

# Panel Studies: Utilities C&S Federal Advocacy – Policy Considerations for Calculating Net Attributable Savings

Paula Gruendling, California Public Utilities Commission, CA  
Kenneth M. Keating, Ph.D, OR

## ABSTRACT

The California Public Utilities Commission (CPUC) has recognized California Investor Owned Utilities' (CA IOUs) Codes and Standards program advocacy activities at state level since the late 1990s, and federal standards advocacy since mid-2000s. Since 2005, the CA IOUs have been allowed to claim savings from state advocacy activities. However, due to a lack of methods and a specific policy approach for calculation and attribution, the CA IOUs had not been credited savings from federal advocacy in the 2006-2008 Energy Efficiency Portfolio cycle. The CA IOUs have been advocates in U.S. Department of Energy (DOE) led proceedings, legislative process and in the development of ASHRAE and ICC voluntary codes.<sup>1,2</sup> During the 2010-2012 cycle, CPUC agreed to consider such savings claims and to develop methods for evaluating the savings from federal advocacy. While the independent evaluator was tasked with developing evaluation methods, Commission staff and advisors had to deal with the key policy question: how to account for CA IOUs influence in the federal standards process in order to determine appropriate savings benefits from CA ratepayer investments, including instances where federal standards preempt exiting CA standards? Commission staff and advisors considered the following components in order to develop a set of guidelines for framing savings estimates:

- Considerations for determining attribution of federal standards advocacy savings for new standards.
- Definition of potential for savings.<sup>3</sup>
- Considerations for federal preemption of previously adopted California appliance standards, which include the appropriate definitions of baselines.

This paper presents the process of developing the guidelines, challenges encountered, steps taken to overcome challenges, including how preemption of Title 20 standards affected savings streams, and future policy considerations. This paper provides results from the 2010-2012 Codes and Standards Impact evaluation including a comparison of attribution scores for the same federal and state standards.

This paper outlines the process by which the CPUC developed savings estimates for federal standards advocacy through the establishment of novel savings and attribution approaches and the leveraging of existing evaluation polices. Ultimately, this paper illustrates the need for evaluation guidelines and methods to be developed considering existing policy framework and the need for transparent, replicable and defensible process.

## Introduction

Based on existing Codes and Standards Evaluation Protocol (C&S EM&V Protocols 2006) guidelines, existing policy framework and stakeholder input, Commission staff developed a set of policy guidelines to frame the evaluation of federal advocacy savings. This paper is organized in the following

---

<sup>1</sup> The CA IOUs claimed savings from standards adopted in DOE proceedings and via the federal legislative process.

<sup>2</sup> ASHRAE - American Society of Heating, Refrigerating, and Air-Conditioning Engineers; ICC – International Code Council.

<sup>3</sup> The C&S EM&V Protocol as applied in the 2006-2008/2010-2012 evaluations: Potential Savings = unit energy savings \* number of units; Gross Savings = Potential Savings \* compliance; Net Savings = Gross Savings – NOMAD; Net Program Savings = fraction of savings attributed to IOU efforts and then allocated to individual CA IOU territory (by sales).

sections: Background, the Process of Developing Guidelines, Evaluation Results, Future Considerations, Conclusions.

## Background

Since the early 2000s, the CA IOUs have been actively advocating for broadening the reach and stringency of building and appliance standards. Their advocacy activities consist of:

- California appliance and building standards: “advocate and provide public testimony in State public proceedings; conduct research and testing and submit supporting market and technical data to the CEC; participate in consensus negotiations with industry and energy advocacy groups (which typically develop standards levels which CEC eventually adopts).” (PG&E 2013, 14-15)<sup>4</sup>
- Federal appliances standards:
  - “Provide support to DOE rulemaking process: advocate and provide public testimony in Federal public proceeding; submit supporting market and technical data to the Department of Energy (DOE), participate in consensus negotiations with industry and energy advocacy groups; develop voluntary agreements or reach standards.” (PG&E 2013, 16)
  - Federal Legislative adoption process: supporting consensus amongst stakeholders and providing technical information to support consensus building. (EEGA 7988-91 2013)

The CA IOUs were not able to claim savings from federal advocacy in the 2006-2008 evaluation cycle due to lack of clear policies, guidelines, and methods.<sup>5</sup> Two Title 20 standards were preempted during the 2006-2008 cycle, bringing IOU savings streams credit for these standards to zero.<sup>6, 7</sup>

Although there was no policy that applied directly to federal advocacy, the California Public Utilities Commission (CPUC) had a set of pre-existing policies to guide the evaluation of energy efficiency programs. This section outlines the key evaluation policies and methods considered.

