



Online Permitting for Residential HVAC Alterations

An Industry Stakeholder Roadmap

A WHPA Report dated January 13, 2016

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.

In 2015, the Compliance Committee of the Western HVAC Performance Alliance (WHPA) took up the issue of online permitting as a means to streamline the manual building permit process that is currently in place for the majority of California jurisdictions. The specific goal adopted by the Compliance Committee and approved by the Executive Committee is to “[d]evelop a roadmap through a collaborative process with California Building Officials (CALBO), contractors, city and county representatives, County Building Officials Association of California (CBOAC), Contractors State License Board (CSLB), the California Energy Commission (CEC), California State Association of Counties (CSAC), and other relevant stakeholders for approved web-based permitting of mechanical change-outs..”

The original time line in the Strategic Plan envisioned the convening of a stakeholder group to develop a new permitting framework and deploy limited pilots by 2011, refining and expanding the pilots by 2015 and then expanding to a statewide program in 2016. While the initial time line may have been missed, the need to explore the potential for a streamlined permitting system for residential mechanical change outs is still valid today. 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. The WHPA serves as an important forum for such a diverse set of stakeholders focused on a common goal of reducing the energy impact of HVAC systems in California. Within the current structure of the WHPA, the task of developing specific improvements to the permitting system would be assigned to a Working Group either under the purview of the Compliance Committee or directly through the Executive Committee.

Local Governments

Perhaps most important are the more than 500 individual city and county jurisdictions² that are responsible for implementing and enforcing the local permitting process for mechanical change-outs.

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

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.

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 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 officials³. 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.

³ For example, see www.energycodeace.com.

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:

- 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 systems⁴. 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 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 developed⁵ and then piloted at a few jurisdictions. After several months (6 months

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

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.

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

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 Conduct Survey of Building Departments		X	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 Building Departments and Stakeholders										X



WHPA Work Product Summary - Compliance Roadmap

DATE: January 13, 2016

INITIATING BODY: WHPA Compliance Committee

WORK PRODUCT NAME: Online Permitting for Residential HVAC Alterations – An Industry Stakeholder Roadmap

TYPE OF ACTION REQUESTED: **VOTE** **GUIDANCE** **OTHER:**

The initiating body requests that the WHPA Executive Committee (EC) adopt the referenced roadmap document as a WHPA Work Product to be posted and marketed in accordance with previously established policy.

To ensure better understanding of the proposed roadmap's content beyond this work product summary, the initiating body recommends review of the full 6-page document.

APPROVAL HISTORY

COMMITTEE: WHPA Compliance Committee Voting Members

BY CONSENSUS **BY VOTE**

MOTION: After discussion at the December 2015 WHPA Compliance Committee meeting about the comments received on the drafted work product, CEC (Eurlyne Geiszler) motioned and CSE (Marissa Spata) seconded the motion to approve the "Online Permitting for Residential HVAC Installation – An Industry Stakeholder Roadmap" work product with the recommended edits (discussed during that meeting) for escalation to the WHPA Executive Committee with a courtesy copy email distributed to the WHPA Compliance Committee members.

TALLY: A quorum of 7 voting members was needed with a 60% supermajority of the votes cast. The work product was escalated with a unanimous aye vote cast with no opposition or abstention by the following 8 voting members (or proxy representatives) present:

AYE (x8) = Brody Pennell (Michael Carson), CALBO (Bob Barks), CalCERTS (Mike Bachand), CEC (Eurlyne Geiszler), CHEERS/ConSol (Mike Hodgson by Proxy Bob Johnson), CSE (Marissa Spata), Goodman Manufacturing (Aniruddh Roy), HARDI (Jon Melchi)

DATE: December 10, 2015

WORK PRODUCT OBJECTIVES:

In 2015, at the request of the Western HVAC Performance Alliance (WHPA) Executive Committee, the WHPA Compliance Committee took up the issue of online permitting as a means to streamline the manual building permit process that is currently in place for the majority of California jurisdictions. The



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specific goal adopted by the Compliance Committee and approved by the Executive Committee is to “[d]evelop a roadmap through a collaborative process with California Building Officials (CALBO), contractors, city and county representatives, County Building Officials Association of California (CBOAC), Contractors State License Board (CSLB), the California Energy Commission (CEC), California State Association of Counties (CSAC), and other relevant stakeholders for approved web-based permitting of mechanical change-outs..”

Under leadership of its Chair (Bob Barks with CALBO), the Compliance Committee worked on development of the requested goal from February, 2015 thru December, 2015, with roadmap development and vetting primarily completed in November and December.

CA ENERGY EFFICIENCY PLAN STRATEGIC GOAL ALIGNMENT:

GOAL 1 GOAL 2 GOAL 3 GOAL 4

CEESP HVAC GOAL STRATEGIES:

- HVAC Strategy 1-1 for Permitting Reform: Streamlining local government permitting and State licensing process, beginning with pilot programs.

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BENEFITS: The original time line in the Strategic Plan envisioned the convening of a stakeholder group to develop a new permitting framework and deploy limited pilots by 2011, refining and expanding the pilots by 2015 and then expanding to a statewide program in 2016. While the initial time line may have been missed, the need to explore the potential for a streamlined permitting system for residential mechanical change outs is still valid today. Thus, this document is intended to serve as the initial guidance to stakeholders as the full scope of this permitting framework is developed. In addition to defining how an online permitting system relates to the Strategic Plan, the roadmap also clarifies needed stakeholder involvement, the key elements necessary as a basis for development of a successful online system, and the high-level action steps required to realize Goal 1-1 of the Strategy Plan for planning, defining, piloting, and deploying the permitting framework in the near-term (2016-2017), mid-term (2018-2019), and long-term (2020 and later).



WHPA Work Product Summary - Compliance Roadmap

OUTSTANDING ISSUES / DEBATES / MINORITY VIEWS: This roadmap was developed as an initial phase document with the understanding that further work is needed to meet Goal 1-1 of the Strategic Plan. There are no outstanding issues, debates, or minority views to note.

Further vetting discussion details are available in the WHPA Compliance Committee meeting notes posted on the [Committee's WHPA webpage](#).

POTENTIAL AUDIENCE: The potential audiences for this roadmap are also the key stakeholders in the permitting framework development process. These include Local Government (City and County Jurisdictions / Building Officials), State Government (CEC, CPUC), HERS Raters, Utilities, Compliance Improvement Advisory Group, Contractors, Proprietary Online Permitting System Developers, WHPA at large, Homeowners, Other Stakeholders.

MOTION: At the WHPA Executive Committee meeting held January 13, 2016, Don Langston (ACCA) motioned and Don Tanaka (UA) seconded the motion to approve this Work Product.

VOTE TALLY: The motion was unanimously approved by all EC members present with the exception of an abstention by Jeanne Duvall (PG&E), who just joined the meeting.

FURTHER ACTIONS REQUIRED: WHPA Staff will ensure the combined Work Product Summary and Online Permitting for Residential HVAC Alterations Roadmap is properly posted and distributed in accordance with established marketing protocol for approved WHPA Work Products.

NEXT STEPS: Follow the action steps in the Roadmap, beginning with the creation of a WHPA Working Group to focus on online permitting.