Energy Saving Initiatives

Reducing energy consumption in buildings is one of the key aspects of effectively addressing climate change. With that in mind, Tillyard Management Inc. has implemented the following improvements to the 715 -5th Avenue SW building:

1. Lighting Power

In order to reduce wasted energy, we have replaced all base building fluorescent lighting with LED lighting. LED lighting is more efficient, has a longer life span and superior operation, does not contain toxic materials, and produces a higher-quality light. Additionally, it is shown to have more beneficial effects on health.

To save energy, our lighting control system computer program automatically turns lights off in the building after regular business hours (regular business hours are 6:00am – 6:00pm on week days, and 9:00am – 5:00pm on Saturdays). The lighting computer is scheduled to make a "sweep" of all floors on an hourly basis throughout the night and weekends to turn off any lights that were left on.

Where possible, such as in washrooms, motion detectors have been installed to control lighting.

As well, to reduce the use of 'after hours' lights, Tillyard Management Inc. has employed day cleaning services rather than night cleaning.

2. Mechanical Power

As with Lighting Power and in order to reduce wasted energy, Power Factor correction cabinets are installed at the location of all major rotating equipment such as fans and pumps, etc. as well as at the power source in the main electrical room. A typical power factor at the source of greater than .98 is not uncommon.

3. HVAC Equipment

Tillyard Management Inc. regularly reviews advancements in building operating procedures and implements changes to their building equipment on a continuous basis where possible.

Our Heating, Ventilating and Air Conditioning (HVAC) systems are well maintained and carefully operated to ensure consistent delivery of air quality and quantities in line with industry comfort standards. The building's HVAC system is controlled by the Building Automation System (BAS) and consists of speed controlled unitary air handling units serving each floor. Variable Air Volume (VAV) boxes are installed throughout the floors and are individually controlled by thermostats for comfort levels. Main air supply fans that introduce fresh air to the building are located on the plus 15 level and the upper roof and are operated by speed controllers.

Air Conditioning is provided during regular business hours (6:00am – 6:00pm on weekdays, and 9:00am – 5:00pm on Saturdays). It can be arranged outside regular business hours provided that Tillyard Management Inc. receives 24-hours advance written notice.

In order to increase the efficiency of the chilled water system, a separate condenser water loop has been installed to supply water to tenant installed computer room air conditioning units. This condenser water loop is supplied by the cooling towers and does not require forced cooling.

To further reduce cost of cooling the building and allowing the start of 'mechanical cooling' (chillers) to be delayed until outdoor air reaches higher temperatures, a 4 section, sequentially controlled oversized cooling tower of 1300 tons was installed, thereby increasing the 'free cooling' capacity. The two chillers, each originally 535 tons, have been replaced by two higher efficiency 425 ton units with speed control drives. When 'mechanical cooling' is required, initially one of the chillers will start. Should the demand require the first chiller to run at more than 80% of capacity, the second chiller will start up. At that time the first and the second chiller will match speed and each will run at half the required demand. While running one chiller on most summer days is sufficient, running both chillers has been found to supply ample chilled water on even the hottest summer day.

All nine boilers (seven dedicated for radiation and two glycol boilers for pre-heating the fresh air supply when required) with a total capacity of 31.5 million BTU in the building's heating plant have recently been replaced by higher efficiency units. These boilers work to reduce emissions and natural gas consumption as well. The boiler water set point temperature for radiation is continuously reset based on the outside air temperature. Radiation water temperature supplied by the seven boilers is controlled in 14 stages (low/high times seven).

Each tenant floor has eight heating zones which are thermostatically controlled.

4. Plumbing, washrooms

Low flush toilets and urinals with sensors have been installed in all bathrooms. Sinks, where possible have been installed with motion sensors and flow restrictors.
An electric water heater has been replaced with a more efficient heat exchanger using boiler water to heat water for the showers in the second floor Health Club.
To reduce waste and for hygienic reasons, electronic paper towel, soap and hand sanitizer dispensers with sensors have been installed in all bathrooms.

5. Other

- Window coating and tinting: Windows are tinted with a coating that welcomes sunlight but rejects heat load. In addition, film is applied to the inside which also helps reduce heat gain and loss.
- Windows are caulked to prevent heat loss.
- Installation of meters to monitor tenant's electricity consumption allows tenants to benefit directly from any energy savings projects they have implemented.
- Products used for cleaning are green products.
- Electrical receptacles for car heaters in the parking structure are on a 20 minute on/40 minute off timed schedule.
- Carpet tiles installed in common areas and tenant's office space are manufactured using recycled material. This follows the "cradle-to-cradle" design rather than the "cradle-to-grave" design.

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Tillyard Management Inc. continues to inspect, evaluate and monitor building systems to ensure optimal performance and reduce operating and utility costs, while looking for new ways to reduce and save energy……