



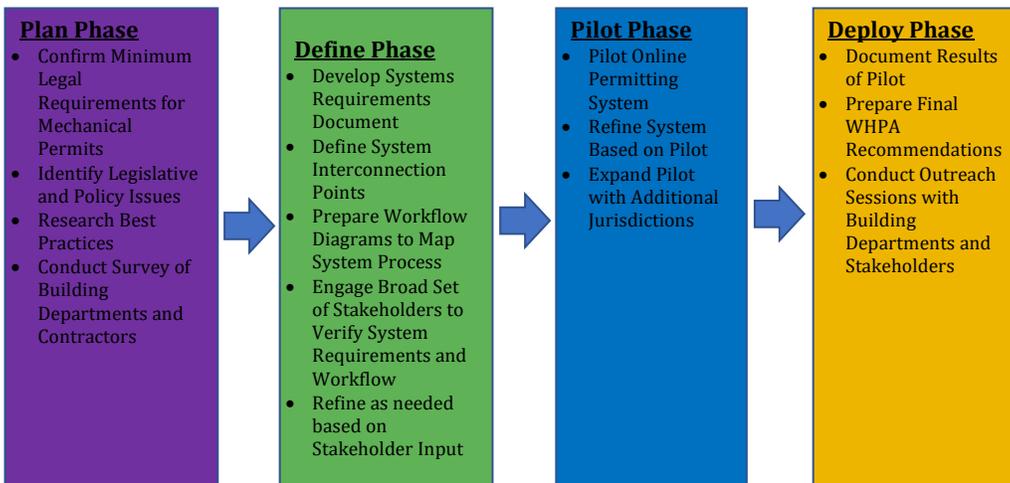
Memorandum

Feasibility of Online Permitting

To: WHPA Compliance Committee
 From: WHPA Online Permitting Working Group
 Date: October 15, 2017
 Re: Feasibility of Online Permitting

The Compliance Committee of the Western HVAC Performance Alliance (WHPA) has been tasked with providing input to the California Energy Commission (Energy Commission) about “the compliance gap” that exists within the market for alterations to mechanical systems in existing buildings. The Committee’s primary focus has been on the permitting process with part of the discussion centered on online permitting. [Given the fact that current compliance rates are estimated to be the same as ten years ago at less than 10% this seemed to merit further study to determine whether technology could be applied.](#) To fully address the topic, the Compliance Committee established the Online Permitting Working Group (OPWG) that was tasked with studying the feasibility of implementing a statewide online permitting system (OPS) for heating, ventilation and air conditioning (HVAC) alterations. To this end, the Committee developed a work plan, the [Online Permitting for Residential HVAC Alterations, An Industry Stakeholder Roadmap](#). The “Roadmap” directs the OPWG to oversee four project phases: Plan, Define, Pilot, and Deploy (Figure 1).

Figure 1: Action Items to meet Goal 1-1 of Strategic Plan



Commented [WW1]: For this one Memo, due to limited turnaround time, an exception has been made to escalate directly to the Executive Committee with understanding that this Memo is primarily a summary only of the 5 OPWG Memos. This should be changed to “WHPA Executive Committee”

Commented [WW2]: Source citation is needed for this. Was this based off the following content from the Work Product Summary for the Compliance Committee’s Online Permitting Roadmap: “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.” 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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For the Planning Phase, the OPWG researched, discussed and prepared the following five work products:

- [Legislative & Regulatory Policy Issues](#)
- [Minimum Legal Requirements for a Building Permit](#)
- [WHPA Review of Best Practices in Online Permitting](#)
- [2017 WHPA Online Permitting Jurisdiction Survey Results](#)
- [2017 WHPA Online Permitting Contractor Survey Results](#)

This *Feasibility of Online Permitting Memo* summarizes the five work products listed above and presents the OPWG's assessment if a statewide online permitting system for HVAC change-outs¹ is needed and is feasible in California.

