

## Getting Past “Gotcha”

### Real Streamlining Is Essential for California’s Future

In a small California community, the Building Official keeps a stack of nearly 1,000 pages on his desk as a reminder to consider the big picture. This stack was required by the California Energy Code for a small project: replacement of 24 apartment HVAC units. Looking past those 1,000 pages, you’d find some unhappy people:

**An unhappy property owner:** He knew updating the old equipment to high efficiency and environmentally responsible new systems would be expensive, but he thought the permit would be easy and simple. After all, this big investment would not only be great for his tenants – lowering their energy bills, but it would also be good for the State since it hit on a number of political hot buttons, such as reducing carbon footprint, need for power plants, ozone damaging legacy refrigerant and more. Easy and simple? Nope: expensive and time consuming.

**An unhappy subcontractor:** He had long ago given up trying to keep up with the arcane regs, so he had to hire a specialist to prepare them ... and then had to face a customer unhappy about the time and cost involved.

**The Architect on the project also wasn’t happy.** This part of the process annoyed everyone, didn’t put a dime into his own thin budget for design, and saddled him with the legal liability of signing off on this massive tome.

**Even the Building Official wasn’t happy.** He didn’t have the staff or budget to process all this paper, review it, or file it.

Everyone was behind the intent and ready to put the ideas into action. But the paperwork! So what was the driver behind this massive tower of papers?

In California, we have what is widely considered the most advanced energy code in the country. The 146 pages of the code itself were crafted by an army of State engineers, consultants, academics, and bureaucrats under the guidance of our California Energy Commission. Along the way, there were drafts and submittals, many hearings open to the public, and each one officially noticed in all the legally required places. But how many of the real stakeholders in this process were really engaged: individual small businesses, contractors, property owners, or architects, for example? Precious few based on the evidence. Those 146 pages of code are so arcane. They are backed up by over 2,000 additional pages of supporting documentation, compliance manuals, and reference appendices. Many of those thousands of pages require forms - so many that replacement of a single HVAC unit might trigger over 40 pages of paperwork! Replace a simple residential single family water heater? To do that requires someone to puzzle their way through at least seven different sections of the code, with the process ultimately leading to a pile of 47 pages of paper – just for the energy code part of the permit. That’s to ask permission to install the kind of high performance water heater that California wants you to have.

And what happens to all the paper which costs so much to prepare? It turns out, not much. In many jurisdictions, they simply don't have the time or resources to dig into it, so it's simply filed – sometimes into the round bin. YIKES!

This is but one example of the growing divide between our aspiration to be at the cutting edge of energy and environmental performance and the realities of our businesses, consultants, regulators, and citizens. How did we get here? And more importantly, how can we get to a more sustainable course?

Across the country, California is considered a leader in the drive toward high performance. With that often comes the assumption that “we’ve got it figured out.” From our perspective at the Streamline Institute, the reality is more nuanced. We do have a system that can produce great results, but it’s also one that imposes unnecessary burdens on all the stakeholders, and unanticipated disincentives. Looking forward, California’s state level mandates for high performance buildings are on course for mandating Net Zero Net Energy for all new low rise residential buildings statewide by 2020 and all new commercial buildings by 2030. Today, some California communities are even ahead of that - Santa Monica’s Reach Net Zero Code is live as of May 1.

It’s time to take a fresh look at our California regulatory environment. It is clear that achieving these goals will require significant changes in building design, products, systems, and construction practices. One aspect not so often considered: we need a new approach to the regulatory environment itself. There are already many examples of confusion about what is required, wasted and duplicative efforts, unintentional disincentives, plan review and enforcement disconnects, and conundrums that may unduly impact certain kinds of projects and customers. Considering how these might be addressed provides some insight into how we might avoid greater issues in the near future.

***The bottom line: we need to put as much attention on Streamlining as we do on the science, engineering, policy, and codes. Real streamlining does NOT mean regulatory abandonment. Real streamlining means integrating the customer perspective, customer and project personas, and the cold hard realities of our economic and cultural disconnects into the process from the beginning. Real Streamlining can't be “patched on” after the fact.***

Let’s examine a few specific examples in more detail.

## **1. Unduly Complex Regulations and Documentation Requirements**

There is a tendency today to assume that the increasing complexity of moving toward our energy and sustainability goals is inherently so complex that arcane codes and massive bodies of manuals and forms are unavoidable, even for simple projects. To counter that perspective, consider consumers interaction with computers. It was not that long ago that ANY interaction with a computer was also accompanied by a need to dig into arcane documentation and consult with experts. Today, computers are more complex than ever, yet most citizens carry one in their pocket without so much as a glance at an operation manual. The key: the customer experience is given a lot of consideration during engineering.