**Policy.** The CPUC has adopted a comprehensive set of policies and protocols to guide savings estimates and ex-post evaluation through multiple rulings and decisions. Any new guidelines to be developed to inform evaluation of federal standards advocacy must consider the existing policies/precedents, even if federal standards were not specifically referenced. The evaluation of energy efficiency program savings follows the guidelines of the California Energy Efficiency Evaluation Protocols (EM&V Protocols) adopted by Administrative Law Judge Ruling, which includes a chapter dedicated to Codes and Standards (C&S) evaluation. (ALJ Ruling 2006) According to the C&S EM&V Protocols, gross savings must be adjusted to account for the program’s influence on the change in the standard, with the influence ranging from zero, or no influence, to 100%. To accomplish that, the independent evaluator has to consider all key entities involved in the technical development and advocacy to support the adoption of the standard. (C&S EM&V Protocols, 2006) In addition, the CPUC clarified that C&S savings should be counted only to the extent that they occur within the IOU service territory, and that the baseline for savings should be the previous standard or prevailing market practice, if no prior standard existed (CPUC Decision (D.)10-04-029, 46).

**Attribution methods.** ‘Attribution refers to the portion of energy savings that can be credited to utilities’ C&S Program efforts for enabling or assisting the adoption of each appliance or building

---

<sup>4</sup> In addition, building standards advocacy include support for the development of compliance manuals and compliance software.

<sup>5</sup> The results from 2006-08 were extrapolated to cover 2009 by the Commission.

<sup>6</sup> Large Packaged Commercial AC Tier 2 and Spay Rinse Valves (Cadmus 2010)

<sup>7</sup> To provide a consistent market for manufacturers and suppliers, federal law often sets standards on a national level. By law, these standards pre-empt state and local requirements or the same technology (and keep individual jurisdictions from setting different requirements). This is referred to as federal pre-emption and is a notable barrier to California’s desire to push codes to ever more efficient levels.

standard.’ (Cadmus 2014, 59)<sup>8</sup> The C&S EM&V Protocols provide only broad guidelines for the calculation of attribution scores, leaving to Commission staff, advisors and independent evaluators to define specific methods. During the 2006-2008 and 2010-2012 impact evaluation of the C&S Program, the independent evaluators developed methods for attribution. The method of determining attribution at the state and federal level involves assessing the relative contribution of the program to three factors necessary for the adoption of standards. These factors represent the fundamental aspects of attribution for the IOU efforts with the California Energy Commission (CEC) (for state standards), the U.S. Department of Energy (U.S. DOE) (for federal administrative rulemaking), or the U.S. Congress (for federal legislative rulemaking):

- Development of compliance determination methods and other special analytic techniques: the tools needed to verify compliance with requirements may vary by standard including test methods, analytical tools and/or methods to determine energy and demand savings.
- The development of code language and technical, scientific, and economic information in support of the standard: the standard must clearly define coverage, applicability and efficiency levels, including engineering calculations to determine savings estimates and economic research to determine cost-effectiveness.
- Demonstrating the feasibility or market acceptance of standard adoption: for a standard to be practical and feasible, supporters must demonstrate that the standard can be complied with, that products and technology will be available, that it does not impose unreasonable and avoidable costs and that it will not create negative externalities.

The process for determining attribution involves:

- Data collection: based on rulemaking dockets, information the CA IOU collect to support their activities in Code Change Theory Reports (CCTRs)<sup>9</sup> and interviews.
- Assessment of C&S Program contribution: an independent and disinterested panel reviews the data collected and determines contributions of the program to the three factors necessary to support adoption of each standard. This process results in factor scores for the program’s contribution.
- Determination of factor weights: the relative allocation of resources, in terms of budget, towards the three factors required to adopt a new code or standard described above in this section.
- The independent evaluator applies the factor weights to the factor scores to come up with final attribution scores.

## **The Process of Developing Guidelines for Federal Standards**

The 2010-12 process started with a consideration of savings estimates provided by the CA IOUs and how these estimates aligned with existing policy and evaluation guidelines. The CA IOUs included savings estimates for seven federal standards. Table 1 has a summary of federal standards included in the 2010-2012 savings estimates.

---

<sup>8</sup> The emphasis on adoption of codes and standards is different from policies’ evaluated in other jurisdictions to reward increases in compliance. This is an area of research that is fraught with many methodological issues also.

