experienced in general lighting. Other discourse around the health benefits of tunable or dynamic CCT lighting does not show much hard evidence of dramatic effects. None of these metrics are at a level where they're ready for inclusion into regulatory efforts.

7. How Valuable is Data Harvesting in Lighting Systems?
It's natural that this question would arise in our session, given all the discussion of IoT in lighting systems, but again, it's hard to see how this relates to rulemaking and codes today. Most IoT that's been deployed in lighting systems so far is not particularly sophisticated and tends to be used for limited functions like occupancy sensing and asset tracking. In fact, much of it is not used for the lighting system itself, making it even more difficult to justify when specifying lighting systems. We don't know the values of most of this data, and most of it isn't being used for anything. In typical tech-centric fashion, many people assume that we should just install collection

Questions, continued

systems, collect data, and figure out what to do with the data later, after all that worked out well for Google, right? IMO the case for the value of data harvesting in lighting systems will be first made when integrating lighting controls into other building systems, something that is devilishly difficult but is slowly beginning to happen. See the next question for more on this.

8. How Can Codes Deal With the Increasingly Complexity of Controls and IoT?
This question brings us back to the cart-before-the-horse question of whether innovation drives codes or vice versa. Historically innovation drives codes- systems evolve and get built then need codes to be regulated and maintained. On one level, it's hard to imagine codes ever catching up to the speed of complexity and change in building controls, but whether we've got it figured out or not, expect people to be proposing code language and putting it through the system, for better or for worse. Ericka E. (Wagner) Schoen P.E of Acuity Brands sent me these comments in an email after the event:

The California Lighting Technology Center at UC Davis is working on the Niagara algorithm to optimize the controls sequence of operation between HVAC, Lighting, Shades, and automated fenestrations. What's great is that they are using Niagara – an industry open standard for Building Automation controls. The Oak Ridge National Laboratory has this study on energy savings for advanced sensors and controls and published these results about 5 years ago, per a recent webinar from NAESCO.

I think that we could insert language into the code that requires building automation systems to have the follow characteristics:

-Scheduling Integration – commonly managed schedule for all connected systems

-Integration of Smart Devices for system control and trending – Occupancy, PC, CO2, BLE

-Integration of Lighting occupancy sensor to different HVAC system types

-Integration of Shade control to Lighting controls 'Daylighting'

This would assure that buildings are equipped with Building Automation systems that have a capability of optimizing their energy use and provide benchmarks for where buildings need to be designed and operated too.

These are good comments. Integrated controls represent a great opportunity to improve building performance on many levels, and as I mentioned above, progress is being made in this area.

9. Who's Responsible for JA8 2016/T24 and Who Enforces It?
Ms Larson pointed out in her presentation that designers, contractors, distributors, and OEMs are responsible for designing buildings to meet T24, installing approved equipment, educating customers, and selling listed product. Authorities Having Jurisdiction, usually local building departments, are responsible for enforcing the code by granting or denying building occupancy permits based on compliance.

Explanations

1. Streamlining & Editing Code
One of the things that came across in response to my question about specifically how streamlining rulemaking happens is that it boils down to a few people carefully going over language and weighing the value of certain words and sentences within large volumes of the text that comprises the codes and regulations. The nature of how codes and laws develop is also problematic- they tend to be accumulative, that is they get more and more complex, inclusive, and cumbersome the longer they've been around, so that every possible situation is covered. Identifying and removing unnecessary laws and regulations is a difficult and necessary process. Ms Cunningham identified a few cases where this had been done in the past. My feeling is that energy codes present a vast opportunity to revamp regulations much more than in the past.

2. T20 Has No Set Cycle
While Title 24 follows a three year code cycle, I was surprised to learn that Title 20 does not follow regular code revision cycles.

3. Outcome Based Codes
Mr. Martin highlighted efforts by California Energy Alliance on, among other things, Outcome Based Codes (OBC). Most energy codes in the US, including California's, don't address all elements of building design, construction, and operation that affect energy use, and they don't address actual energy use of buildings, which is kind of mind-blowing given all the effort do make efficient buildings and reach net-zero energy building s over the last 20 years or so. Changing California energy code to be outcome based is a huge undertaking, and will not only depend on regulatory transformation, but on standardizing some of the technology around data and controls integration previously discussed. Changes in data privacy practices are also required so that energy use data can be shared and reported. New Buildings Institute and National Institute of Building Sciences published a pretty good paper on OBC.

