

Green Sense 11/17/13

Jordan's, Recipient of Green Business Award

Jordan's Furniture of Reading has received the Green Business Award from the Reading Climate Advisory Committee. By the use of their computer energy management system, LED lighting, and absorption chiller system for heat and air conditioning, Jordan's reduced their electrical energy needs by fifty percent in nine years of operation.

Store manager Scott Wantman explained that Jordan's show room lighting went through 3 iterations. First, Jordan's original halogen lights used 70 watts each. These were changed to metal halide lighting at 20 watts each. Finally, they upgraded to LED lighting at 17 watts each. While the wattage decreased by 75%, the luminosity within the showrooms remained the same or better!

Within the Beantown area, the large area including the Liquid Fireworks, Trapeze School New York, and Richardson's Ice Cream shop, the lighting was also changed to LEDs. Jordan's reduced the electrical requirement from 110,000 watts to 10,000 watts - an amazing 91% reduction. Matt Busnach, facilities property manager, stated that the savings in energy along with RMLD rebates would pay for the lighting upgrade in less than two years.

The cooling and heating of the building is provided by 6 huge air handlers and lithium bromide absorption chillers, each controlled by computer which provides a comfortable environment in each of 87 separate zones. Each zone can be heated or cooled according to sensors within each space. Interestingly, the air conditioning is not powered by electricity. The absorption chiller operates on natural gas instead of the usual electrical motor unit. In this way, Jordan's electrical needs on a hot humid day will not affect peak loads for the Reading Municipal Light Department system.

To save additional energy, variable frequency drives are standard in each of the chiller water pumps. They allow the computer to speed up or slow down the pump according to exact temperature needs. Without the variable motors and computer control, the pumps would run continuously at a high speed, thereby wasting energy when full pump capacity is not needed.

Moreover, energy recovery units ensure that outside air entering the system gives up heat to departing cooler air in the summer and absorbs heat from the warmer air exhaust air in the winter. By this process, air is pre-warmed in winter and pre-cooled in summer - thus saving energy for the absorption chiller in heating and cooling the building.

Lastly, carbon dioxide sensors in each showroom inform the computer when air needs to be refreshed in its separate space. In this way, air is changed only when required by measured

CO₂ levels. Every time outside air enters the store environment, it needs to be either heated or cooled which uses energy. Energy is saved when outside air comes in only when needed.

Scott also mentioned a relatively low cost remedy of placing a tinted film on the south facing windows, reducing sun glare and significantly reducing Jordan's air conditioning needs in those areas. These simple fixes can give impressive results at very low cost.

Scott noted that a significant amount of energy was unexpectedly saved when their Tempur-Pedic® IMAX 3D Theatre changed from huge, heavy reels of film (5 feet in diameter) to a digital format. The massive size of the film required high wattage projection lights which gave off significant heat. This process required its own compressor and chiller to keep the film from burning. With the digital format, the compressor and chiller are no longer required, thus saving electrical energy.

Recycling (including Styrofoam) and water conservation are also priorities for Jordan's Furniture. Scott stated that Jordan's is always looking for ways to save energy – not only is it good for the environment, but it saves money as well. Jordan's has shown very clearly that energy conservation and efficiency save dollars as well as saving our precious environment.

The Reading Climate Advisory Committee is pleased to present our Green Business Award to Jordan's Furniture for its achievement in energy reduction and its continued search to reduce its energy load.

By Reading Climate Committee members Laurie Ann Sylvia, David L. Williams and Ron D'Addario