



October is *Energy Awareness Month*. The AEE Chicago Charter Chapter takes this opportunity to recognize professional engineers, managers, & organizations for their outstanding achievements over the past year.

Nomination Category:

- Energy Project of the Year
-

Nomination Category:

Nominee's Name: James Quinn
Organization: Glenbrook North High School – School District 225
Address: 2300 Shermer Road, Northbrook, IL 60062
Phone Number: 847-509-2585
Email Address: jquinn@glenbrook.k12.il.us

**Description of Outstanding Achievement –
Fresh Air Cooling at Glenbrook North High School**

At Glenbrook North High School, conversion of the Weight Lifting Gymnasium to a High Aerobic “Spin” Class environment was completed last winter. Four goals were mandated by the school district to be achieved. The first goal was to keep CO₂ below 1600ppm as specified in the ASHRAE Standards. The second goal was to maintain the room temperature at 72°F (the average building temperature) for comfort control. The third goal was to eliminate the smell of body odors from permeating into the hallway outside the gymnasium. The fourth goal was to accomplish the first three goals at the lowest energy consumption. All four goals were met by installing a FreshAire Ventilation System which optimized air flow to match these requirements under the constraints of dynamic outdoor temperatures, outdoor humidity, indoor temperatures, and building pressures for 24 hours a day, all year round efficient comfort. By using the existing air supply system, capital investment was also one fourth of installing a new system.

Very few gymnasiums across the country have air-conditioning. Whenever a large number of people are present, these spaces become an inferno due to the body heat. High CO₂ Levels (representing the lack of oxygen) in the space cannot be avoided. The same issues identified for gymnasiums also apply to other large intermittently used spaces including auditoriums, cafeterias, and theaters.

Extension of this ventilation system design to other gymnasiums and classrooms throughout the school is being proposed.

The decision to use this system was based on the Illinois Chapter of the American Society of Heating, Refrigeration, and Air-Conditioning Engineers formally recognizing the initial development of this design with the 2004 Excellence in Engineering Award. The 2004 award was based on 19 elementary schools where the classrooms were retrofitted with the FreshAire System.

Nominator's Name: Frederick J. Ringe
Organization: EMA Chicago, Inc.
Address: 21 Indian Knoll Road, West Chicago, IL 60185
Phone Number: 630-231-3986
Email Address: fringe@emachicago.net