<sup>9</sup> Code Change Theory Reports are developed by the IOUs to track and document their contributions to the process of adoption of C&S.

**Table 1 – Summary of Standards Included in 2010-2012 CA IOUs Estimates**

Standard Code	Standard Name	Status <sup>a</sup>
Fed 1	Electric Motors 1-200 HP	New Standard
Fed 2	Refrigerated Beverage Vending Machine	Preempts CA Title 20
Fed 3	Commercial Refrigeration	Preempts CA Title 20
Fed 4	ASHRAE Products (Commercial Boilers)	New Standard
Fed 5	Residential Gas Ranges	New Standard
Fed 6	Incandescent Reflector Lamps	Preempts 2 CA Title 20 standards
Fed 7	General Service Fluorescent Lamps	New Standard

a. Title 20: Appliance Efficiency Regulations (California Code of Regulations, Title 20, Sections 1601 through 1608)

Source: Cadmus (2014)

The issues encountered with the savings estimates informed the process of defining guidelines:

- For new standards, the CA IOUs savings claims started with potential savings for the entire U.S. territory.
- For preempted standards, the CA IOUs included the same attribution score as for Title 20.
- There was no CCTR for federal standards that preempted Title 20 standards.

Commission staff and advisors analyzed the savings claims, including how well they followed CPUC existing policy and guidelines, and then developed a set of proposed policies that could be discussed in a public process:

- A method for determining attribution of federal standards advocacy savings for new standards.
- A definition of potential for savings.<sup>10</sup>
- A method for dealing with federal preemption of previously adopted Title 20, including baseline definition.

In parallel, the independent evaluation contractor developed methods to determine attribution scores.

Commission staff presented the policy proposals in a public workshop and solicited comments or alternative proposals to the recommended policy approach.<sup>11</sup> The remainder of this section describes (1) the public process for a policy approach to evaluation methods to estimate savings resulting from support for adoption of federal standards, (2) attribution guidelines for new federal standards, (3) the analysis and process for adjustment of the savings potential, and (4) treatment of baseline and attribution of preempted standards.

### **Public/Stakeholder Process**

The guidelines discussed in this session were based on several rounds of discussions and input provided by stakeholders.<sup>12</sup> In addition, Commission staff, advisors and independent evaluators

<sup>10</sup> The C&S EM&V Protocol as applied in the 2006-2008 evaluation: Potential Savings = unit energy savings \* number of units; Gross Savings = Potential Savings \* compliance; Net Savings = Gross Savings – NOMAD; Net Program Savings = fraction of savings attributed to IOU efforts and then allocated to individual CA IOU territory (by sales).

<sup>11</sup> Commission staff hosted a public workshop on 10/18/2013. Materials can be downloaded from <http://www.energydataweb.com>, search word ‘C&S’. The independent evaluators presented their proposed methods for calculating attribution scores in the same workshop.

<sup>12</sup> Stakeholders in the this public process includes, but not limited to, the following parties: Investor Owned Utilities and contractos, program implementers, energy efficiency advocates such as National Resource Defense Council (NRDC) and Appliance Standards Awareness Project (ASAP); consumer advocates such as Office of Ratepayer Advocates (ORA) and

presented the proposed approach and methods in a public workshop where parties were able to discuss the proposal, welcomed to ask questions and clarifications, and provide feedback. Commission staff also requested parties to provide written comments after the workshop including suggestions that could improve staff and contractor proposals. Stakeholders reacted to different aspects of the staff proposal, but the overall consensus led to very strong support for the CA IOUs to participate in and be recognized for their work in helping establish the federal standards.

### **Attribution Guidelines for New Federal Standards**

The C&S EM&V Protocols basic attribution guideline was broad: ‘to assign causation percentages for the change to various change agents identified by the stakeholders, including direct or indirect efforts of the program.’ (C&S EM&V Protocols 2006, 91) For instance, if three entities were responsible for the adoption of a standard, the savings credit should reflect the contribution of all three entities. Therefore, the three ‘parents’ of the code should divide the credit for the portion of the national savings that occurred within California. This follows the same logic used to determine attribution of Title 20 standards. The CA IOUs get credit for the support they provided for the standard adoption, not all the possible credit.<sup>13</sup> In addition, D.10-04-029 ordered that the C&S Program could only claim savings that occurred within their service territory and benefited their ratepayers, not in all of California.

