Energy efficiency project at Acier Nova

Installation of state-of-the-art heating-ventilation system

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Partenariat équitable

NOVA ACIER

in collaboration with

MC2 Mécanique du bâtiment

Project description

Nova Steel undertook an ambitious renovation project for their facility located in Montreal. More than 5 million dollars have been invested over seven years. These renovations are spread over several years and will total 303,810 sq. ft. of floor space by 2022.

Nova Steel trusted Mécanique du bâtiment MC2 to install state-of-the-art heating and ventilation systems that are robust, reliable, low maintenance and offer a CO2 emissions reduction.

Mécanique du bâtiment MC2 is proud to be associated with a Quebec developer who cares about the environment!

Proposed and realized project

- Seven gigantic Bousquet heating units and two air compensation units, all produced in Quebec, with a total capacity of 325,000 cfm have been positioned at strategic locations in the facility.
- Several hundred feet of NAD high induction tubes were installed. These devices have the capacity to destratify the hot air (coming from the heaters or released by the production) which usually moves towards the ceiling and is wasted when not recirculated throughout the factory.
- A heat recovery system combined with a production cooling system (new mill and hydraulics) including a plate heat exchanger, hot glycol distribution network and heat recovery coils were used to preheat 40,000 cfm of fresh air admitted into the building. Heat from the air compressors was also recovered.
- Everything is now controlled by means of a centralized Regulvar control system that starts and stops the equipment and manages the alarms.



Impacts

- The facility remains pressure neutral in the winter, which makes the work areas comfortable year-round. Furthermore, fans have been added for the summer period to increase employee comfort.
- Two studies have shown that destratification alone resulted in over 30%energy savings.
- A reduction of about 50%, or approximately 1,040 tons, of CO2 emissions per year into the atmosphere.



The project in figures

Consumption	Savings	Costs
Pre-project natural gas consumption : **more than 1,058,800 m³ / year**	Number of m³ of natural gas saved : **548,800 m³ / year**	**5,500,000 $ over 7 years**
Post-project natural gas consumption : **500,000 m³ / year**		
Reduction of CO2 emissions : **1,040 tons / year**		

* Over the years, financial incentives have been granted by Energir and Transition Énergétique Québec to help with the project.



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