We need a similar mindset in California's regulatory environment. It has to be someone's responsibility to weigh the cost and benefits for every piece of paper involved. We need to rediscover some of the approaches that California had not long ago, such as short and simple forms designed for customers to use directly, point systems for evaluating options, and simple scripts for simple tasks. Replacing a water heater should be a "one pager," not a "book" that requires an expert consultant to interpret.

## **2. Lack of Products to meet requirements at all project scales**

When the last cycle of commercial California energy regulations first went into effect, for small some projects there were no cost effective products available in the marketplace to meet requirements such as lighting, dimming, and panel segregation. An example of the result: electrical bids for a 1,500 sq. ft. wine tasting room were over quadruple the budget. Manufacturers were aware of the products needed, but they logically waited for the market to materialize first. So, in the interim, products designed for 10,000 sq. ft. projects had to be jammed into small TI's at very high cost. This marketplace "gap" extended for nearly a year. During this time, unreasonable costs hurt small businesses, contractors, and property owners without corresponding public benefit. If products are not there to serve customers, there needs to be flexibility granted to local officials where the issues arise to use common sense.

## **3. Failure to consider "single dimensional" retrofit projects**

Our regulatory environment is based on a "typical" multi-dimensional project that includes many changes that happen concurrently. This typical situation affords the potential to "trade off" higher performance in one area against lower performance in another area. What about projects that are "one dimensional?" Our current regulations don't address these scenarios. Example: A tenant and building owner would like to replace existing, single glazed storefront windows with a new double glazed system which will provide both significant energy savings, as well as a quieter interior. Today, it is difficult or impossible to navigate the code to success as it limits glass transparency without considering that, in some cases, it would be a disaster for a retail business, not to mention also violating design review mandates that specify clear glazing for retail storefronts. The inflexibility of mandated "minimum standards" in examples like this can create a "Catch 22" that either stops some potential upgrades in their tracks or drives them "underground," to be executed without permits at all.

## **Streamlining needs to be part of the process, not something "applied" at the end**

We need Streamlining to be a part of Regulatory development from the beginning, not something "patched on" after the fact. There is currently a working group, driven by statewide building officials attempting to fix some of the energy code regulatory disconnect cited here. While this has promise – to shift the needle as we move forward – it requires a new paradigm. Streamlining must be a core responsibility from the beginning to the end.

## **Full engagement of the marketplace must occur: Design Professionals, Vendor, Code Officials, and Building Owners**

Old school methods of public engagement involve posting official notices of hearings. We need new models of engagement going directly to the customers. Stakeholder engagement must include proactive outreach, high bandwidth technology enabled communication channels tuned to customer and stakeholder preferences, and funded participation as necessary. In the absence of full stakeholder engagement, even streamlining efforts can become ironic examples of the challenge. One recent example: a large California jurisdiction mandated “electronic plan submittals” for all large projects with promised savings in time and money for everyone. This sounded appealing, but a red flag soon surfaced: the 73 page manual that covered detailed formatting and submittal requirements for simply getting plans into the system. What about the cost of reading, understanding, and implementing 73 pages of requirements? Then multiply that as jurisdictions adopt different requirements ... pretty soon this good idea can become part of the problem!

### **Enforcement Officials must be empowered to achieve intended outcomes using alternative approaches**

Modern uniform building codes recognize that there is no way to craft a set of regulations that can anticipate every possibility. Not only are there complexities and variables that cannot all be addressed, but there are also innovations and new approaches that are constantly emerging. To most reasonably deal with the messy complexity of the “real world,” at some point judgment must be brought to the table. In the Uniform Codes, this is accommodated with the provisions that permit Alternative Materials and Methods Requests (AMMR’s). This same approach should be incorporated into Energy Codes and other regulations. In this manner, we can consider those inevitable situations where the intended result can be achieved by approaches that were not anticipated when the regulations were created.

### **Closing**

The Streamline Institute welcomes opportunities to be engaged in the movement toward more effective and efficient regulatory environment. The Streamline Institute believes that real streamlining results in a High Performance Regulatory Systems that are an integral part of our progress forward. Streamlining does NOT mean regulatory abandonment.

Please share your thoughts, and consider supporting the 501c3 Non-Profit Streamline Institute’s work with a donation of \$20 or more.

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