Thus, Commission staff recommended that attribution of federal standards should reflect the efforts of all key entities involved. The IOU program should be credited savings proportional to their effort and contribution to the standard development and adoption limited to their service territory. Commission staff directed the evaluation contractor to develop methods that would account for the C&S program efforts, including how to deal with the influence of existing Title 20 and Codes and Standards Enhancement (CASE) reports that often are used as background data within the federal process.

In reaction to the Commission staff proposal during development of the recommendations, both in the workshop and in written comments, some stakeholders pointed to the process of standard development and adoption at federal level as being different from California. In California, the CA IOUs provide a large portion of the effort for standard development and adoption, resulting in relatively high attribution scores. The federal process involves many more stakeholders and is largely led by the U.S. Department of Energy (in DOE led proceedings). This was viewed as potentially resulting in lower attribution scores for CA IOUs, especially when preemption of state standards occur, and lower incentives for participating in the federal standards process. This concern will be dealt with in the sections below as it touches different aspects of the recommendation.

### **Adjustment of Savings Potential**

Commission staff’s proposal recommended that the savings potential for federal standards be calculated based on the California share of U.S. savings prior to Gross and Net adjustments. Commission staff suggested 12%<sup>14</sup> to apply in the majority of cases. This would ensure that potential reflects the maximum to be realized in California as the basis for subsequent savings adjustments.

---

The Utility Reform Network (TURN). There are other parties that may not have participated in the process discussed in this paper but are involved in the regulatory process.

<sup>13</sup> In the federal process, Congress mandates the DOE to open rulemakings to regulate appliances. The attribution of federal standards is based on the participation and contribution of entities, including the CA IOUs, to support the development and adoption of proposed standard language, during the rulemaking. The IOUs can influence the legislative decision to order DOE to open the rulemaking as well as the likelihood of final rules and their stringency. In California, The CEC initiates a rulemaking and solicits proposals for the standards under consideration from entities willing to participate in the process. This activity may delegate more responsibility to these entities in comparison to DOE led process. Regardless, the CEC determines the scope of the rulemaking and is responsible for ultimate adoption.

<sup>14</sup> Based on percentage of national product sales.

Stakeholders supported the proposed approach with a caveat that 12% is a ‘reasonable estimate’ in the majority of cases, but in some cases, for instance swimming pool pumps, the California market share may be higher than 12%. Therefore, Commission staff should consider the specific standard before determining the California level adjustment. Commission staff acknowledged that the 12% is an estimate that may apply to most cases, but not all. Therefore the adjustment to California potential should be specific to the standard in question.

However, some stakeholders proposed attribution to be applied directly to U.S. savings potential, prior to any Gross or Net adjustments with a suggested cap at the maximum savings that could be attributed to California based on share of national product sales. This approach would allow the CA IOUs to receive 100% of California share of savings credit. Commission staff could not support a calculation based on national potential. This concept did not meet two previous CPUC rules: first, that the CA IOUs could only claim savings realized in their territory; and second that the C&S EM&V Protocols states that attribution should consider all key stakeholders involved when calculating credit. The first policy violation meant that CA IOUs would be counting savings outside their territory for the purposes of meeting their savings goals.<sup>15</sup> Moreover, if a method depends on an arbitrary cap to avoid credit going beyond what is reasonable, it is not logically sound. The second implies that CA IOUs would claim savings that should be attributed to other potential ‘parents’ of the standard.

### **Treatment of Preempted Standards**

Preempted Title 20 standards posed a challenge. Here the key policy question was how to ensure the CA IOUs continue to support CA energy efficiency interests at the federal level without ignoring the fact that with federal pre-emption, the Title 20 was no longer the law of the land. Commission staff had to deal with two issues: (1) the appropriate baseline for a preempted standard; (2) the appropriate attribution guideline for preempted standards. First, this section addresses the baseline question, then the attribution. A key consideration was that first year savings streams from CA IOU-supported Title 20 standards would potentially stop with preemption. Stakeholders argued in comments that savings should continue to accrue, or at least not be eliminated or significantly reduced, for the utilities for a reasonable time frame whether or not federal standards are adopted. Stakeholders pointed to federal standards being set in large part due to existence of the California standard.

**Baseline.** Stakeholders argued that first year savings from a Title 20 standard should not stop after preemption simply because of the assumption that a preempting federal standard resets the baseline. This would result in the Title 20 being the previous standard. If the federal standard was of less or the same stringency, savings would continue under Title 20 and no federal standards savings would be credited. If the federal standard was more stringent, the CA IOUs could get the difference above the Title 20 as a federal standard to the extent that they influenced its adoption. Stakeholders also argued that federal standards are subsequently adopted into the Title 20 regulation, so they should be considered as such.<sup>16</sup> There are several policy problems with this approach.

