

I have spoken to several of the IOU folks about the sorts of questions I am hoping to have answered at Friday's 10/22 meeting on HVAC QM status. For some reason, I don't know who the appropriate SDG&E program person(s) are, so can someone (Athena?) please forward to them?

It would be helpful if you structured your presentation(s) to address these questions. Here are my questions:

**Response—Note that SDG&E provides responses to only those questions that pertain specifically to SDG&E programs. All other questions will be addressed by the Statewide Program Team presentation.**

**Question 1:**

How does the 2006-2008 HVAC QM program (i.e., the VSP model) function? I would like to see a flow diagram representing:

- (a) the various entities involved (HVAC contractor / service company, HVAC technician, Verification Service Providers (VSP), QM contractor (if different from HVAC contractor), customer, utility, code official, etc.); and
- (b) how \$, services, and other interactions flow between them

**SDG&E Response to Question 1a & b:**

SDG&E had 2 third party programs that were implemented in 2006-2008 that addressed HVAC QM, the Upstream HVAC Motors Program and the Comprehensive HVAC Training, Installation and Maintenance Program. Attached are the concept papers submitted in SDG&E's 2006-2008 Compliance Advice Letter 1769-E/1591-G (February 1, 2006) describing the general program design for these programs.



Upstream  
HVAC\_Motors.doc



Comprehensive  
HVAC Training, Instal

SDG&E provides the following flow diagrams to illustrate how these programs were implemented. The flow diagrams identify the various roles of the different "market" actors in the program. Please refer to attachments below.



2006-2008  
Commercial HVAC Pro



2006-2008  
Residential HVAC Pro

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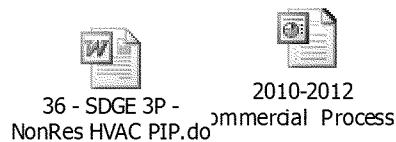
Question 2:

How will the 2010-2012 HVAC QM program function? I would like to see a flow diagram representing similar information as in question #1.

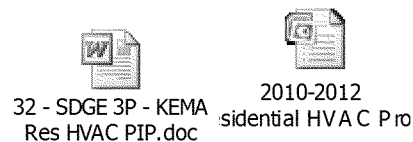
**SDG&E Response to Question 2:**

SDG&E has 2 third party programs that are approved for implementation in 2010-2012 program cycle that are related to HVAC QM, the Residential HVAC Program and Commercial HVAC Program. The Residential HVAC Tune-up/Quality Installation of New Equipment (KEMA) Program and Premium Efficiency Cooling Program (Conservation Services Group-CSG) are SDG&E's resource programs for this area.

The SDG&E Commercial program (Premium Efficiency Cooling) offers a 25 point ACCA based tune up that covers 85% of the tasks required in the Commercial ACCA 180 Manual. Attached are the Commercial HVAC PIP and flowchart submitted in SDG&E's 2010-2012 Application describing the general program design for these program.



The Residential program provides rebates and/or incentives for the implementation of the following measures in the Residential HVAC market: Refrigerant charge and airflow (RCA) diagnostic tune-ups, Condenser coil cleaning, Duct test and sealing; and High efficiency air conditioners. Attached are the Residential HVAC PIP submitted in SDG&E's 2010-2012 Application and the flowchart describing the general program design for the program.



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**Question 3:**

Is the 2010-2012 HVAC QM program being implemented exactly in accordance with the Program Implementation Plan (PIP), and if not, what modifications have been made?

**SDG&E Response to Question 3:**

SDG&E is actively participating in the 2010-2012 Statewide HVAC QM program.

**Question 5:**

Why have PG&E and SDG&E chosen to continue the 2006-2008 program, and why has SCE chosen to discontinue it?

(a) Have PG&E / SDG&E and SCE drawn different conclusions from the 2006-2008 evaluation report?

(b) What strategies is each IOU pursuing through the choices they have made to date about the 2006-2008 program delivery model, and how / when are these strategies going to converge (if at all)?

