Online Permitting for Residential HVAC Installations

Summary

This document serves as initial guidance to HVAC industry stakeholders interested in pursuing a framework for online permitting of residential HVAC installations.

Finalized: January 13th, 2016

Use of this document

This document serves as initial guidance to HVAC industry stakeholders interested in pursuing a framework for online permitting.

It is based on an official [WHPA Work Product](#) of January 13th, 2016 titled "Online Permitting for Residential HVAC Alterations - An Industry Stakeholder Roadmap." This Work Product was developed by the WHPA Compliance Committee.

This document, and also the WHPA Work Product, may be used in part or whole at no charge. Attribution to the Western HVAC Performance Alliance is requested.

We would also ask that you inform the WHPA through info@performancealliance.org if you have made use of either document, so that we can inform and encourage the hundreds of volunteers who donate their time to providing expert HVAC advice in order to support energy efficiency objectives.

Background

California Energy Efficiency Strategic Plan

The issue of permitting and code compliance for Heating, Ventilating and Air Conditioning (HVAC) systems has been the subject of discussion within the regulatory policy arena for many years. The California Energy Efficiency Strategic Plan (Strategic Plan) originally released in 2008 (and updated in 2011) identified that "less than 10 percent of HVAC systems obtain legally required pre-installation local building permits."[1] The Strategic Plan established specific goals to facilitate the "consistent and effective compliance, enforcement, and verification of HVAC-related building and appliance standards". One of these goals was to streamline the local government permitting system.

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[1] California Energy Efficiency Strategic Plan, January 2011, page 54.

Thus, this document is intended to serve as the initial guidance to stakeholders as the full scope of this permitting framework is developed.

Stakeholders

There are many stakeholders who will need to be involved in the process of streamlining the local government permitting system…

Local Governments

Perhaps most important are the more than 500 individual city and county jurisdictions[2] that are responsible for implementing and enforcing the local permitting process for mechanical change-outs. Local governments must be involved early in the conceptual design of an online permitting framework. They will need to be consulted in scoping, developing, piloting and deploying such a system.

State Government

Both the California Energy Commission (CEC) and the California Public Utilities Commission (CPUC) are critical stakeholders in the process. The CEC has authority over the state building efficiency standards code – Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6). Compliance with these Building Energy Efficiency Standards is ultimately implemented and enforced through the local permitting and inspection process. An online permitting system will need to satisfy the needs of the CEC in order to be viable.

The CPUC has responsibility to achieve much of California's energy efficiency goals through their regulation of efficiency programs. The "Big Bold Efficiency Goals" and the Strategic Plan are both efforts launched by the CPUC that established aggressive long-term goals and identified the critical part that HVAC has in achieving these goals.

Permitting within California is regulated by the California Code of Regulations and is delegated to the local jurisdictions under State Law through the California State Constitution. The Department of Building and Safety and the position of Building Official are created in Title 24, Part 2, Volume I, Chapter 1, Division II, Section 103. Duties and Powers of the Building Official are defined in Title 24, Part 2, Volume I, Chapter 1, Division II Section 104. Due to delegation of authority through the State Constitution and State law for building permits, the Legislature and Governor are stakeholders in any changes to permitting not initiated in the local jurisdiction.

HERS Raters

The Home Energy Rating System (HERS) was established to create a consistent, accurate, and uniform rating system to differentiate the energy efficiency levels between California homes. HERS raters conduct Field Verification and Diagnostic Testing services to verify compliance with California Building

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[2] As of the writing of this document there are 482 cities (http://www.cacities.org/Resources/Learn-About-Cities/Alphabetical-List-of-Cities.aspx) and 58 counties (http://www.counties.org/californias-counties) identified in California.

Energy Efficiency Standards. HERS raters are third-party verifiers that verify and document that the contractor installation of an HVAC system is compliant with these standards and are a key part of the overall permitting process.

Investor Owned Utilities

The Investor Owned Utilities (IOUs) implement statewide Codes & Standards programs that, among other things, provide training and assistance to local building officials[3]. Through their Codes & Standards efforts, the IOUs manage the Compliance Improvement Advisory Group (www.caciag.com) which has addressed a number of issues related to permit compliance. The IOUs are a likely conduit for implementing improvements to the permitting system.

Contractors

Mechanical contractors are the ultimate end-user of the permitting process and their input is critical so that system recommendations are usable and will achieve the desired goal of increased permit compliance.

Proprietary Systems

There are already several online permitting systems available in the market that are currently being used and/or piloted by regional and local jurisdictions. These enterprising developers would have great insight into lessons learned with launching online permitting systems, but may be reluctant to openly share such insight if viewed as a competitive disadvantage. Regardless, these stakeholders should be openly welcomed into the discussion.

Others

There are a number of other stakeholders including consultants, fee collection entities, IT system developers, homeowners, etc. who need to be consulted in the process as they will be involved in either the design, development or use of such a system.

