

Ontario Critical Data Centre

Data Centre Cooling

Ottawa

Project Statistics

Area description:	Hi-Efficient Data Centre Cooling Replacement
Area size	25,000 sq. ft.
Project budget	\$1,800,000

Responsibilities

Complete design of the replacement of two cooling loops for a critical data centre that could not afford any downtime.

Services Provided:

- ▣ *Prime Consultant*
- ▣ *Project management (design services)*
- ▣ *Interior Finishes*
- ▣ *Mechanical Design*
- ▣ *Electrical Design*
- ▣ *Project Commissioning*

Project Objectives

Provide a replacement cooling system for the existing cooling system that was unreliable, in-efficient. There were several locations where a failure of one component could result in a failure of the entire cooling system.

Provide a cooling system that is redundant, robust and energy efficient.

Challenges

To provide a replacement cooling system that was fully redundant, reliable, efficient and secure system that fit within the client's timeline and budget.

The project's design required the expertise of several disciplines that needed to be coordinated to provide one integrated design solution.

The new cooling system needed to be installed without any disruption of service to the data centre. The existing and the new cooling systems needed to be installed in parallel until such times as the new system was proven and dependable, only then could the existing system be removed from service.



Solutions and Successes

- ▣ Utilized a centralized cooling system that provided full redundancy and also took advantage of the available free cooling of this region.
- ▣ In addition a back-up de-centralized cooling loop was also added. This afforded the end user the luxury of choosing from several systems to ensure continued operation of the facility.
- ▣ A sophisticated and secure controls strategy was developed and refined, in conjunction with the end user and the equipment suppliers, to provide a fully monitored system with completely automated changeover between the systems when required.
- ▣ This project has successfully given the data centre uninterrupted operation and stability of their critical environment.