

HEATING CONTROLS IN SHELTERED HOUSING, EARLY RESULTS

INTRODUCTION

Since the installation of 'DATATERM IHC' heating controls in this Council's Aged Persons Dwellings, questions have been asked as to their effectiveness and the local press have highlighted a few cases where there has been tenant dissatisfaction. It was decided therefore, to carry out a sample survey of properties where DATATERMS have been installed for almost two years, the pilot projects.

THE TECHNOLOGY

The concept of optimisation of domestic heating systems had not, until recently, been adopted widely because of the complexity and costs of the controls. THE DATATERM IHC controller as now installed in 1500 of our properties, was one of the first affordable devices to reach the market. Optimisation means that the controller monitors the rate of change of temperature of a building to operate the boiler system more effectively. It will, for instance, shut down the boiler earlier than its programmed time when external ambient conditions are warmer (and vice versa, will start up earlier in the morning) to give more comfort to the occupant. The better temperature management, which the device makes possible, reduces fuel wastage.

The Council embarked on a project to install 1500 controllers mainly in APD's after a pilot project at two sites. The early results of a 'before and after' comparison are given below.

THE RESULTS

A survey of the DATATERM IHC installations at Hayden House and Patches Field has been carried out to ascertain the improvements made to comfort levels, energy consumption and cost savings. Information was also obtained on the user friendliness of the system.

Both Hayden House and Patches Field have been monitored since installation of the new heating systems in January/ May 1997 and January/February 1997 respectively.

Site visits have also been undertaken recently to talk to the residents directly about their heating and establish how they use the 'DATATERM IHC'. For example, does it fulfil the requirements of the user, is the system working correctly, and what amount of back up support is needed?

A complete survey was undertaken at Hayden House and a random survey was carried out at Patches Field because of the larger scale of the project at this site. The results are as follows:

Energy Reductions

Data was collected from 13 dwellings at Patches Field and since the introduction of the new heating controls in 1997, the amount of energy saved per individual dwelling per annum ranges from 17% to 36%. This equates to an annual overall saving of 25%, which represents an annual saving of about £30 per tenant.

At Hayden House an examination of the gas consumed, after installation of the new controls and heating systems, has been carried out over two twelve month periods 1997 and 1998. The total consumed for the 15 flats over the first period was 16,400 cubic metres, and the total consumed over the latter period was 16,700 cubic metres. The gas consumed by the original boiler plant for the same twelve-month period in 1995 - 1996 was 22,000 cubic metres. This indicates a total average gas reduction of 24.5% since installation. The first year had a 25% reduction and the second year had a 24% reduction.

User Friendliness

Of the 13 tenants interviewed at Patches Field 10 stated they were satisfied with their heating over the last year. The remainder stated they had encountered problems. These were separated into two areas: one relating to programming (2 queries) and the other regarding temperature (1 query).

When questioned about noticing any reduction in their gas bills there was a mixed view, the main problem being that the majority of tenants were confused because they had changed their gas supplier during the period and were saving money as a result, in any case.

The majority of the tenants interviewed did not have any difficulty in controlling their heating with the DATATERM IHC. Those who did related equally to programming and temperature control. However, after further explanation of the system to the tenants the situation was resolved.

Summary & Conclusion

Clearly, the installations have overall been a success. Energy savings have been made and council tenants are benefiting from significantly reduced fuel bills, on average 24/25% savings. This group of vulnerable tenants now enjoy more affordable warmth leading to a better health and quality of life. Furthermore, they are protected from hypothermia as a minimum temperature is achieved at all times.

Furthermore, benefits accrue to the Council as landlords. It is now proven that landlord benefits equal tenants benefits on average £1 for £1, as condensation is eliminated leading to reduced redecoration and maintenance costs.