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Re: Request to Remove PG&E Slide Misrepresenting Findings of the DNV-GL Permit Compliance Study - Res HVAC Retrofit Study Phase 1

To: CAEECC Co-Chairs and Facilitator:

On behalf of BlueGreen Alliance, The Utility Reform Network (TURN), IBEW-NECA California State Labor Management Cooperation Committee, Sierra Club, California Community Colleges Chancellor’s Office, Joint Committee on Energy and Environmental Policy, Western States Council of Sheet Metal Workers, California State Pipe Trades Council, California Operating and Stationary Engineers Local 39 and 501, the Greenlining Institute, and the Center for Sustainable Energy, I am writing to request that Slide 10 be removed from PG&E’s July 13, 2016 presentation on “Codes and Standards Program: Understanding Energy Code Compliance.” This presentation is currently posted on the California Energy Efficiency Coordinating Committee (CAEECC) website. Our request is made on the grounds that Slide 10 to this presentation fails to accurately represent the findings of the finalized report on the DNV GL Res HVAC Retrofit Study Phase 1.

Slide 10 claims that the DNV GL Res HVAC Retrofit Study Phase 1 study finds that “overall energy savings in permitted retrofits [are] only slightly higher than Energy Savings in retrofits without permits.” This statement is incorrect and highly misleading.

First, Slide 10 fails to disclose that it is citing to a preliminary, draft version of the DNV GL report on this study. The finalized report on this study was released on July 18, 2016 – after Slide 10 was posted.

Second, the finalized DNV GL report expressly rejects using its findings to draw the conclusion stated in Slide 10. The finalized DNV GL report states that the small sample size of the study along with the significant potential for self-selection bias limits the reliability of the preliminary results. The report, for example, only evaluated 26 HVAC installations that received final permit closure and each of these installations varied in scope. As a result, many of the individual measures evaluated for compliance only identified one or two relevant permitted HVAC installations for comparison points. As a result, the report opens with a statement that this data “should not be perceived as

1 These organizations include participants in the California Energy Efficiency Coordinating Committee and the members of the Coalition for Energy Efficiency - a coalition of environmental, energy, labor and consumer organizations formed to review and reach consensus on energy efficiency incentive policy issues.

2 http://www.caeecc.org/#!blank-38/lrfjs

3 http://www.energydataweb.com/cpucFiles/pdaDocs/1598/HVAC6%20Market%20Assessment%20of%20Residential%20HVAC%20Installations%20Results%20Phase%20One_FINAL.pdf
valid for drawing conclusions or applying to any larger population⁴ and finishes with a warning that “conclusions cannot be drawn from these partial results.”⁵

Third, Slide 10’s claim that the study is based on randomly selected retrofits is misleading and incomplete. Nowhere does the DNV GL report state that the selection of retrofits was entirely random. To the contrary, the report expressly cautions that the retrofits reviewed had a “significant potential for self-selection bias” that caused the reliability of the results to be limited.

Fourth, Slide 10’s claim that there is no statistically significant difference between energy savings in retrofits with permits or without permits is misleading and incorrect. The report actually states that, due to the small sample size and the large error bounds, no statistically significant conclusions could be made from the study. Moreover, the preliminary findings themselves show that the permitted HVAC installations may have substantially higher energy savings than non-permitted HVAC installations, not just “slightly higher” as asserted by Slide 10.

Looking solely at its limited data, the DNV GL report finds that permitted HVAC retrofits have a 74% electric energy savings compliance rate versus a 67% compliance rate for non-permitted retrofits – a difference of 7 percentage points. Based on a 90% confidence bound, the DNV GL report shows that average electric energy compliance rates could be as high as 80% for permitted retrofits⁶ and as low as 63% for non-permitted retrofits⁷ – a difference of up to 17 percentage points. The actual potential difference would be even greater if based on a more standard 95% or 97% confidence bound.

These differences are even greater when looking at gas savings. Looking solely at its limited data, the DNV GL report finds that permitted HVAC retrofits have a 77% gas energy savings compliance rate versus a 62% compliance rate for non-permitted retrofits – a difference of 15 percentage points. Based on a 90% confidence bound, the DNV GL report shows that average gas energy compliance rates could be as high as 94% for permitted retrofits⁸ and as low as 52% for non-permitted retrofits⁹ – a difference of up to 42 percentage points. The actual potential difference would be even greater if based on a more standard 95% or 97% confidence bound.

Accordingly, the DNV GL study does not support the claim made in Slide 10 that there is no statistically significant difference between energy savings in retrofits with permits or without permits.

Fifth, Slide 10 also fails to disclose the broader limitations of this study. It fails to disclose that this study is limited solely to HVAC systems in single family residential homes. The study is not applicable to multi-family or nonresidential buildings. If also fails to note the inapplicability of this study to lighting retrofits or other non-HVAC energy efficiency retrofits.

Multi-family and nonresidential buildings generally have much more complex HVAC and lighting systems and have stricter commissioning and acceptance testing requirements that need to be complied with before permit signoff. Accordingly, the difference between energy savings in permitted and non-permitted work would likely be greater in scope than found in single family residential homes.

⁴ DNV-GL, Results of HVAC6 Phase One Market Assessment of Residential HVAC Installations (July 18, 2016) at p.1.
⁵ DNV-GL, Results of HVAC6 Phase One Market Assessment of Residential HVAC Installations (July 18, 2016) at p.35.
⁶ Based on a ± 6 point margin of error at the 90% confidence bound.
⁷ Based on a ± 4 point margin of error at the 90% confidence bound.
⁸ Based on a ± 17 point margin of error at the 90% confidence bound.
⁹ Based on a ± 10 point margin of error at the 90% confidence bound.
Sixth, Slide 10 fails to disclose that 15 of the 26 HVAC retrofits designated by the study as permitted retrofits did not have the required HERS compliance forms in the registry and had not complied with title 24 HERS verification requirements. The reliance on permits that were improperly closed without any HERS verification substantially skews the findings of this report. Permit closure requirements need to go hand in hand with actual enforcement at the permitting level. Permits that are improperly closed are not valid indicators of the gap between non-permitted retrofits and permitted retrofits.

We also note that, at the time the HVAC installations studied in this report were installed, many building departments were not enforcing title 24 compliance documentation requirements. This enforcement gap is changing rapidly as building officials are trained in what documentation they need to verify. As enforcement rates go up, the performance gap between permitted and non-permitted HVAC systems will increase.

The coalition is concerned that the continued posting of Slide 10 on the internet will lead to persons relying on, and citing to, this inaccurate slide to support future policy decisions. Indeed, PG&E consultant Jon McHugh’s recent Reply Comments to the Proposed Decision Providing Guidance for Initial Energy Efficiency Rolling Portfolio Business Plan Filings both reprinted Slide 10 and repeated the false claim that this study “found little difference between the energy performance of permitted systems vs. non-permitted systems.”10 We respectfully request that the EE Coordinating Council ask PG&E to remove this slide from its posted presentation.

Respectfully submitted,

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