Background

The need for closing the compliance gap is clearly described in the Compliance Committee's draft White Paper – *Understanding the Residential HVAC Compliance Shortfall*, which states:

“When the California Energy Efficiency Strategic Plan was first released in 2008, it was identified that less than 10 percent of HVAC systems obtain legally required local building permits. Nearly 10 years later, little has changed and the number of permitted systems are still well below California's goal of 50% by 2015 and 90% by 2020.”

The same document lists five “specific gaps” addressing why the majority of residential HVAC replacement work continues to remain unpermitted, which are:

1. Insufficient Data
2. Insufficient Tools
3. Lack of Effective Enforcement
4. Low Stakeholder Value Proposition
5. Motivating Behaviors.

This document further defines each of these gaps and suggests actions to reduce the contribution of each gap to the compliance shortfall. However, the remedies suggested for four of the five gaps are not workable in the short term.

The solution to **Insufficient Data** is to consider a data-driven approach to compliance and then put this information in the hands of jurisdictional authorities to help them perform their duties more effectively.

Lack of Effective Enforcement is the result of a current system that relies on several stakeholders to play an assumed role, but has little leverage to ensure these roles are actually carried out, and there is even disagreement as to whether municipalities have legal authority for enforcement. Persuading 593 independent entities to do anything that doesn't directly benefit their agency is problematic – at best.

Low Stakeholder Value Proposition and **Motivating Behaviors** are difficult to influence because they require changing attitudes of industry participants and the public and would require a long-term strategic public outreach and continuous marketing campaign to have any positive impact.

¹ Change-outs were defined as either: (1) alterations that include new/replacement HVAC components or (2) alterations that include entirely new or replacement HVAC systems (that is, all HVAC equipment and ducts are new/replaced).

Commented [WW3]: Pending Executive Committee approval on 10/18/17 (once approved as a WHPA Work Product, the link will be added by WHPA Staff)

Commented [WW4]: For timeline clarification, the OPWG and its Memo work based on the Online Permitting Roadmap was developed prior to the Compliance Committee's White Paper. As the White Paper has not yet been approved by either the Compliance Committee nor the Executive Committee as an official WHPA Work Product, it should not be so heavily discussed in the Background section.

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Given the difficulty of addressing these four more abstract gaps, the OPWG focused its efforts on the more explicit fifth gap, **Insufficient Tools**. One potential tool that can help simplify and standardize the permitting process is statewide deployment of a common online permitting platform.

This addresses many issues identified in the other four gaps, and is customizable for the purpose of reducing the compliance gap. While there are issues to be worked out in its implementation, an Online Permitting System for HVAC alterations embraces technology already available and is a critical component of a larger statewide plan to improve the energy efficiency of California's existing buildings but only if it includes a method of ensuring ANSI accepted ACCA Quality Installation procedures are followed. Without a standardized online permitting system complete with verification uploads, there is essentially no reasonable tool for achieving the goal set out in the CEC's Energy Efficiency Action Plan for transforming California's existing residential housing stock to high efficiency buildings. The extreme diversity of permitting systems and requirements is chaotic and unmanageable for the average contractor or property owner.

Successful deployment of an OPS will require careful change management and extensive stakeholder outreach. To this end, it is recommended that state regulatory and legislative bodies fund, or find a mechanism to fund, a division under CSLB that would provide guidance and/or advocate for permit compliance education and training for contractor licensees, jurisdictions, and the public. The goal of such training would be to reduce misunderstanding of code requirements, compliance and reduction of possible fraudulent activities in the market. This would provide a more level playing field for navigating the multitude of regulations and laws in place to police the construction industry in California. This division would actively involve industry stakeholders to gain better insight as to how current regulations impact construction trades and unintentionally result in lower compliance rates.

Following is a summary of the five memos produced as a result of the WHPA's Compliance Committee's evaluation of online permitting systems.

