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CodeCycle-org Comments on HVAC Permitting

Additional submitted attachment is included below.



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September 24, 2021

Commissioner McAllister
California Energy Commission
Docket Unit, MS-4
Docket No. 21-IEPR-06
715 P Street
Sacramento, California 95814

Dear Commissioner McAllister,

CodeCycle.org appreciates and supports the Energy Commission's ongoing efforts to improve compliance with the California Building Energy Efficiency Standards. CodeCycle.org is a nonprofit, 501(c)(3) organization focused on developing software systems to make the process of Title 24, Part 6 enforcement both easier and more effective.

I have, myself, been working on this topic for four decades in various capacities. I contributed to statewide solutions as a Plan Check Engineer and Building Official in Fairfield for 25 years. I joined and led many collaborative efforts between CALBO and the California Energy Commission and between CALBO and the IOU compliance improvement programs. More recently, I have helped guide the development of CodeCycle.org's software systems to better automate the process by which building departments manage Title 24 enforcement.

CodeCycle.org's work to date has focused on clarifying and simplifying the more complicated parts of Title 24, Part 6. That initiative is slightly different than the challenge the Energy Commission is presently facing with HVAC changeouts, where the rate of installations that do not even seek a permit is troublingly high. Nonetheless, my experience working as a building official and in developing advanced enforcement systems provides some insight on potential solutions.

What is Working:

First, to focus on the successes: it sounds like the City of Davis's time-of-sale inspection requirement has made a notable difference in increasing the rate of HVAC changeout permitting. Without exploring the full range of the Energy Commission's authorities, I suspect that time-of-sale regulations are not something that the Energy Commission can readily adopt. At a minimum, the Energy Commission might use its influence to persuade more cities and counties to adopt similar policies.

The remote inspection systems discussed at your recent hearing also appear to be a promising piece of the puzzle in reducing burdens for both building departments and contractors.

Deploying Effective Software Solutions:

The core of CodeCycle.org's comments will not address specific prescriptions on how to increase HVAC permitting rates or overall compliance and enforcement rates. Instead, our comments seek to share insights we have gained on how to best build and deploy systems that can facilitate the overall compliance and enforcement process. Specifically, a number of proposed solutions involve software. We see the value in such solutions, and we continue to encourage the Energy Commission to coordinate and promote the development of software solutions that facilitate Title 24 compliance. We offer the following recommendations to assist the Commission's planning efforts.

1. Distinguish between Compliance and Enforcement

There has been a broad category of "compliance improvement" solutions brought forward to assist with California's Building Energy Efficiency Standards. But there are at least two distinct sets of users for these systems with distinct roles. Building departments are responsible for enforcing the standards. Building departments therefore need enforcement assistance systems. Permit applicants are responsible for complying with the Standards, so permit applicants need compliance assistance systems.

Enforcement systems and *compliance* systems should be integrated to operate most effectively. But in assessing the broader needs of impacted stakeholders, strategically distinguishing between *enforcement* and *compliance* helps to clarify functionality and hone the role of specific tools. In the end, better enforcement will increase compliance, and easier compliance will make the enforcement process easier.

2. Adaptability

Whatever solutions the Energy Commission puts forward to increase compliance with HVAC permitting requirements, the strategic framework should incorporate a reasonable amount of flexibility. The elements of social engineering needed for an effective enforcement regime are far more difficult to predict than the heat flow through a wood-framed wall. It is a humbling process, to say the least. This is particularly true with the extremely diverse array of stakeholders involved in the HVAC design, permitting, installation, and inspection process. Planning for adaptability will allow the Energy Commission to steadily improve its overall approach as systems are deployed and tested, jettisoned or reinforced.

There is certainly a downside to shifting the enforcement paradigm too frequently. The industry needs some level of certainty, and the construction industry works best when what is expected of them becomes routine. But it is almost impossible to deploy an ideal solution at first, so adaptability is essential. Implementation plans might also set forth publicly what elements of an enforcement scheme will be permanent, and which pieces might be subject to more frequent iteration and testing. This will provide useful transparency for stakeholders.

3. Integration

Improving the rate of permitted work for HVAC changeouts is important, but the need to improve compliance rates extends to small renovations, large alterations, and new construction. All of these HVAC installation scenarios can benefit from better enforcement and compliance. At the same time, there is a need to improve enforcement systems for the whole of Title 24, Part 6, including acceptance testing, demand response, solar, and electrification provisions.

There is an opportunity, if not a need, to use software systems to assist with all of these subsets of the energy code implementation challenge. But if the Energy Commission and its allies

present a half-dozen systems to building departments to address a half-dozen subsets of the enforcement puzzle, we have committed a collective mistake. The job for building departments needs to be made easier, and that means, where possible, a unified system to address these enforcement issues.

System integration can be a challenge, and in some cases integration can stifle necessary innovation or adaptability. There are some functions of the permitting process that building departments will always prefer to keep “in house”, so some solutions deployed by the Energy Commission might be “recommended, but not required” at a local level. But the Energy Commission, in planning and coordinating enforcement solutions, would be wise to plan for and help drive integration where prudent to reduce the workload and confusion of critical users.

4. Focus on the deployment entity as much as the technical solutions

As noted previously, the issues of regulatory enforcement in the construction sector are extremely complex. Outcomes are hard to predict. With software, adaptability is critical to steadily iterate towards better and better results. This means that supporting the appropriate entities that can deploy solutions and then readily adapt those solutions going forward is as important as the initial technical strategy. (Government contracting requirements can make the required flexibility a challenge, but there are proven ways to address that challenge if flexibility is a desired piece of the overall solution.)

Any such entities should not only be adaptable, but should be as clear of conflicts of interest as is reasonably possible. The entities developing and deploying enforcement solutions must keep the interests of the State and of local building departments at the fore.

If you or your staff have further questions for CodeCycle.org on these topics, do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tom Garcia', written in a cursive style.

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