Helpful Ideas

1. "Voting" Guides
I loved this suggestion, which was to provide information on proposed code changes in formats similar to voting guides, where choices are simplified and experts weigh in with analysis on the impacts of the proposed changes. This approach has pros and cons – just as with voting guides for elected offices, they can simplify a complicated and time consuming process of making many choices; on the other hand much power accrues to whoever is doing the interpreting and recommending of simplified choices, so a fair and balanced perspective is crucial. But if a good, diverse mix of expert advisers is there to help, this could increase participation in stakeholder input.

2. IES leadership Role in California
For me perhaps the best outcome of the session was to clarify the need for IES to take more of an active role in shaping California's energy code. The San Francisco Section has recently absorbed the Sacramento IES Section, meaning that many of our members now are physically in the seat of government in Sacramento. In recent conversations with Alex Baker, IESNA Manager of Government Affairs and Public Policy, he has indicated his commitment to making IES involvement a priority. The CEC, the IOU consortiums and all stakeholders need more communication, collaboration, and sharing of ideas, and IES is in a unique position to provide very valuable input from our active and engaged membership.

3. Better Access to Online Meetings and Improved User Experience
It's an obvious fact of life that most stakeholders across the board can't practically attend CEC meetings in person to participate in and comment upon proposed changes in energy codes. While online webex meetings are evidently available and held periodically, on the CEC website it's hard to find where and when they are, what the requirements are, and what the impact of participation is likely to be.

4. Consolidating Code for Appliances and Systems
One of the obvious places where California's energy code gets confusing is in the definition of what's an appliance and what's a system, This confusion will only increase as building systems and "appliances" get more complex, intelligent, and interconnected. For some reason, lightbulbs are considered appliances, where many types of HVAC equipment are not. Having to jump between two very different types of code sections for one product type is confusing. And what about new IoT products for the home that manage energy use among many other things? Are they appliances or systems? IMO we need to be getting ready for a major overhaul of

Summary

these basic definitions, for starters.
The inspiration for this meeting came from my realization that while we in IES have a very engaged membership when it comes to anything related to code, this engagement is largely reactive, meaning that all of our efforts to date have been focused on telling people in great detail what the state government currently makes you do or is going to make you do soon, rather than helping the government make better regulations in the first place. And many practitioners, even the very rare ones like David Wilds Patton who are deeply engaged, are at risk of losing touch with the process. It doesn't have to be this way, all we need is the will to organize and execute. I know we have this will in our regional design and manufacturing economy.

To be sure this is political organization, because the regulatory process is ultimately a political process. But fortunately it doesn't have to be politicized, in the sense of the demoralizing spectacle of corrosive pointless strife at the federal level we're so inured to today. In all my professional experience with energy issues, they rarely become or need to be reliant upon party politics. Energy and the quality of the built environment is everyone's business. Fortunately, participating in shaping better codes doesn't mean a daunting process of going door-to-door drumming up the vote. Furthermore, we aren't terribly constrained by the circus going on in Washington in determining our future at the state level, where most of what we do every day takes place. And we can be sure that if we get it right, as we have many times in the past, our leadership in regulatory affairs, as in many other areas, will have an impact far beyond our borders.

I hope I don't sound like the hammer to whom everything looks like a nail, but much of what needs to be done is a matter of better marketing, communications, and user experience design. Many world governments – the U.K. and Estonia to give two salient examples – have used technology to great advantage to remove the traditional ineffi-ciencies of government and to provide more equal access to vital processes and services.

Owning the Code

David Wilds Patton, LC, Associate IALD, IES

David Wilds Patton wrote this as part of his participation in our session, and I included it in this report because for me he's the ultimate poster boy for stakeholder involvement, and his story and experience are instructive. He is critical of the role of the Investor owned Utilities (IOUs) and while this viewpoint doesn't necessarily represent that of the IES, he asks important questions. And fundamentally, like me. he's just a guy who wants better lighting.

- Clifton Stanley Lemon

I started attending CEC meetings in Sacramento, in the leadup to the 2005 cycle of Residential Title 24, upon the urging of Past IESSF president Tom Tolen, who was intimately involved with the commercial side, along with other design participants like Rick Miller, Leslie Davis, and Jim Benya.

