



Stoddart Building connected to the district heating network in 1997

Consumer Conservation Tips

Charles Morse, Energy Manager for Sheffield Hallam University (SHU) since 1997, gives us an insight into the successful energy conservation projects that he has implemented over the last few years to bring about huge cost and environmental savings. These successes have been widely recognised. Charles was recently selected as a finalist in the 'Energy Manager of the Year 2001' contest organised by Energy in Buildings and Industry magazine. The nomination is hardly surprising when you consider that since 1997 oil consumption at SHU has been reduced by 50%, and the use of water has been reduced by 25%.

The district energy engineers have worked with SHU to connect many properties to the district energy network since the scheme began in 1988. Back in 1990, the 12-storey Owen Building was the first SHU building to be connected to the district heating system. As SHU has developed its City Centre Campus, additional connections have been made, and six heat exchanger stations now supply district heating to the University.

Charles Morse explains "The Energy Manager's job is only just beginning when new plant is installed. It is important to understand how each building behaves through out the year. Each of the mechanical services needs to be examined regularly for energy saving opportunities, and energy consumption must be monitored in order to respond quickly to changes in demand."

Charles has done this with the City Campus buildings putting in place energy efficiency measures to get the best out of district heating. A combination of many small measures has allowed SHU to operate an additional 14,000m² of space using no more heat than was required in 1996/97. During 2001, this 20% improvement was worth in excess of £25,000 - more than enough to cover the cost of heating the prestigious Stoddart Building, which was connected to the district heating network in July 1997.

Some of the key projects put in place to improve efficiency in buildings heated by district heating and other sources are outlined as follows:

- 1 Optimum Start programs vary the heating start times each day depending on weather conditions at the same time as ensuring comfortable conditions by the time staff arrive for work.

- 1 To match heating supply with demand, the temperature of water supplied to radiators is reduced as the outside temperature rises. In areas with very irregular patterns of use, thermostatic radiator valves have been fitted to prevent overheating when rooms are occupied by large groups of people.
- 1 Heating and ventilating schedules for lecture theatres and teaching rooms are matched to timetabled teaching periods and authorised external events. The risk of 'missing' an important booking has become easier to manage now that changes can be made via a modem outside normal working hours.
- 1 Changing the operating strategy of waste heat recovery pumps reduced heat consumption in the Adsetts Learning Centre by 22% during 2000. Heat consumption rose during 2001 as the Learning Centre introduced 24-hour opening, but variable speed controls have now been fitted to the main ventilation system. These are already producing savings by reducing ventilation rates during periods when the building is not fully occupied. This project reduces the amount of electricity needed to drive the fans and the amount of heat required to heat the incoming fresh air.
- 1 During the summer months, heating circuits are isolated and the output of the heat exchanger is reduced to a level just sufficient to meet the domestic hot water requirements. This can reduce the standing losses from pipework that is not insulated to modern standards. In the Owen Building, where some pipework is almost 40 years old, the energy saved during the summer of 2001 was worth over £5,000.

By controlling energy use in this way not only are significant cost savings made, but more energy is available to be used elsewhere. Onyx encourages energy efficiency measures of this nature to enable more people and organisations to benefit from the district heating scheme that operates in Sheffield.

If you would like us to include a story on Energy Efficiency please contact Lisa Came on: 0114 2724 278 or email: lcame@onyxgroup.co.uk

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