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July 19, 2018

The Honorable Andrew McAllister
Commissioner, California Energy Commission
Dockets Office, MS-4
RE Docket No. 18-IEPR-07
1516 9th Street
Sacramento, CA 95814

Re: Public Comment - SB 1414 Workshop

Dear Commissioner McAllister and staff:

The Institute of Heating and Air Conditioning Industries (IHACI) respectfully submits these comments on behalf of its members and the California HVAC industry at-large.

IHACI is a 70-year-old nonprofit trade association based in California, which represents the needs of California's HVAC industry. The IHACI Board of Directors includes manufacturers, distributors, contractors, utilities, and associates of the HVAC industry. IHACI contractors perform residential, commercial, and industrial heating and air conditioning installation, retrofit, service and upgrades to all types of HVAC equipment. IHACI is a strong proponent of energy efficiency and savings but subscribes to the tenant that in the absence of compliance and enforcement and most importantly, foundational corrections that are absolutely necessary to build a level playing field for the HVAC industry, SB 350 requirements to double efficiency savings by January 1, 2030 are futile.

IHACI sees four required pathways to meet SB 350 requirements. Should these paths be followed, we are encouraged that SB 350 could become reality.

1. HVAC Equipment Registry
2. Reasonable Workforce Standards
3. Statewide online permitting
4. Common sense evolution of workforce education and training

SB 1414 requires the Energy Commission, by January 1, 2019, to approve a plan that will promote compliance with specified regulations in the installation of central air conditioning and heat

pumps. The bill authorizes the Energy Commission to adopt regulations to increase compliance with permitting and inspection requirements for central air conditioning and heat pumps, and associated sales and installations, consistent with that plan.

For the purpose of this document, compliance is defined by: Adherence to Title 24 requirements; pulling legally required building permits; obtaining “finalized” permits; and having the newly installed equipment inspected and verified by a HERS/3rd party verifier.

1. HVAC Equipment Registry

Solid Foundation Requirement

As with any building structure, it must begin with a solid foundation. The HVAC market in California is broken. There are many reasons for this, but the solution is not complicated. One of the challenges is the California Energy Commission’s three-year cycle of adding new Title 24 Energy Regulations that overburden HVAC contractors. Time and energy needs to be devoted to resolving existing compliance problems, opposed to writing new regulations that will likely drive the industry further underground.

Current issues facing the contractor

Contractors understand they are supposed to pull permits. The top ten percent of contractors strive for perfection. They likely pull permits 100 percent of the time, and will turn down work when the customer refuses to pull a building permit. The question arises: Where are the remaining 90 percent of contractors? IHACI speculates that the bottom ten percent will likely never comply and will actively avoid any form of compliance. This bottom 10% needs to be driven out of our industry. They are a liability to all. That leaves the remaining 80 percent. This is a significant number and the opportunity for improvement and compliance is noteworthy. This group will likely include a large percentage of contractors who want to comply but simply cannot in the absence of a level playing field.

The number one factor driving the marketplace is the consumer. The majority of customers want the best possible product for the least expensive price. Replacing a central heating and air-conditioning system is one of the largest expenses a homeowner can experience. Many systems are replaced in an emergency when the system has stopped working. This commonly occurs when weather conditions are intolerable. This is typically always unplanned and not in the homeowner’s budget. The cost of compliance alone can be upwards of \$1,600 depending on the jurisdiction (permits, 3rd party verification requirements, etc.). This often forces the homeowner to choose price over compliance.

Proposed Solution

There have been many versions of a “serial number registry”, or “equipment serial tracking” floated about. IHACI supports a very narrow version of this concept. All tracking proposals are not the same and this process implemented incorrectly is much worse than doing nothing at all.

Equipment serial number tracking is an easy process with minimal impact on distributors, contractors, and other HVAC industry stakeholders. All equipment is already serialized and tracked by distributors and manufacturers. Many distributors already report this

information to public utility companies to receive upstream rebates on high-efficiency equipment stocking. Serial numbers are also used in the inventory and warranty tracking process.

This process is outlined in a series of eight steps. Most of these steps are already in place in (current) HVAC workflow. The new processes are indicated by (New).