Commission staff and advisors based their method on the assumption that allowing credit for Title 20 savings to continue unchanged after federal preemption is in effect ignoring that a new standard came into effect via a different process with different stakeholders. The CA IOUs may or may not have participated in that process. It is impossible to ignore that the federal standard replaced the Title 20

---

<sup>15</sup> Even though in 2010-2012 the CA IOUs did not have separate C&S goals, 100% of their advocacy counted towards meeting goals of the portfolio. The 2013-2015 cycle established separate goals for the C&S program.

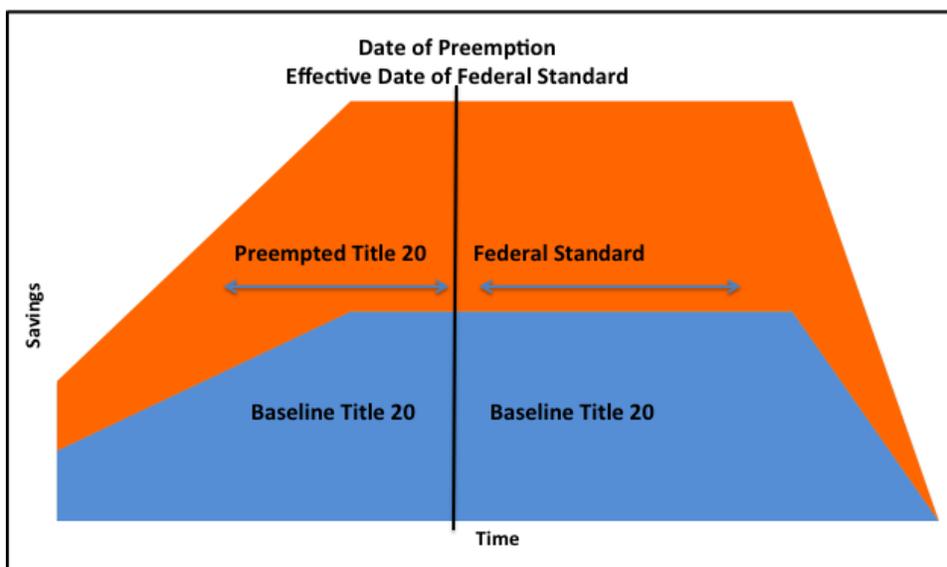
<sup>16</sup> Section 1605 (a) of Title 20 Appliance Regulation states: “Section 1605.1 contains standards that are the same as the federal standards contained in, or adopted in regulations pursuant to NAECA or EPCACT.” However, the fact that the federal standard is included into Title 20 is not justification for not treating it as a federal standard. This process is a fail-safe measure in case the environment changes, so regulations in CA are protected.

standard: once preemption happened, the Title 20 no longer produced savings, but the federal standard did. Interestingly, the process of determining a federal standard baseline revealed an issue that impacted not only federal savings but the entire C&S impact evaluation: a few stakeholders had an interpretation of C&S savings baseline that differed from CPUC policy.

Some stakeholders argued that the calculation of C&S energy savings was based on an evaluation precedent where savings from the previous standard continues as each new standard is adopted. Incremental savings from new standards are layered on top of the previously existing standards. While it is true that new standards savings are based on the foundation of previous standards, D.10-04-029 defined the baseline for gross savings as the previous standard, so savings from the previous standard stops when the new one starts.<sup>17</sup> CPUC determined that once a standard becomes the baseline, the savings streams should stop.

Nevertheless, the CA IOUs often have contributed to the federal adoption process of any federal standard and all parties agreed that it was important that the activity was accurately recognized. Most importantly, the CPUC has supported federal advocacy activity by approving the CA IOU Program Implementation Plans and budgets, which included federal advocacy. Moreover, stakeholders asserted that if preemption of CA standards continues or accelerates, depending on the political climate, not recognizing the IOU role could be a disincentive for the utilities to work hard to support the adoption of federal standards. Finally, the fact that many federal standards may have been modeled after Title 20 called for a consideration of the impact California standards advocacy have on national standards.

