

HVAC PAGETTE NOTES

April 8, 2005

INTRODUCTON:

- Duane opened the meeting and went over the agenda:
 - Welcome/introductions
 - Process Discussion
 - Measures – Equipment, Quality Installation
 - Issues – Funding, Cost Effectiveness, Market Conditions
 - Intervention Initiatives – Training, Upstream, Financing, Inspection-Raters
 - Recommendations, Summary

PROCESS:

- Equipment eligibility was discussed:
 - Air conditioning and heat pump unitary and split system equipment, up to 7 tons is eligible.
 - CEE tier I and tier II efficiency levels must be met, including specification of EER in addition to SEER, where applicable.
 - PG&E is adding AC as a prescriptive measure to its new construction program. SCE plans to include the res retrofit and new construction markets with an up-stream incentive.
 - Evap coolers were discussed. All utilities plan to support one and two stage evap coolers. SCE and SDG&E are looking into residential economizers (a form of night ventilation which uses the existing duct system)
 - Room and PTAC air conditioners were discussed. All utilities plan to offer incentives for these units which are Energy Star rated; however, there was strong sentiment that this program should be linked to turn-in of the old units.
- The type of market intervention was discussed:
 - An upstream incentive is planned for small equipment for the commercial market: 3 to 7 tons, including 3 phase models.
 - It was agreed that a certification of energy efficient performance was needed. Energy Star is considered the default, but a “California Seal” was discussed.
- Program features were discussed:
 - PG&E is planning incentives for variable speed fans. Some commented that while variable speed fans create a smaller demand, they run longer, so there may be less energy savings than it appears at first glance.
 - SCE is planning on including incentives for zoned (dampering) systems.
 - SDG&E & SCE are planning of offering incentives for residential economizers.
 - PG&E’s program will feature night cooling, proper sizing, and early retirement (replace in lieu of repair) elements.

- Mike Messinger suggested that AMI equipment might have a chip that stores information on the HVAC equipment and “as built” house plans.
- Quality installation was discussed:
 - All utilities are planning on requiring charge and airflow verification, and duct test and seal.
 - PG&E is planning on offering proper equipment sizing (load calcs) and duct sizing.
 - SCE will offer air flow balance
- Certification of trades-people was discussed:
 - The IOUs are considering requiring NATE or some other form of certification.
 - BKI noted that it believes that verification is preferable to certification.
- Compressor – coil matches and TXVs were discussed:
 - All IOUs are planning on requiring TXVs , calculated coil matches, and combustion appliance testing.
- Energy Star Labeling was discussed for installed systems:
 - This specification and related labeling should be ready next year.
- Locking Schrader Caps were suggested as a means of reducing refrigerant leakage.
- The IOUs are planning of offering system tune-ups.

ISSUES:

- Funding and cost-effectiveness were discussed:
 - John Proctor made a presentation in support of higher cost effectiveness.
 - Gary Fernstrom outlined PG&E’s approach to determining cost-effectiveness, which is to use climate zone specific full load hours and the highest related E3 marginal costs. Gary also talked about the relationship of E3 costs to demand response and load management values. Much discussion continues about the value demand reduction during critical peak and system emergency conditions.
 - Using the new approach to determining cost-effectiveness outlined above, PG&E is increasing it’s overall deemed savings small AC program budget to \$5 million, with the understanding that funds that can not be productively spent can be diverted to other programs.
- M&E was discussed for new initiatives:
 - Quick snapshots will be taken on new program elements.
 - Studies were suggested to better determine the quality of installation in new construction.
- It was agreed that close coordination was needed between the program and codes & standards.
- Market conditions were discussed:
 - It was noted that the market needs time to respond to the increased emphasis utilities are placing of small AC. Equipment may be slower to respond than quality of installation and maintenance efforts.

INTERVENTION INITIATIVES:

- Training was discussed:
 - All IOUs are planning on emphasizing quality installation.
 - PG&E is planning on using a mobile charge and airflow training demonstration.
 - All agreed that quality verification was an essential component of the program.
 - Ideally, a change in the HVAC business model can be made - from lowest cost to best value. This will take a lot of work.
 - It was agreed that a small upstream commitment can have a huge effect, but IOUs have slightly different models for how they plan to handle residential.
- Financing was discussed:
 - All IOUs are looking at financing for small commercial.
 - PG&E and SDG&E are looking at financing for residential.
 - There was a mixture of on and off-bill approaches.
- Training for raters and inspectors was discussed:
 - It was agreed that standards on training are needed
 - Utilities should endeavor to make things easier to do.
 - It was agreed that independent quality assurance is preferable to building inspectors, who are predominantly preoccupied with other non-energy related issues.
 - All IOUs are doing training on standards for new and retrofit construction