



Safeguarding the community

Cooling the hazards of overheating with HVAC upgrades

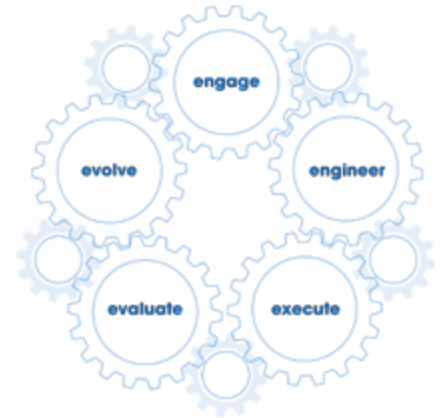
By working with Envari to audit and assess the existing piecemeal HVAC and electrical systems of the Nepean Sportsplex, the City of Ottawa was able to identify solutions to their concerns of potential burn hazards, while also improving the overall environment of the building and reducing their energy consumption and costs.

Background

Located on Woodroffe Ave, the Nepean Sportsplex is a large multi-use sports, recreation and entertainment facility serving residents and visitors to Ottawa for over 40 years. The building was originally constructed by the former City of Nepean in several phases beginning in 1971 with the last major addition completed in the year 2000. The multi-purpose facility features an aquatic centre, two North American size arenas and a 10 sheet curling centre. In addition, the Nepean Sportsplex features a weight room and fitness centre, a large outdoors sports field area, meeting and banquet rooms and a Seniors Centre. The facility serves over 1.5 million clients annually and hosts regional, provincial, national and international sporting and special events.

Opportunity

Due to the phased construction, the condition and integration of all mechanical, HVAC and electrical systems are vast and more complex than what would normally be found in a standard commercial building. Given the number of residents and visitors to the facility annually, concerns were raised about the potential for burn hazards in the original 1971 area of the complex. Envari was retained to study the electric heating system and identify opportunities.



**1.5 million+
clients annually**

**980,512 kWh of energy
saved annually**

The Envari Method

Envari carried out energy audits and assessments of the existing HVAC systems through on-site inspections, analysis of mechanical system drawings and by meeting with facility operators. In assessing the primary concern of hot-to-the-touch electric radiant heaters, Envari identified a number of additional issues, and sought to address all of them with one solution.

Envari identified elements of the HVAC system that were decommissioned and upgraded areas served by electric heaters to new HVAC units. Envari also installed a new mechanical ventilation system with heating to serve the foyer and front entrance; the system supplies ducted ventilation air to the lobby and entrance areas.

The assessment of the area also identified issues with moisture which were contributing to mold and slip hazards, particularly in the swimming pool locker rooms. To prevent this, the existing electric make-up air unit (MUA) serving the locker rooms was decommissioned and retrofitted with a new glycol heating coil that runs continuously during occupied hours. During the winter, this enables fresh dry tempered air to enter the locker rooms, reducing moisture in the space.

Results

Taking advantage of Envari's energy solutions, designed to optimize energy use for large-scale businesses and organizations, the City of Ottawa was able to identify and solve inefficiencies and address health and safety issues at the Nepean Sportsplex. The resolution of the overheating hazard of the electric heaters has greatly improved the overall safety for the people who regularly visit. In addition, the updates to the HVAC systems have resulted in significant energy savings and improved the overall environment of the facility.

Benefits

- **Eliminated dangerous scalding issues**
- **Improved indoor air quality and building pressure issues**
- **Resolved issues with moisture and mold**
- **Significant lifecycle renewal and reduction in maintenance costs**
- **Simple payback of 6.7 years**



The City of Ottawa chose Envari because it offers a complete package of turnkey engineering design, build and commissioning services. They were able to quickly assess the existing system and identify solutions to address our primary concern – burn hazards – while also improving other issues and reducing our overall consumption.



Person at City Hall