I was pretty much the only designer from the Residential side and became involved during a time before the advent of LED sources, when high efficacy was represented by pin-base skinny- tubes, like T8 and later T-5 fluorescent and by CFL compact fluorescent lamps. Since the requirements then, as they are today, were mandatory, what I was discovering in my daily practice was that most residential clients hated fluorescents and immediately would ask me how to circumvent the Standards.

Here was where I had a dilemma on my hands that also reinforced my desire to be active in the Standards-making process.

For me, lighting design has always been an art, as much as a science, or business only, and in that context, with the fluorescent sources at 70CRI, then 80CRI, and finally +90CRI, many of the products did not lend themselves to lighting the residential environment in a way that even approached the beautiful fuller spectrum and high CRI of halogen sources. This was especially true of products needed to light objects-d'art, or food, or clothing, and I found myself squeezed by mandates that told me to use products that would make my lighting design look bad. This was not just my assessment of the products, but also those of my clients. So, the rulemaking that deemed energy efficiency should trump quality lighting was making doing my job difficult; heading toward impossible and pissing my clients off in the process.

At that point, I figured that to be able to continue doing my job; I would need to at least try to have a voice in how fast this race to high efficacy was going, in its relationship to the quality of lighting.

Tom showed me a way to begin to have those conversations with the powers that be, and I started driving to Sacramento and attending the meetings that typically occurred during the pre-rulemaking and the 30-day and 15-day milestones. I did my best to insert my concerns and desires to have energy efficiency and good lighting quality be able to coexist. I knew some folks had an even stronger strain of the "lighting quality purist" in them than me, such as Howard Branston and others did at the time. However, in my heart-of-hearts, I also care about what we are doing to this planet by our careless disregard of the importance of its natural resources, and I have been appalled, at times, how thoughtlessly and selfishly used what is part of the whole earth. Therefore, I have also felt a responsibility to balance these concerns.

I found help in phrasing my opinions in Tom, Jim, Leslie, and Rick, and I kept my lane clear- I do residential lighting design, so I have focused on the residential Standards, only. You'll have to hear from others involved in the commercial end for their stories.

I had conversations with CEC staff and commented where I found it appropriate, on all sections and verbiage, and proposed elements of the each of the upcoming Standards. Since the staff was truly in charge of the writing, it was easy to have input where I actually felt listened to. I always attended the public meetings and always said my piece, where I felt that lighting quality needed an advocate. I have felt as though I were doing this for all the regular residents, contractors,

and designers, who feel like they are the tail being wagged by the dog. Maybe I could pet the dog and help train it to care for the tail…

At the beginning of the 2013 cycle, I was part of an online roundtable discussion of what was being proposed for that Residential cycle. The CEC staff was not really a part of this, as I think it was a couple of members of the CASE study who were running the meeting. I voiced my concerns and followed up with them but rather than the dialog I was used to having, it was a monologue about what they were going to do, and although I felt I was being placated, in the end, none of what I had to say was considered. For the first time in three cycles, I felt as though I was not participating.

In the 2016 cycle, although I'm sure that dates for meetings and workshops were posted and obvious to some, I couldn't figure out the "new" system, and again, I felt blocked out. I continued to work with Michael Siminovitch at the California Lighting Technology Center on addressing the 90CRI language inclusion, which was under attack by the lighting fixture manufacturers. He shares a common desire for quality lighting, although for perhaps other reasons and has tried to rally like-minded folks to exert some pressure in that vein. I would have no idea if we had any impact, as it seemed to me that those connected to the CEC were deaf to the design community, at that point.

The same with the 2019 cycle and I am now mystified how this process actually works.

Here are my musings about where this process seems to stand from my limited perspective…

I find myself wondering if the electric utility companies have gained undue influence over the rulemaking process, even though they are only one of many interested stakeholders.

This seems like this could very well be true because the Energy Commission doesn't likely have the resources to conduct as robust of a rulemaking proceeding without investment from the electric utility companies.

The electric utility companies do a lot with their high investments. My understanding is that they:

A. Conduct pre-rulemaking stakeholder meetings.

B. Do market research

C. Write comprehensive draft reports, including analysis and all of the other answers that the Energy Commission needs, to be able to adopt changes to the standards.

