

Reliant Energy H L & P A/C Distributor and Energy Star Homes Market Transformation Programs

Presented by:

Val Jensen
Vice President, ICF Consulting

Oct 29-30, 2001

Jensen 1

Setting the Context

- Texas restructuring legislation requires 10% of incremental peak demand be met using energy efficiency.
- Initial bias away from MT - preference for standard offer programs
- Focus was less on system reliability than on “reliability” and cost of energy efficiency programs
- 5 MT program templates approved by PUCT -
 - Residential AC Distributor
 - Energy Star Homes
 - Windows
 - Large C&I New Construction
 - AC Installer

AC Distributor Program Structure

- 13 SEER minimum, split system, maximum 5.4 tons, single-family replacement/retrofit (baseline is 11.1 SEER)
- Estimated 1kW reduction per average system (3.5 tons)
- Program incentives are directed upstream to distributors rather than downstream to individual dealers/contractors or consumers.
- Participating distributors are paid a fixed incentive upon submitting the required paperwork for eligible systems installed. The program requires Manual J load sizing calculations and matched systems.
- It is up to each participating distributor to develop and implement a program to encourage dealers to participate.
- Reliant Energy HL&P verifies 10% of submitted installations for accuracy per PUCT requirements.

The 2001 Pilot Program

- Pilot scheduled to run from end of March through early December
- The 2001 Pilot Program established a goal of approximately 7,500 tons of residential cooling equipment (approx. 2500 units)
- The incentive was established at \$80 per ton (\$280 per average system).
- Based on a PUCT requirement that no single distributor may receive more than 20% of available incentive funds, participation contracts were awarded to five distributors in the Houston market - each allotted 500 units
- Budget - approx \$700,000

Program Impacts and Contribution to Reliability

- Pilot program expected to produce approx. 1500 units yielding +/- 1.5 MW.
- \$466/unit (\$466/kW)
- Pilot averaged about 190 units (190 kW) per month
- Residential central AC is important driver of summer peak in Houston and contributes to strain on distribution system.

Lessons Learned

- Distributors have achieved varying levels of program success.
- Encountered dealer resistance on performing load calculations. This issue has proven to be the single greatest obstacle to meeting program goals.
- Abuse of distributors in using a “third-party” coil in order to show a higher SEER rating.

Lessons Learned

- About 90% of all residential HVAC sales in the Houston market are made through dealer service technicians rather than by commissioned salespeople.
- Very little early replacement activity in Houston market - program didn't appear to change that behavior
- Lack of interest in load calculations, especially due to time pressures
- Technicians are rarely trained in the areas of sales and load calculation procedures.
- Need for organizations like ACCA and NATE to be more involved in providing training within a distributors base of business.

Next Steps

- Program goal of 19,940 tons in 2002, (5,700 ave units = 5.7 MW). Participation rights may be awarded to as many as seven to ten distributors.
- Distributors will be required to submit proposals and participation rights will be awarded primarily on the basis of the content of this proposal.
- Dealer training provided by Reliant Energy HL&P's Program Marketer will be revised to address service technicians and salespeople.

Comparing Programs: Reliant Distributor vs. PG&E HVAC Blitz

Reliant

Objective: Peak Reduction/MT -
2,500 units

Channel: Distributors

Duration: 8 mos

Technology: 13 SEER+

Incentive: \$80/ton (\$280/ave unit)

Impacts: 1500 units - 1 kW/unit -
1,500 kW

PG&E

Objective: Peak Reduction/MT - 700
units

Channel: Distributors/dealers

Duration: 5 mos - vast majority of
units in 3 mos.

Technology: Tier 1-10.6 EER/ 12
SEER; Tier 2-11.3 EER/ 13
SEER

Incentive: \$250/unit Tier 1
\$375/unit Tier 2

Split between dist. and dealer.
Ave was \$293/unit

Impacts: 768 units - .7kW/unit - 537
kW

Comparing Programs: Reliant Distributor vs. PG&E HVAC Blitz

Lessons

- Success of upstream programs requires sales training,
 - 90% of dealers/installers trained in PG&E thought they would sell more simply as a result of training.
 - Need for more/better training found in Reliant
- With properly trained/motivated dist/dealer network, programs/impacts can be ramped up quickly
- Distributors are key to upstream success
- Pros/cons relative to downstream programs?

Reliant Energy / H L & P ENERGY STAR® Homes Program

Energy Star Homes Program Background

- Each ENERGY STAR home constructed can save 1.2 kilowatts of peak period demand
- 2001 pilot designed to attract 1,500 new homes
- By 2005, Reliant Energy-HL&P expects to reduce peak demand by 10.2 MW with the ENERGY STAR Homes program (8,500 homes).
- Especially valuable in high growth and other grid-constrained areas - 20,000+ housing starts per year
- Baseline - 83.1 HERS rating (MEC=80; Energy Star=86)

Program Structure

Three Types of Participants

Aggregators: facilitate construction of homes to program's requirements and receive incentives for each home they deliver.

Program Marketer: generates interest and participation in the program among builders, homebuyers, and other market actors such as real estate agents and lenders.

Builders and Homebuyers: not eligible to receive incentives under this program in 2001, but enjoy benefits associated with ENERGY STAR homes

Program Structure

- Reliant Energy-H&LP pays participating aggregators of ENERGY STAR homes an incentive for each certified ENERGY STAR home built.
- Incentive levels based on aggregator bids - \$225 - \$300/house
- Pilot program budget:
 - 2001 - \$674K
 - 2002 - \$1.3M
 - 2003 - \$2.1M

Program Impacts and Contribution to Reliability

- Expect 1200 homes - \$560/home; \$466/peak kW
- Incentives averaged \$225/home
- Sub-par performance by aggregators with one exception - Weak HERS infrastructure
- Program not easily scalable in current form
- Difficult to turn program on/off; not a quick response program
- Savings are persistent

Lessons Learned

- Builders are more motivated by advertising and promotion than by dollar incentives (often willing to provide own promotional dollars);
- Weak HERS Rating infrastructure substantially limits the success of a program; and
- It is critical to target consumer interests and identify their information sources.

Next Steps

- Beginning in 2002, the incentives currently paid to the aggregators will be discontinued.
- Incentives to select builders (\$225/home) who commit predetermined allotments of their housing stock to ENERGY STAR.
- Responsibility for recruiting builders will be shifted from the aggregators to the program marketer.

General Conclusions

- Reliant HL&P programs not designed specifically as a response to reliability concerns
- Pilot programs intended to test concepts and assess market infrastructure
- Pilot experience suggests some significant gaps
- Successful reliability programs depend on elements of MT - difficult to achieve success in an “unconditioned market”
- Programs aimed at technology rather than embedded energy more suited to short-term reliability needs.