Memo 1: Minimum Legal Requirements for a Building Permit

Assembly Bill 2335 (AB 2335, 2008) outlines minimum requirements for a building permit, which apply throughout California regardless of jurisdiction. All 105 municipalities contacted in the study also require submittal of a Certificate of Compliance document (CF-1R) in addition to the requirements of AB 2335. For mechanical alteration permits, many municipalities require information above and beyond what is required in AB 2335 and the CEC approved energy documents for a mechanical permit (CF-1R) but these vary widely.

This memo suggested that, for an OPS, the following three fields be added to the CF-1R to satisfy AB 2335 requirements for a building permit:

- Property owner's name
- Property owner's mailing address
- Property owner's telephone number

The memo suggested these fields be added to the CF-1R form for consistency and to reduce redundancy.

Memo 2: Legislative and Regulatory Policy Issues

The OPWG found three legislative measures to be relevant to improving the energy efficiency of existing buildings:

- AB 802 – Normalized Metered Energy Consumption and tracking thereof
- SB 350 – Doubling Energy Efficiency by 2030

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- SB 1414 – HVAC alteration permit closure;

The OPWG evaluated these three measures for their purpose and potential implications for an online permitting system. Only SB 1414 pertains specifically to HVAC alterations.

In summary, the memo concludes:

“ . . . permitting and compliance are typically treated as secondary issues in existing legislation with the possible exception of SB 1414, which treats several aspects of compliance more directly. However, in order to achieve the significant improvements to compliance rates envisioned by the California Energy Efficiency Strategic Plan, a more concerted legislative effort will likely be required.”

Memo 3: Review of Best Practices in Online Permitting

The purpose of this memo was to “identify online permitting systems that are currently in use and document best practices from these systems . . .” This study did not evaluate each available online permitting system currently in use or available today. Rather, it is more a survey of several of the existing online permitting systems.

The memo is based on a review of the resources listed below:

- California Solar Permitting Guidebook
- Green It Forward – Streamlined Online HVAC Permitting Pilot Program for Cities and Counties of California
- Energy Code Ace Application Guidelines
- Recent examples of OPS implementations
 - State of Oregon
 - City of San Francisco
- Input from jurisdictions that currently utilize and OPS (online permitting system)
- Contractor and Jurisdictional Surveys

The OPWG developed 20 conclusions from the resources reviewed. Those most pertinent to online permitting systems 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;
- 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.
- Implementation should be managed to minimize the potential for cost overruns;

The last item on the above list deserves particular attention. Several people involved in implementing OPS projects told harrowing stories about cost overruns, unmet schedules, and disappointing deployments. (These projects involved implementing comprehensive online permitting systems, not just HVAC alteration permits.)

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Memo 4: 2017 WHPA Online Permitting Jurisdiction Survey Results

This survey assessed the status of individual jurisdictions' online permitting systems (OPS) and their receptivity to a statewide OPS specifically for HVAC alterations. Of the 532 individual "contacts," 59 (11%) of building jurisdiction representatives responded (11%. While this response rate is low, the OPWG considers that responses for which the majority of respondents agreed are credible. Examples include:

- Of the 43 respondents, 81% (n=35) indicated that if an "apply for permit system" were made available, they would expect personnel within the jurisdiction to fully embrace it.
- Overall, building department permit processors, other building department staff, contractors, and the general public have responded positively to the OPS, with 29 (what percent of?) respondents giving ratings of three (positive) or four (very positive).
- Over half (59%) of respondents who answered this question indicated that it would be desirable for the State of California to provide a statewide "apply for permit system" that could be redirected to their jurisdiction's website.

Memo 5: 2017 WHPA Online Permitting Contractor Survey Results

This survey was emailed to 1822 HVAC contractors in California who held valid C-20 licenses. Only 45 contractors responded to the survey, and not all 45 addressed every question. Like the jurisdictional survey, the results are not statistically significant, but are revealing. Two of the most interesting results include:

- Of the 35 contractors who responded, 89% (n=31) want a standardized permitting system across California. This is something the Air Conditioning Contractors of America (ACCA) and Institute of Heating and Air Conditioning Industries, Inc. (IHACI) have been advocating.
- Of the 36 contractors who responded, 86% (n=31) indicate that a completely online HVAC permitting system would save them time in their day-to-day activities. Contractors also mentioned that an online permitting system would streamline the permitting process and increase productivity.