**SDG&E Response to Question 5:**

SDG&E discontinued its 2006-2009 HVAC program in Q1 2010 as the Commission allowed 2006-2009 third party contracts to continue until the first quarter of 2010 consistent with D.09-09-047 at page 322, which states,

“In order to ensure continuity and mitigate uncertainty, for only those third party and government partnership programs and other relevant contracts that will be continued and implemented as part of programs during the 2010-2012 period, we will require the utilities to continue existing contracts into 2010 until March 1, 2010, or until 60 days after the effective date of this decision, whichever is later.”

. The 2010-2012 Residential and Commercial HVAC programs were implemented beginning Q2 2010.

**SDG&E Response to Question 5a:**

**Commercial HVAC Program:**

SDG&E agrees with evaluation studies and the statewide IOU group in concluding that there were necessary changes to the 2006-2008 programs. The 2006-2008 evaluation report indicated three core problem areas: (1) comprehensiveness of services (2) low NTG ratios related to customer awareness and active participation and (3) low realization rates based on overstated deemed savings. Additionally, technical issues related to data consistency, validation and acceptance were raised by the evaluators. SDG&E has taken steps to improve the comprehensiveness of services consistent with ANSI/ASHRAE/ACCA<sup>1</sup> Standard 180-2008, and as informed by Western Cooling Performance Alliance discussions. The 2010-2012 program as currently implemented includes (1) improving customer awareness and active participation components; (2) applies updated DEER savings for all DEER measures, and DEER baseline usage data for non-DEER work paper-based measures; and (3) improved technical validations and

<sup>1</sup> ANSI—American National Standards Institute

ASHRAE—American Society of Heating, Refrigeration and Air Conditioning Engineers

ACCA—Air Conditioning Contractors of America

acceptance processes were put in place in 2009-2010 in the SDG&E programs to address evaluator concerns. SDG&E will also incorporate any additional findings from the SCE HVAC Quality Maintenance study.

The 2010-2012 Commercial HVAC program flow utilizes the VSP model from 2006-2008, but modified to be implemented with a certified C20<sup>2</sup> HVAC contractors who offer comprehensive tune-ups consistent with ANSI/ASHRAE/ACCA Standard 180-2008, and as informed by Western Cooling Performance Alliance discussions. Participating contractors are pre-screened by the program implementer and trained in program measures by participating VSPs

The program also includes enhancements to prevent double-dipping and engage customer awareness using an on-line enrollment system and customer activation of program-issued vouchers.

### **Residential HVAC Program:**

SDG&E concluded based on the evaluation reports that a number of issues should be addressed. The issues have been addressed through: (1) improve contractor/technician qualification and selection (to move competency higher than in 2006-2008); (2) contractor/technician training (to ensure the quality of work); and (3) application of proper testing parameters (e.g., not allowing work under adverse climactic conditions when testing was not appropriate), low airflow was allowed (which could result in incorrect refrigerant charge adjustments even though the test was passed by the VSP platforms, especially under adverse weather conditions); and (4) requiring all participating contractors/technicians to have a C20 license. In addition, SDG&E will modify its program based on recommendations from the SCE HVAC Quality Maintenance study into our program design for 2010-2012.

### **SDG&E Response to Question 5b:**

#### **Commercial HVAC Program:**

SDG&E has taken steps to enhance and improve the 2006-2008 program delivery model in the 2010-2012 program cycle. SDG&E has implemented the following design changes:

- Incorporating a non-residential voucher system to encourage active customer participation and awareness of the program deliverables
- Requiring HVAC contractors to provide customers with detailed reports
- Adding additional requirements and measures to improve service comprehensiveness. SDG&E has implemented this through a 25 point Quality Maintenance protocol through the ACCA 180 Standard

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<sup>2</sup> C20 Licensed Contractor—A contractor who has trained and passed the California State Licensing Board exam for Warm-air heating, ventilation and air conditioning equipment.

