

DID YOU KNOW

Financial incentives for Energy Efficiency...

New Jersey SmartStart Buildings Program is a statewide energy efficiency program that provides financial incentives and allows customers to save now and in the future. As part of New Jersey's Clean Energy Program, SmartStart is a flexible, far-reaching program run by the Board of Public Utilities that provides free technical and design support for commercial, industrial, institutional and municipal building projects. The plan includes new construction, retrofits, and qualifying equipment replacements.



By maximizing energy efficiency, customers save money on equipment installation and can drastically reduce energy bills. Energy efficiency goes a long way to a cleaner environment and helps New Jersey meet the ambitious goal of a 20% reduction in energy consumption by 2020.

Please contact Mr. Steve Meigh at 973-884-5000, ext. 116, for program details and how we can help customers conserve energy and save money now and in the future.

INDOOR AIR QUALITY by the Go-To Guys:

INDOOR AIR POLLUTION

When people hear about air pollution, they generally think about outdoor air. *But did you know that studies have shown that indoor air pollutant levels are 25-62% greater than outside levels?* Considering that the average American spends 85-90% of his or her time inside, indoor air quality (IAQ) is truly something to be concerned about.

IAQ problems have a variety of causes. These include improperly operated and maintained HVAC systems, overcrowding, tobacco smoke, microbiological contamination, outside air pollutants, and emissions from office materials and mechanical equipment. Physical affects can range from mild (eye, nose and throat irritation, headaches, fatigue, nausea) to severe (asthma, respiratory illness, heart disease, even cancer). IAQ has a direct impact on the health, comfort, well being and productivity of a building's occupants.

Contaminant source control and proper HVAC system maintenance are the most effective strategies toward improving indoor air quality.

Ductwork and air handlers should be kept clean, and filters should be changed regularly to reduce floating particulates. HVAC systems should be properly balanced, and 15-20% of the air flow should be fresh air. Consider retro-commissioning and upgrading filters and filtration to see how you can achieve a cleaner, healthier indoor environment. Keep humidifiers clean and use fresh, clean water to prevent bacteria and fungal growth. Humidity levels should be maintained between 35-50%.



MSC is your go-to HVAC company. If you have any questions about **INDOOR AIR QUALITY** or **RETRO-COMMISSIONING**, please contact **Harry Hartigan at 973-884-5000, ext. 125.**

GEOHERMAL: Green, Clean and Sustainable

ACCORDING TO THE EPA...

Geothermal energy is the source of some of the most efficient heating and cooling systems available. MSC was recently involved in the start up of a large public school project that incorporated a geothermal heat pump system.

The earth's outer crust maintains a near-constant temperature of 50F-60F degrees. Geothermal energy is a clean and sustainable source that harnesses this natural heat. In a geothermal heat pump system, water is circulated through an underground closed-loop pipe system to absorb the heat, which is then extracted through an evaporator and delivered via conventional duct system. In summer, the process is reversed, and excess heat is drawn from the air and circulated through the pipe system to be absorbed into the earth.

Closed-loop systems can be installed either horizontally or vertically. In the vertical system used on the high school project, several hundred holes were bored to more than 250 feet. Hairpin-shaped pipes were inserted into each borehole, which were then filled with a special grout to improve heat transfer and protect ground water from contamination. While geothermal heat pumps are more expensive than traditional systems, the school district foresees long term savings that will pay for the initial investment many times over.



PRESSURIZATION

HVAC Pressurization...

Pressurization is an important part of HVAC systems when it comes to human safety. Which way air flows from one room or area to another has great benefits. Most labs have fume hoods that monitor 90-100 fpm consistently across the sash into the hood, keeping lab personnel safe. When working with strong odors, chemicals, pharmaceuticals, gases, viruses or bacteria, you need to ensure that air flows in the right direction.

Many companies monitor pressure from one room to another.

Others may monitor air flow. Some are as simple as lab CFM CV boxes set up by a balancer, while others track pressurization between rooms with calibrated pressure-sensitive devices and alarms should they go out of range. And lastly, some systems seal off entire rooms and use redundant backup systems to ensure no gas or air penetration from critical areas such as BSL 2, 3, and 4 labs. Many building owners look to keep a building slightly positive to keep out drafts and infiltration of moisture and particles. Energy efficiency should be taken into consideration in any pressurization plan so as not to waste energy. Proper pressurization plays a key role in HVAC and safety, and MSC works closely with customers to ensure that pressurization works for them.



MSC CERTIFIED SINCE 2006 - Before the STAR is awarded, applicants must demonstrate that they uphold a strict code of business ethics; employ a highly trained and qualified workforce; maintain a superior safety record; and focus on continuing education for all employees. 128 stars now qualified!