**Figure 1 – Baseline for Preempted Standards**



Commission staff and advisors considered the effect that having the federal standard re-set the baseline may have on the program, the relationship between a Title 20 and a federal standard, the role of the CA IOUs and existing evaluation policy framework. The most accurate interpretation of preemption pointed to recognizing that the federal standard in effect replaced the Title 20, as depicted in Figure 1. If the federal regulation replaced the CA regulation, the baseline is not reset, but the effect of the standards

<sup>17</sup> This decision resolved the long-standing question of C&S advocacy baseline. Savings claims in 2010-2012 were subsequently adjusted to reflect this policy. This also affected how C&S goals were set and Commission staff and independent evaluators are now working to align goals, savings claims and ex-ante savings.

happens sequentially: the Title 20 is effective until preemption, then the federal standard replaces that effect. This was in line with the baseline definition from D.10-04-029, where the previous standard or market practice is the baseline of the existing standard. In this case the need was to re-evaluate the preempted standard as a federal one, considering the same baseline as the preempted Title 20. This approach also rewards the CA IOUs for their effort and contribution to the federal standard setting. If the federal standard was less, more or the same stringency as the existing Title 20, savings would continue as a federal standard and re-evaluated as such. If the C&S program contributed to the process, this contribution should be reflected in the attribution score, if the C&S program did not contribute at all to the process, savings streams would stop. Table 2 summarizes Commission staff recommendation for baseline of federal standards:

**Table 2 – Commission Staff Final Recommendation for Federal Advocacy Attribution**

<b>Title 20 Standard</b>	<b>Federal Pre-emption Efficiency</b>	<b>Gross Baseline for the existing CA case (1)</b>	<b>Proposed Efficiency after Federal Standard (2)</b>	<b>Attribution (3)</b>	<b>Net savings</b>	<b>Potential Impact</b>
Does not exist	Federal Standard	Prevailing market practice in CA	Federal Standard	IOU's Federal Efforts	$[(2) - (1)] * (3)$	Full Saving Credit from baseline in accord with computed federal attribution
Exists	Higher than T20	Prior T20	Federal standard	IOU's Federal Efforts	$[(2) - (1)] * (3)$	Incremental savings potential from more stringent federal standard. All savings credit above previous T-20 baseline times the computed federal attribution.
Exists	Same as T20	Prior T20	Federal standard	IOU's Federal Efforts	$[(2) - (1)] * (3)$	No incremental savings potential. Savings credit above previous T-20 baseline times the computed federal attribution.
Exists	Lower than T20	Prior T20	Federal Standard	IOU's Federal Effort	$[(2) - (1)] * (3)$	Savings credit reduced for gross and net savings with computed attribution.

\*Source: Attribution Workshop 10/18/2013

**Attribution.** The independent evaluators developed methods that accounted for the relative contribution of the C&S Program in the federal standard development based on Commission staff direction. The CA IOUs were requested to provide CCTRs to support the adoption of federal standards, including the ones preempted. The independent evaluator also interviewed stakeholders involved in the standard process, both at the DOE and U.S. Congress. For preempted standards, the influence of a pre-existing Title 20 and its potential influence in the process was documented and accounted for.

Five individuals experienced in and knowledgeable of the federal standards process were selected as members of the attribution panel. Four had participated in the attribution panel for state standards. The panel met for two days to discuss the information provided and define the final attribution scores. The panel was entirely responsible for determining the attribution levels. The panelists were instructed to judge the contribution of the program to each factor relative to the contributions of other stakeholders such as industry members, efficiency advocates, the CEC, and the DOE.

**Effective Date of Preemption.** Stakeholders commented that the preemption should take effect at the effective date of the federal standard, not at adoption. Commission staff accepted this recommendation. Therefore the Title 20 remained in effect until the federal standard effective date.

## Evaluation Results

This section presents results of the evaluation including comparison detail of factor scores; factor weights and final attribution score for one case of a preempted standard. Although the overall methods remained consistent in 2006-2008 and 2010-2012 evaluations, there were some key differences. In the 2006-2008 evaluation, the expert panel consisted of independent evaluators’ staff and the independent evaluator developed recommended scores to inform the discussion. In contrast, the 2010-2012 evaluation panel consisted of individuals not related to the independent contractor and the panel did not have any recommended scores to inform the discussion. In both cycles the independent contractor prepared summary documents to present the research to document CA IOU’s contribution to standard’s development and adoption. Table 3 presents the attribution scores for federal standards, including preempted standards:

