

How Can I Miss You If You Don't Go Away?

Retention of Residential Sector Rebated Refrigerators

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Introduction

A retention study was conducted of high-efficiency refrigerators rebated under Pacific Gas and Electric Company's 1994 and 1995 Residential Appliance Efficiency Incentive Programs. The purpose of the study was to determine the effective useful life (EUL) of the rebated refrigerators. This retention study conforms to the requirements of The California DSM Measurement Advisory Committee (CADMAC) *Protocols and Procedures for the Verification of Costs, Benefits, and Shareholder Earnings from Demand-Side Management Programs*. The results of this study will serve as the basis for ongoing earnings claims for the 1994 and 1995 program years.

Research Question

In keeping with principles developed by the CADMAC Persistence Subcommittee, the EUL was defined as the time when half the units are no longer in place and operable. This retention study recognized that a primary reason for nonretention of rebated refrigerators was program "hijacking," that is, the removal of units from the service territory when participants moved away and took the rebated unit. Accordingly, "in place" was interpreted to mean remaining within the service territory, but not necessarily at the original premise.

Research Design and Methodology:

The study collected retention data by telephone survey for premises where a rebate was received for an efficient refrigerator. These premises fell in one of two categories: those where the participants are still at the premise where they obtained the rebate (nonmovers), and those where the participants have since moved (movers). For the nonmover sample, the participating household was contacted by telephone to determine unit disposition. For the mover sample, the premise where the unit was originally rebated was contacted to determine if a refrigerator matching the description of the rebated unit was in place when that household moved into the premise. For units that were not left behind, the fraction that left the service territory was estimated through analysis of U.S. Census data on the rates at which households move out of particular geographic regions. Data from movers and nonmovers were combined to estimate the EUL, using survival analysis methods. Various survival function forms were explored, based on appropriateness for the measure type, as well as on statistical goodness of fit.

Research Results

Results indicate that the bulk of nonretention was due to movement of rebated units outside the service territory. Nonretention rates for participants who still reside at the premise where the rebate was obtained are less than 2 percent.