

REFRIGERATOR ENERGY USE PERFORMANCE EVALUATION AND PROTOCOL FOR HOUSING AUTHORITIES

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This presentation shows results from field monitoring of standard and energy efficient refrigerators at three housing authorities (Milwaukee, Chicago, and Pittsburgh). It also discusses methods for evaluating the efficiency and performance of refrigerators. The results from these monitoring efforts were used as the basis for energy performance contracts at two of the housing authorities.

Two approaches to monitoring were used, and the presenters used two types of loggers. The findings identified the opportunities for using inexpensive line loggers to retrieve results of similar quality to those of more expensive dataloggers. The findings also define a minimum sampling period of time for monitoring to retrieve satisfactory estimates of annual energy usage.

In this presentation, we will offer a protocol for monitoring. This protocol can be implemented by housing authority staff with minimum experience in data collection. Monitoring by housing authority staff can reduce the dependence of the housing authority on information collected by an energy service company during the development of an energy performance contract.

The presenters will discuss observations on identifying refrigerators that are likely to be high energy users without monitoring. Though many housing authorities may choose to replace all refrigerators in a building regardless of the variation of the operating efficiency of the individual units in the building, some authorities may wish to identify the refrigerators that are high energy users and replace, repair, or monitor only those. Identifying the high energy users can provide the basis for preliminary audits that offer rough information about the opportunities for energy savings.