Key Elements

In order to be viable statewide, a streamlined permitting system must work broadly across all jurisdictions, be usable from the contractor and HERS rater perspective and satisfy the legal requirements of the permitting process. Ideally, the eventual output of this effort would be more of a standard or a guideline that would address the key attributes defined by the Compliance Committee rather than a functional system ready for implementation.

The Compliance Committee identified these key elements required for an online system to be successful:

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[3] For example, see www.energycodeace.com.

- Simple user friendly smart phone or computer pad app.
- Universally capable and connectable with any jurisdictions permit system.
- Provide relevant information required to produce and process a permit with any jurisdiction.
- Initiate the CEC required compliance documents and attach them to the permit application.
- Apply relevant jurisdictional permit fees and transmit the fees to the appropriate jurisdiction.
- Confirm permit approval by the jurisdiction and provide relevant permit number and completion requirements.

These key elements serve as the basis for an initial online permitting concept and will be further developed as the project unfolds.

Action Items

Table 1 provides the high-level action steps required to realize Goal 1-1 of the Strategic Plan and sets out a proposed timeline to meet the goal. The timeline indicates the near-term actions (2016-2017), mid-term actions (2018-2019) and long-term actions (2020 and later). For this roadmap, it is assumed that WHPA would largely be responsible for development of the permitting framework through a specially tasked Working Group. This group would oversee four distinct project phases: Plan, Define, Pilot and Deploy.

Plan

Conceptual development of an online permitting framework (including standardized data elements and data security) will require careful upfront planning to better understand the overall scope of such a system. This will include fully understanding the legal, regulatory and logistical requirements for mechanical permits and identifying best practices in online permitting systems[4]. Much of this work has already started under the Compliance Committee and is documented in meeting minutes, but more concentrated planning is required. Another valuable step in the planning process will be to create a survey instrument that could be administered to all California jurisdictions to better learn their wants, needs, barriers to implementation and suggestions for online permitting. It is estimated that this planning phase will take much of the first year and should be wrapped into the broader WHPA goal setting process.

Define

Once the planning phase is completed, the definitional phase can begin. In this phase, the comprehensive set of system requirements will be established. The common industry practice in this phase is to prepare a Business Requirements Document (BRD) which focuses on what is required by detailing with the business solution for a project including the documentation of customer needs and

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[4] For example, the state of Oregon offers an ePermitting system through many local building jurisdictions (http://www.oregon-epermitting.info/).

expectations. A well-prepared BRD enables the software designer/programmer to develop the technical requirements necessary to achieve the objective laid out in the BRD.

Pilot

Consistent with the vision articulated in the Strategic Plan, a multi-step pilot will be required to ensure that the permitting system meets stakeholder needs. Using the BRD as the basis, the system infrastructure will be developed[5] and then piloted at a few jurisdictions. After several months (6 months minimum) of operation, the pilot will be evaluated and then system requirements modified based on lessons learned. The Compliance Committee should have an active role in this evaluation. A revised permitting system will be deployed across a larger pool of jurisdictions and tested for several more months (6 months minimum).

Deploy

At the completion of the pilot phase, the results of the pilot will be documented in order to inform the WHPA's final set of system recommendations. This would likely take the form of a comprehensive BRD and the complementary technical requirements that would be published and utilized by the market to create available systems/tools that would offer to statewide jurisdictions. Once this final package is made available to stakeholders, the WHPA would need to do considerable outreach through local jurisdictions to promote adoption of online permitting statewide.

Table 1: Action Items to Meet Goal 1-1 of the Strategic Plan

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[5] Note it is unlikely that the WHPA would take up actual development of such a system, but rather provide guidance to others who would develop and test the system. This could be done in many different ways, for example, through the IOUs Codes & Standards program, as a pilot directly through the CPUC or CEC, or competitively through the open market. The means of deployment for an online permitting system will need to be addressed as this project develops.

	Action Steps	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Mid-Term	Long-Term
PLAN	Create WHPA Working Group to Focus on Online Permitting	X									
	Confirm Minimum Legal Requirements for Mechanical Permits	X	X								
	Identify Legislative and Regulatory Policy Issues		X	X							
	Research Best Practices in Online Permitting		X	X							
	Conduct Survey of Building Departments			X	X						
DEFINE	Develop System Requirements Document				X	X					
	Define System Interconnection Points (HERS Registry, etc.)					X					
	Prepare Workflow Diagrams to Map System Process					X					
	Engage Broad Set of Stakeholders to Verify System Requirements and Workflow						X				
	Refine as Needed Based on Stakeholder Input							X	X		
PILOT	Pilot Online Permitting System									X	
	Refine System Based on Pilot									X	
	Expand Pilot with Additional Jurisdictions									X	
DEPLOY	Document Results of Pilot										X
	Prepare Final WHPA Recommendation										X
	Conduct Outreach Sessions with Buliding Departments and Stakeholders										X