STEP 1:

- Licensed contractor purchases HVAC equipment from a distributor. (Current)

STEP 2:

- Distributors are required to sell HVAC equipment to licensed C20 contractors only. (New)
- Distributor records equipment type, model number, and serial number, and contractor's license number in their database. (Current)
- Distributor uploads this information monthly to a central database maintained by a responsible agency. (New)

STEP 3:

- Prior to beginning work, the contractor obtains a building permit for the work from the local jurisdiction. (Current)
- Third party verifier is notified of the job and is scheduled for testing upon completion of the installation. (Current)

STEP 4:

- The contractor installs the system to code and Title 24 Compliance. (Current)

STEP 5:

- HERS rater inspects the installation and submits the verification documentation to the appropriate HERS rater/third party verifier electronic database. Included in this documentation are the equipment type, model number and serial number. (Current)

STEP 6:

- The local building department is notified that the job is complete, and final inspection is arranged. (Current)

STEP 7:

- The CEC or other impartial organization will compare serial numbers provided from Distributors and the HERS registry database. Both these databases have equipment serial numbers. (New)
- If it is found that distributor supplied equipment has not been independently verified, the contractor will be notified of the discrepancy. (New)

STEP 8:

- The contractor will then be given a fair amount of time to resolve the compliance issue. **(New)**
- Failure to resolve discrepancies should result in fines, penalties, or loss of contracting license. **(New)**

SUMMARY

This version of a registry will level the playing field for homeowners and contractors, without placing a burden on any single player in the supply chain. Data entry errors will undoubtedly be made. As such, consideration for errors must be factored in to avoid unruly administrative tasks that will prove detrimental to compliance efforts.

Yes, creation of a new database is costly. It is conceivable that legitimate contractors would be willing to pay a nominal fee per serialized item if it meant creating a level playing field for all.

The current HVAC market in California is broken, but it can be fixed. Again, we must remember that currently, less than 10 percent of HVAC systems are state compliant. Compliance is the key to a strong foundation ensuring the energy efficiency goals of the state of California will be met in the future. For far too many years we have imposed new rules and requirements on contractors without a foundation. It is time to start building from the ground up.

2. Reasonable Workforce Standards

IHACI supports reasonable workforce standards. We reject the myopic view that a traditional journeyman/apprentice union model of the workforce is the only definition of a “responsible contractor.”

The non-union HVAC industry long ago moved towards North American Technician Excellence (NATE) certification as the standard for a “responsible contractor.” In fact, the Western HVAC Performance Alliance (WHPA) at the request of the California IOU’s recently spent several years utilizing the expertise of hundreds of industry professionals from around the country and reaffirmed this position.

The WHPA specifically looked at contractor requirements for utility programs. The entire document can be found here:

<http://www.performancealliance.org/Committees/StrategicPlanGoal2QI,QM,WET/HVACWorkforceEducationTrainingCommittee/ComparableTraining/tabid/2581/Default.aspx>

Below is a short summary from the WHPA official document.

Recommendations

For program eligibility, the Comparable Training Working Group recommends leveraging the framework currently used in the SCE HVAC Optimization Program (see Appendix A). As QM and QI programs evolve and new programs are designed, the contents within the framework can be modified to reflect the relevant and applicable industry-recognized credentials and knowledge, skills and abilities (KSAs), as well as qualifications based upon the respective program's performance metrics. Suggested framework components include the following:

- 1. Variety of levels of participation capacity and capability (i.e. SCE CQM levels 1 and 2);*

2. Experience: A minimum of five (5) years Heating, Ventilation & Air Conditioning service experience;

- 3. Licenses: Health/Safety/Professional/etc. (i.e. Refrigerant Transition and Recovery Certification; Type II or Universal, as required by 40 CFR Part 82, Subpart F of Section 608 of the Clean Air Act of 1990. Valid 608 technician certifications must be issued under a Program approved by the U.S. Environmental Protection Agency.);*
- 4. Credentials/Certifications: Hold scope-appropriate certification from recognized industry certification bodies; and*
- 5. Participant commitment to ongoing industry learning and development opportunities*

In addition, the Working Group recommendations include the following:

- *Include an Employer Support component to program participation requirements, reference examples in the WHPA Employer Support Working Group report.*
<http://www.performancealliance.org/Portals/4/Documents/Work%20Product/Recommendations%20to%20Operationalize%20Employer%20Support.pdf>
- *For program participation: provide targeted training that aligns directly with specific program's performance metrics.*
 - *The performance metrics informs the technical performance and evaluation criteria. This is built into the program design.*
 - *The performance and evaluation criteria inform the curriculum for the technical training.*
 - *The performance and evaluation criteria serve as the rubric to show proof of competency and capability of:*
 - *Theoretical understanding via a knowledge assessment.*
 - *Practical application via a hands-on performance assessment.*
 - *Implement field verification strategies that leverage the performance criteria rubric as a means for QA/QC.*

Forcing the entire industry to follow a journeyman/apprentice model is not looking forward. It is a regressive act that will handicap efforts to increase compliance and system efficiency for years to come. We need to fix the foundation, not the contractor business model.

3. Statewide Online Permitting System

The time involved for a contractor to pull a permit in many jurisdictions within the state of California is onerous. In many jurisdictions, the time required for pulling a single mechanical permit can be more than 4 hours. This is unacceptable. It is an impediment to compliance, as well as a waste of time. A simple change-out of an existing HVAC system should be a simple process. It should be the same in every jurisdiction across the state. New system installations are different and should not be included in this system.

While researching this situation, the online permitting working group within the WHPA Compliance Committee developed 20 conclusions. The entire document can be found here. <http://performancealliance.org/Committees+/StrategicPlanGoal1Compliance/OnlinePermittingWorkingGroup/tabid/2575/Default.aspx>

The most relevant recommendations include:

- A single Online Permitting System should be developed and made accessible for all jurisdictions statewide to maintain procedural consistency and expedite the permitting process with standardized data. It should be easy for Building Departments to use and should integrate with current systems and processing by allowing an open API interface. This work may be of value to additional online permitting activities;
- Standardization has served to decrease permit time and increase utilization for many jurisdictions in the state;
- The system should be 100% online including payment of fees, thus significantly reducing the need for in-person application and management at the building department by permit applicants; and
- The system should integrate with other state-implemented systems (e.g. HERS registries) and agencies (e.g. CSLB for license verification) to facilitate permit approvals;
- A funding mechanism must be a part of this implementation because of the potential for cost overruns.

4. Common sense evolution of Workforce Education and Training

As the foundation for compliance is laid with an Equipment Registry, Education and Training will become even more critical. The level playing field will move contractors away from the low-price market and force them to compete based on other criteria. Energy Efficiency, Quality Maintenance, Quality Installation, Quality Service will finally become differentiators in this new market.

Today, contractors can be trained in Quality Installation techniques. However, when they leave the classroom and return to the reality of the market, they are forced to sacrifice quality for price. By laying the proper compliance foundation and quality assurance, contractors will be able to utilize the skills that they already know. Permits, third party verification, and more stringent energy codes can then begin to ramp up to the goal of doubling energy efficiency by 2030.

The efficiency of heating and air conditioning equipment is highly dependent on the quality of installation. As the contractor focus moves away from a low-price mindset, the percentage of systems being installed correctly will drastically increase. The CEC estimates that today up to 85% of HVAC system replacements are installed incorrectly.

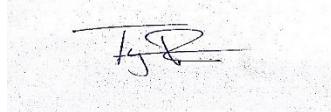
Contractors will seek new quality installation techniques to differentiate themselves from their competition. New training methods and quality control advances will allow us to put a

finer point on training, and raise the quality of system installation, service, and maintenance.

IHACI has over 700 members representing tens of thousands of salesmen, technicians and installers of residential and commercial equipment in the State of California. We strongly believe that all 4 of these initiatives are necessary for the successful realization of SB 350 and SB 1414. We look forward to working with the California Energy Commission to help realize these goals.

The time has come to implement solutions that will result in positive outcomes. Band aid solutions, conflicting reports/studies, water downed remedies with no positive outcome needs to become a thing of the past. What is required today is the fortitude and foresight to do what is needed by embracing innovation and alternatives to current business, technical, and workforce education practices. The multi-billion dollar HVAC industry knows full well what is needed. Those that govern are asked to embrace the views of the HVAC contracting industry by implementing real change that will conserve energy, protect the consumer, and support and protect the interests of legitimate HVAC contractors.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "T. Miner".

Tyler Miner, President