**Table 3 – Federal Standards Final Attribution Scores, Including Preempted**

Standard Code	Standard Name	Title 20 Attribution Final Score	Status	Federal Attribution Final Score
Fed 1	Electric Motors 1-200 HP	N/A	New Standard	52%
Fed 2	Refrigerated Beverage Vending Machine	62% (Std 5)	Preempts CA Title 20	45%
Fed 3	Commercial Refrigeration	80% (Std1) 80% (Std 2) 79% (Std 3)	Preempts CA Title 20	44%
Fed 4*	ASHRAE Products (Commercial Boilers)	N/A	New Standard	N/A
Fed 5	Residential Gas Ranges	N/A	New Standard	22%
Fed 6	Incandescent Reflector Lamps	61% (Std 22a) 61% (Std 22b)	Preempts 2 CA Title 20 standards	27%
Fed 7	General Service	N/A	New Standard	19%

	Fluorescent Lamps			
Std 11b	General-Service Incandescent Lamps, Tier 2	73%	Title 20 Preempted by EISA 2007, no savings claims included	N/A
Std 25	General Purpose Lighting 100W	76%	Title 20 Preempted by EISA 2007, no savings claims included	N/A
Std 26	General Purpose Lighting 100W	76%	Title 20 Preempted by EISA 2007, no savings claims included	N/A

\*Source: adapted from Cadmus (2010), Table 33; Cadmus (2014), Table 41

### One Example for Preempted Standards

As stated in the Background section, the attribution score is a function of the relative effort of entities involved in the development and adoption process of the standard and the relative weight of the resources necessary. The independent panelists determined the factor scores through an independent process. The panelists were entirely responsible for that determination, based on supporting information prepared by the independent evaluator and the panelists' knowledge of the standard setting process. The example below illustrates the factor scores and weights for a federal standard that preempted three California standards.

**Commercial Refrigeration.** Fed 3 became effective on January 2012 and preempted three Title 20 standards (Std 1- Commercial Refrigeration Equip. Solid Door; Std 2 - Commercial Refrigeration Equip. Transparent Door; Std 3 – Commercial Ice Maker Equip.).

**Table 4.** Std 1-3 and Fed 3 Factor Scores, Weights and Final Attribution Scores

Standard	Independent Panel-Assigned Factor Score for IOUs			Independent Contractor Assigned Weight (adds to 100%)			Final Attribution Score
	Compliance	Technical	Feasibility	Compliance	Technical	Feasibility	
CA Std 1	50%	80%	85%	5.9%	56.7%	37.4%	80%
CA Std 2	50%	80%	85%	5.9%	57.3%	36.8%	80%
CA Std 3	90%	80%	85%	11.5%	57.4%	31.1%	79%
Fed 3	20%	63%	40%	28%	40%	33%	44%

\*Source: adapted from Cadmus (2010), Table 33; Cadmus (2014), Table 41

Factor weights differed slightly for the factor Compliance with the federal standard requiring more resources to develop compliance tools, but were in line for the factor Feasibility for both state and federal standards. The factor Technical was slightly more resource intensive for the state standards in comparison to the federal standard. The factor score Compliance was much lower for the federal standard in comparison to all three state standards. Technical and Feasibility factor scores were also lower for the federal standard in comparison to the three preempted state standards. The final attribution score for the federal standard is about half of the three preempted standards, showing that the relative contribution of the CA IOUs was higher for the state standard adoption than for the federal standard.

This example supports Commission staff and advisors assumption that the federal process and state process for adoption are inherently different. It is impossible to ignore that a standard regulating the same technical features of a product replaced an existing standard and that the CA IOUs had some contribution in that process, but not necessarily at the same level as the preempted standards.

## **Future Considerations**

The 2010-2012 evaluation cycle was the first cycle where the Commission allowed for the consideration of federal standards savings claims. In addition, the analysis to determine which standards were preempted and subsequent requests for information did not happen until the evaluation team (Commission staff, advisors and evaluation contractor) could establish appropriate methods. This delay and lack of guidelines may have compromised the gathering of information necessary to support the calculation of federal attribution scores.

