



August 29, 2023

InterRent Reit
209 Oak Park Blvd,
Oakville, Ontario
L6H 0M2

BC Residential Tenancy Branch
5021 Kingsway
Burnaby, B.C. V5H 4A5

To whom it may concern,

Re: Improvements for Energy Efficiency at Interrent Properties

This letter is provided to provide information concerning the installation of Building Automation System controls and artificial intelligence systems such as those provided by KMC and Trident.

I work for Interrent as a regional manager for building systems and have many years of experience and expertise managing various building systems including, but not limited to, hot water, heating equipment, and HVAC systems generally, at various residential properties. I understand that this statement will be submitted as evidence to the Residential Tenancy Branch in ongoing proceedings and confirm the below is true to the best of my knowledge.

Building automation systems (“BAS”) are critical for many reasons including that they ensure equipment is being controlled efficiently, provide monitoring of equipment operation for rapid troubleshooting and operational fine tuning, and providing data for greenhouse gas emissions which is an important component of achieving the government goal of substantial reduction in CO2 emissions by 2030. For heating boiler systems, efficient operation comes from accurately calculating the required building supply water temperature as well as optimum equipment staging strategies.

The BAS which has been implemented takes into consideration sun intensity, wind speed and direction, and incorporates artificial intelligence (“AI”) as an instrument to maximize comfort, efficiency, and the reduction in greenhouse gas emissions. When using these complete mechanisms, it is possible to more accurately calculate the required building supply to achieve a temperature that matches the actual building heat losses. This approach consumes the minimum amount of energy possible.

Outside air temperature is taken from a sensor measurement at the building location. The remaining parameters are obtained through a custom written computer program that retrieves the information from the Environment Canada Weather Service.



BAS systems provide a real time view of the operating conditions of mechanical systems. A variety of temperature readings and equipment operating parameters is available for viewing via the internet in real time. This provides system transparency. This information is logged for purposes of troubleshooting as well as verification of historical performance. The data logs are useful for fine tuning equipment operation to achieve the maximum operating efficiency.

BAS systems also include alarms that indicate when equipment is in a fault condition or when controlled setpoints are not being achieved. This information is communicated to appropriate staff via e-mail, dashboards, or simply system graphics. The alarm capabilities are what enable the rapid troubleshooting of equipment. It is possible to investigate any mechanical issues remotely and dispatch the most appropriate trade to remedy any issues.

AI is a new computing technology that can be applied to BAS systems. Currently, AI is deployed to verify a buildings fractions of thermal losses caused by conduction, convection, and radiation. The AI algorithms are capable of computing supply water temperature setpoints that will result in the lowest building return temperature without sacrificing occupant comfort.

AI is also being applied to direct control of equipment to predict systems that have random demand such as domestic hot water systems. Random demand causes significant fluctuations in temperature. These types of systems are good candidates for the application of AI, such as programs like KMC, to increase operational efficiency and reduce energy consumption.

In my experience, energy consumption is reduced at any building BAS is installed in for the above noted reasons, and the system should not need to be replaced for at least 20-25 years.

Sincerely

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Regional Manager Building Systems

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