Conclusion

The OPWG's conclusion is that an online permitting system targeted for HVAC alterations is feasible and it will improve the poor compliance rates in California. Our research shows that a carefully designed and implemented OPS system will be welcomed by both the HVAC industry and building departments. Further, our analysis suggests a statewide OPS is one of the very few definable methods of reducing the compliance gap.

Fortunately, California's private sector has produced several online permitting systems several of which are in use or have undergone successful field trials.

It also appears that these systems can be implemented at low or no cost to individual municipalities. The contractor survey revealed that contractors are sensitive to added cost related to an OPS. OPWG members suggest that such costs would be far less than contractors now spend on obtaining permits. Similarly, an OPS would not only reduce municipalities' cost of permitting HVAC alterations, but are likely to see an increase in municipal revenues from permitting HVAC alterations.

As many as half the jurisdictions in the state do not enforce all Title 24 requirements or ACCA's QI standards. This results in, not only inefficiencies that will cost the homeowners for decades, but inequality between the

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citizens of different municipalities. This situation also forces HERS Raters and HERS Providers to ignore or “bend” the law when they are working in jurisdictions that do not fully enforce Title 24.

Contractor Perspective:

From a contractor perspective, if contractor compliance has not changed in 10 years since this topic has been analyzed, then perhaps a system with the following 5 elements would move the needle toward compliance goals set by the Energy Commission:

1. An OPS process where the information required is the same across all jurisdictions.
2. A standard fee for Mechanical Changeouts collected by the State
3. Compliance with ACCA's Quality Installations standards and procedures are met
4. Title 24 requirements are met and test data uploaded (just as they are today)
5. Can be audited and verified by a State Agency or the Energy Commission itself

The technology already exists and is available to do this. The Statewide system can reimburse funds to all jurisdictions similar to what it currently does with Vehicle License Fees (VLF)². The merger of this technology would seem to improve the energy efficiency of California's existing buildings but only if it includes a method of ensuring ANSI accepted OI procedures are followed, can be audited and verified at any time.

Perhaps most importantly, a statewide OPS would be a big step toward bringing compliance that can be verified with technology at any time. It would help change the “culture” of non-compliance as described in the WHPA document, “*Understanding the Residential HVAC Compliance Shortfall*” because the rules would be the same across the state. Public funds would be more cost-effective by having the same message across the state in its education outreach. It would level the playing field and provide uniformity so that contractors who want to obey the law are not outbid by unlicensed persons not conforming to the law. Which is the number one reason contractors stated why they do not pull permits; Unfair competition by those not following the letter of the law and its intent

Commented [WW5]: Is this an accurate summary of the content in the 5 Memos?

- **IF SO**, for balance, a Jurisdictional Perspective summary also needs to be added.
- **IF NOT**, it is suggested that the Contractor Perspective content be removed from the Memo but **EITHER**
 - ✓ referenced on the Work Product Summary transmittal as a “Next Step” for further review and consideration, or in the “Outstanding Issues/Debates/Minority Views” section; **OR**
 - ✓ included in the Compliance Committee’s White Paper on “Understanding the Residential HVAC Compliance Shortfall”.

Commented [WW6]: The White Paper has not been approved as a Work Product so it should not be cited as a reference at this point. The sentence could be changed to clarify the point from discussion in the Compliance Committee as it is covered in published notes and reference review documents.

² Proposition 1A Protection of Local Government Revenues

In November 2004, the voters of California approved Proposition 1A, an amendment to the California state constitution intended to restore predictability and stability to local government budgets.

- [Proposition 1A Text](#) . Text of Proposition 1A. (PDF)
 - Vehicle License Fee revenue protected: [California Constitution Article XI §15](#)