The evaluation team and the CA IOUs were more comfortable with the Title 20 standards development and the CA IOUs were able to better support efforts for these standards. The evaluation team reviewed the federal attribution process after concluding the evaluation and developed a set of recommendations to inform future evaluation efforts:

- *Improve understanding of the role of various entities in the DOE process. While the evaluation team has had experience with the CEC led process, the federal processes for both DOE and U.S. Congress are more complex.*
- *Improve understanding of the process for legislative adopted standards (U.S. Congress). While the CEC and DOE processes are based on structured rulemaking, legislative adoption of standards, such as the EISA 2007 standards, is less transparent. The CA IOUs should document their efforts in order to help inform the process, including exchanges, contacts and data supplied to help the evaluation team map the process.*
- *Better documentation of who were the key actors, including standard specific entities. The CCTRs should include a list of key actors, naming specific participants to help recruitment for interviews during the evaluation.*
- *Conduct attribution panels in person. Due to timing, the independent contractor conducted the attribution panel for federal attribution over the phone and separate from the panels for Title 20 and building standards. In person panels may provide more complete and integrated discussions.*
- *CA IOUs should produce CCTRs for each federal standard, regardless of a pre-existing Title 20. The CA IOUs did not produce EISA 2007 CCTRs that preempted Stds 11b, 25 and 26 and were not able to get savings credits. Commission staff has agreed to consider claims for the EISA 2007 standards in the 2013-2014 evaluation cycle, but not retroactively.*
- *Continuous improvement of methods. The independent contractor developed a methodology for determining attribution scores that followed the same structure of Title 20 and building standards. However, the DOE and legislative adoption processes may call for more targeted methods. Commission staff is open to revisiting the attribution methodology developed by the independent evaluator in order to improve the process.*

## **Conclusion**

This paper discussed the process of setting policy guidelines for federal advocacy savings attribution. The evaluation team was faced with a challenge during the 2010-2012 C&S evaluation cycle to determine guidelines for attribution of federal standards advocacy savings. In this case, there were no guidelines that applied specifically to federal advocacy, but the CPUC had an existing set of evaluation policies and past precedent that had to be taken into account. The challenge was to follow the existing evaluation policies to determine the accurate level of attribution for this activity. Commission staff and

advisors considered stakeholder input throughout the process, seeking comments and suggestions. While the process will eventually benefit from improved data collection and refined methods, the overall guidelines have been developed in a collaborative way. The discussion in this paper is important to demonstrate that guidelines and methods cannot be developed in a vacuum, they need to consider the existing policy framework, must be transparent, replicable and defensible.

## References

- ALJ Ruling (2006). *Administrative Law Judge's Ruling Adopting Protocols for Process and Review of Post-2005 Evaluation, Measurement and Verification (EM&V) Activities*, issued on 01/11/2006 for R.01-08-028, available at [http://docs.cpuc.ca.gov/PublishedDocs/WORD\\_PDF/RULINGS/52676.PDF](http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/RULINGS/52676.PDF):
- Attribution Workshop (2013) *Attribution Codes and Standards Program Evaluation – Attribution of Savings Claims from Advocacy of Appliances Federal Standard*, October 18. Workshop materials and submitted comments can be downloaded from [www.energydataweb.com](http://www.energydataweb.com) – search parameters Portfolio Cycle '2010-2012' and Search Text 'C&S'
- Cadmus (2010). *California Investor Owned Utilities' Codes and Standards Program Evaluation for Program Years 2006-2008* prepared for California Public Utilities Commission, San Francisco, CA. CALMAC Study ID: CPU0030.06
- Cadmus (2014). *Statewide Codes and Standards Program Impact Evaluation Report For Program Years 2010 – 2012* prepared for California Public Utilities Commission, San Francisco, CA. CALMAC Study ID: CPU0070.03
- C&S EM&V Protocols (2006). *California Energy Efficiency Evaluation Protocols: Technical, Methodological, and Reporting Requirements for Evaluation Professionals*, Codes and Standards and Compliance enhancement Evaluation Protocol, 81-104. TecMarket Works Team prepared for the California Public Utilities Commission, San Francisco, CA
- CPUC Decision (D.)10-04-029. *Decision Determining Evaluation, Measurement and Verification Processes for 2010 Through 2012 Energy Efficiency Portfolios*, issued on 04/29/2010 for A.08-07-021, available at: [http://docs.cpuc.ca.gov/PublishedDocs/WORD\\_PDF/FINAL\\_DECISION/116710.PDF](http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/116710.PDF)
- EEGA 7988-91 (2013) Response to CPUC data request – Code Change Theory Reports to Support Attribution Calculation of Federal Standards submitted on 12/4/2013
- (PG&E 2013) Pacific Gas & Electric Program Implementation Plan PY 2013-2014, submitted on 4/23/2014 available at [www.eestats.cpuc.ca.gov](http://www.eestats.cpuc.ca.gov) under Regulatory.