D. Rewrite the reports as necessary to address stakeholder comments.

No other stakeholders can contribute as comprehensively to the rulemaking process, and I doubt the CEC staff has the depth of expertise that the electric utilities bring with their army of consultants.

However, make no mistake; the electric utility companies have a significant stake in aggressive standards being adopted. They are required, by the California Public Utility Commission (CPUC) to meet aggressive energy reduction goals every year. The CPUC allows the electric utility companies to claim reductions toward those goals based upon energy reductions claimed through an update to the energy standards.

The electric utility companies seem to hire some very aggressive "bulldogs" to push aggressive updates to the standards.

Therefore, it seems to me that the most likely answer is that the Energy Commission has pretty much turned the reins over to the electric utility companies, with the Energy Commission providing oversight, and the Energy Commission conducting the formal rulemaking process. I could be wrong, but this is what my experience and intuition are telling me.

Originally, according to public rulemaking laws, the burden of proof was on the Energy Commission to prove cost-effective, technical feasibility, and energy savings. This is represented by the Warren-Alquist Act, which is part of the Standards to this day.

Now, however, it seems to me, that the electric utility companies have finessed things so that, the burden of proof is on stakeholders who disagree with their consultant's conclusions. The utility consultants float numbers and require other stakeholders to disprove them. From my perspective, I don't have the time, the money, or often even the expertise, to do that properly. Once a final report is published by the Energy Commission, the numbers are treated as facts and become the baseline for future rulemaking proceedings. Hence, once the 45-day language is in place, any changes after that seem to be insubstantial and more clerical than anything. At one time, I could bring ideas and changes up for discussion at any of those milestones, and they were reviewed carefully and in depth.

Since the electric utility companies invest significantly in the rulemaking process, they do have a financial interest in the outcome of the standards, just like any other stakeholder.

Moreover, therein lies my problem.

It seems to me that other "lesser" stakeholders, such as my clients, the end-users, the contractors, and the designers, have legitimate issues with their interests being marginalized, as compared to the undue influence afforded to the electric utility companies. This may also be true for many others who wish their voices to be heard. There are substantive issues we all run into daily with regards to the CEC Appliance Database, Title 20, and JA8.

And I know we are not alone. Even many smaller manufacturers are frustrated with how difficult it has become to obtain compliance, even for first-rate products.

I am not purporting to be a victim here, but I continue to ask actively:

"How can I and others like me raise the level of my voice for quality lighting, to the point where we are heard?" and "Where do I find the Entry Point, to once again become actively involved?"

I have a great passion for both the art of lighting and lighting in an energy-efficiency manner, and I hope that my continued participation can somehow raise my voice above the level of the paid interests.

Links & Resources

In case you missed embedded links in this report, they are all listed again here, along with contact information and other useful resources.

California Energy Commission
California Energy Commission Website
CEC Online Resource Center
CEC info on 2022 Code Cycle

Title24Stakehloders.com
www.Title24stakeholders.com
CEC Title 20 Database
Timeline for the upcoming 2022 code cycle

Energy Code Ace
Energy Code Ace Website
Timeline Ace

California Lighting Technology Center
CLTC- TItle 24 Residential Lighting Best Practices
CLTC- TItle 24 Office Lighting Best Practices

IALD
Energy Policy

CEA
California Energy Alliance

Others
Center for the Built Environment

CIE 4/2019 statement on Blue Light Hazard

Outcome Based Codes on New Buildings Institute

More Info on Outcome Based Codes

DLC Qualified Product List

Speakers and Others
Clifton Stanley Lemon
cl@cliftonlemon.com

James Benya
jbenya@benyaburnett.com

Susan Larson
susan.larson@90pluslighting.com

Kelly Cunningham
kacv@pge.com

John Martin
john.martin@caenergyalliance.org

David WIlds Patton
dwpatton@dwplightingdesign.com

Simon Lee
simon.lee@energy.ca.gov

Dawn Latham, IALD Director of Public Policy
dawn@iald.org

Emily Bowers, IALD Senior Coordinator of Public Policy
emily@iald.org

Alex Baker, Manager of Government Affairs and Public Policy, iENSA
abaker@ies.org