

Improving radiator control valves saves dollars while improving energy efficiency and patient care

When the Canadian Coalition for Green Health Care's HealthCare Energy Leaders team first performed a facility audit of the Weeneebayko General Hospital in Moose Factory - Ontario, it unearthed an area of concern that was resulting in operational inefficiencies: the radiator system was operating at full load with little to no control of the steam flowing through to the radiators.

The result was an excessive amount of fuel being consumed due to higher steam demand and, with no apparent radiator control available, staff were opening windows to extreme winter weather in order to cool the interior space.

This issue was noted in the facility audit report and became a discussion topic for facility staff enrolled in the Building Operator Certification (BOC) training hosted by the Weeneebayko Area Health Authority (WAHA) and delivered by the Coalition in early 2018.

WAHA's Plant Operations and Maintenance staff were quick to point out that the radiator controls were not functioning properly, if at all, and this led to further investigation on their part.



The Weeneebayko General Hospital in Moose Factory has undergone numerous energy efficiency upgrades as a result of staff trained in sound energy management and empowered to take action.

During the course of the investigation, it was discovered the radiator valves were designed for a hot water application, and not the steam application it was intended to control at the hospital. Given that the valves were not designed for the hotter steam application, their internal components



were failing in the higher heat and as a result the valves were not functioning as needed.

This was leading to the open failure of the valves and a high, and steady, flow of steam through the radiator, thereby causing rooms to become overheated and stuffy, and the need for occupants to open windows in the middle of winter in an attempt to create more comfortable working and healing environments.

Utilizing their newfound knowledge, the BOC course participants were able to challenge the adequacy of the radiator valve control systems and initiate a plan to replace the valves with ones specifically designed for steam system applications. Once they developed and presented their business case to the hospital administration, and the approval was received, staff set their project in motion.

The results have been as predicted, with the new valves functioning as expected, and steam demand returning to a normal level. This staff-initiated repair has resulted in a decrease in boiler/steam system fuel oil consumption while providing building occupants

Empowered staff provide building occupants with more comfortable and predictable environment of care.

with a means to achieve a far more comfortable and predictable environment of care for patients, and a much improved working environment for WAHA's staff.

The cost of the radiator valve repair is estimated to have a pay back of just over one year based on original business case calculations and actual achieved results.

Kudos to empowered Plant Operations and Maintenance staff for applying their recently acquired BOC energy management knowledge to improved health care delivery in the remote First Nations community of Moose Factory.

Energy Management Resources

HealthCare Energy Leaders Canada - www.greenhealthcare.ca/HELC

ENERGY STAR® - www.greenhealthcare.ca/energystar-copy

RETScreen Clean Energy Management Software - www.greenhealthcare.ca/retscreen

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