**Residential HVAC Program:**

SDG&E has taken steps to enhance and improve the 2006-2008 program delivery model in the 2010-2012 program cycle. SDG&E has implemented the following design changes:

- Improved AC contractor/technician selection--The program is selecting and qualifying contractors and technicians; in the past we had a number of issues with the VSP selecting contractors, including lack of proper contractors license, lack of proper insurance and workers compensation, and poorly qualified technicians;
- Improved training AC contractor/technician training on the program AC tune up protocols for RCA, Duct Test & Seal (DTS) and coil cleaning;
- Changing the contractor/VSP payment model:
  - In the 2006-2008 program cycle, the VSPs paid the AC contractors/technicians directly on completed measures and quality of work completed.
  - In the 2010-2012 program cycle, the third party implementer pays the AC contractor/technicians and VSPs separately based on completed QA/QC (VSPs), completed measures (AC contractor/technician), and quality of work completed. This process allows the third party implementer to improve the overall performance of diagnostic testing and implementation of measure protocols.
- Improved program technical specifications for the VSP tools to implement. This process improved quality control of the QA/QC and delivery of the program measures.
- SDG&E has adopted much more of a market transformation approach to the program design. We work diligently to have the VSP advanced tools and protocols that are part and parcel of the program become part of the standard way of doing business for HVAC contractors.
- As the development of the Statewide QM program is completed the third party implementer would evaluate how to integrate the ACCA 4.0 QM program into the current tasks of program activities. On approval we would launch the newly designed QM Program based on the ACCA 4.0 QM Standard.

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Question 6:

Under what authority and from what funding source(s) (i.e., which program budget(s)) have PG&E and SDG&E continued to offer the 2006-2009 program?

**SDG&E Response to Question 6:**

SDG&E discontinued its 2006-2009 HVAC program in Q1 2010. SDG&E's 2010-2012 Residential and Commercial Quality Maintenance program began in Q2 2010. Approval for these programs were granted in Decision 09-09-047 at page. 194:

“We adopt the utilities proposed HVAC statewide programs without modification”.

It further states at pg. 199:

“Third party programs specific to HVAC only measures are listed by utility at the end of this discussion. Each of these programs enhances the Strategic Plan for HVAC by providing specific HVAC measures and services to targeted customer groups. No comments were received regarding the HVAC specific third party programs. Additional third party and utility programs containing HVAC measures with other energy efficiency measures are reviewed under the Residential, Commercial and Partnership Programs.

Finally, OP 32 states:

“The proposed Statewide and third party HVAC energy efficiency programs of Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas & Electric and Southern California Gas Company are approved”.

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**Question 11:**

How do the IOUs plan to count savings from the 2010-2012 HVAC QM program, or will it be implemented as a non-resource program? If savings are not counted, how do the IOUs plan to make up savings anticipated to come from this program in this program cycle? If savings are going to be counted, what is the anticipated TRC or the program?

**SDG&E Response to Question 11:**

SDG&E filed the SW HVAC QM Program as a non-resource program. The Residential HVAC Tune-up/Quality Installation of New Equipment (KEMA) Program and Premium Efficiency Cooling Program (CSG) are SDG&E's resource programs for this area.

Based on AL 2127-E/1903-G Table 7.2 submitted on November 23, 2009 the following are the forecasted savings and TRC for these programs:

Program	2010-2012 Gross kWh Savings	2010-2012 Gross kW Savings	2010-2012 Gross Therm Savings	TRC Ratio
3P-Res01 - Res HVAC Tune-up/Quality Installation	5,143,970	7,387	(9,622)	1.14
3P-NRes01 - Non-Res HVAC Tune-up/Quality Installation	27,481,055	11,020	(1,925)	6.34



**Question 12:**

In order to implement the 2010-2012 program as currently envisioned, will any Commission action need to be taken (e.g., Petition for Modification) to maintain compliance with Commission orders?

**SDG&E Response to Question 12:**

SDG&E does not believe that any Commission action is necessary at this time. The IOUs can approach the Commission and ED staff, as appropriate if modifications (either funding or activities) are necessary as the program progresses. SDG&E will pursue the appropriate venue to make any necessary changes to its third party programs to ensure that recommendations from the SW HVAC QM program are implemented.