

## SERVICE CALLS



### Pressure Cascade Neutral Point -

Pressure and airflow are critical to lab and process areas, and MSC was recently assigned to look into why a new pressurization system was not operating properly. Our technicians determined that the neutral pressure point was not really neutral at all and was subject to pressure fluctuations. The issue was corrected along with VAV box speed reaction time and re-balancing.



**Commissioning Assistance** - As part of a large project, a client contacted MSC to get involved with the commissioning effort by verifying pressure, temperature, humidity, alarms, and sequences. Other MSC responsibilities included diagnosing problems, making repairs, and ordering parts for rapid delivery when needed. As a result, the commissioning team was able to finish a week early and move on to validation.

## PM Agreements: Side-By-Side Comparison

HVAC preventive maintenance is a subject that has been covered in past issues of MSC Tech, but the importance of a good, comprehensive PM program is something that we cannot stress enough. There are numerous benefits: maximal equipment life span, reduced emergency calls, minimized down time, significant energy savings, and a comfortable, healthy environment for building occupants.

Perhaps you already know that a quality PM program is essential, but take note: **“quality” is the operative word.** Comparing a low-budget annual belt-and-filter change to a comprehensive PM program is akin to comparing the proverbial apples to oranges, so you should expect to pay a bit more. PM is not the place to cut corners and save money. Poorly maintained systems invariably cost far more in the long run – well into the tens of thousands – not to mention the loss of income that comes with increased downtime. Always opt for a reputable contractor whose PM program includes all manufacturer-recommended maintenance tasks as well as a system operation analysis to identify potential issues and improve performance. Many contractors represent a lower-cost PM program as a comparable product, but building operators are consistently surprised by their obvious inadequacies when shown a side-by-side comparison with a quality plan. Decision makers who choose to go with the cheap plan to “save money” should be prepared to be called on the carpet when the final bills and downtime are added up.

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Check and double check your contractor’s credentials, and *always make sure they actually provide the maintenance services you pay for.* Unfortunately, it is not uncommon for MSC to be called in to address issues where a PM program is supposedly in place, only to find evidence to the contrary. At best, the maintenance is insufficient or improperly performed, or the wrong materials are used. In the worst cases, what we find is downright shocking. On one recent call, we discovered that our client had fallen victim to a particularly unscrupulous contractor with whom they had an ongoing PM contract.

## Pneumatic Controls: Then and Now

**Once upon a time, before the advent of the computer, pneumatic controls were used in the HVAC systems most commercial and industrial buildings and plants.** Though electronic controls (DDC) technology has been taking over the market since the 1990's, many pneumatic systems still exist, and there is still a great need for technical expertise in these systems.

The pneumatic temperature control system was first introduced in the late 1800's by the Johnson Electric Service Company when Warren S. Johnson figured out how to use compressed air to remotely modulate a valve. By the early 1900's, the company that is now known as Johnson Controls was bringing pneumatic controls to major buildings around the world. After years of development, pneumatic control systems became widely used in the 1950's, and their popularity continued into the 1980's. Thermostats, damper actuators were developed to control steam, hot water, and chilled water flows, and to position air dampers. Though pneumatic controls were easy to install and use, and they require specific technical know-how. Pneumatic controls depend on dry air in the tubing, and bladders, springs, and diaphragms all require calibration, inspection and testing.



Today's DDC (direct digital control) systems offer many advantages including greater precision, feedback positioning, and auto-tuning, but pneumatic controls are still widely used, for various reasons. Many companies don't have the budget to upgrade to a new DDC system, and some still prefer to use pneumatics for large control valves and air handlers. So even though DDCs are the wave of the future and skilled pneumatic controls technicians are becoming a rare breed, there is still significant demand for pneumatic controls expertise. MSC has always provided top-notch installation, calibration, troubleshooting, and repair of pneumatics controls systems, and we still do.

## PM Agreements: Side-by-Side Comparison *continued from pg. 1*



Though the contractor regularly showed up - and was paid - on schedule, we found the bolts to the unit access door rusted shut; it obviously had never even been opened. Such cases always require considerable effort and expense to correct the problems caused by these contractors' so-called PM programs.

MSC is a *true HVAC and controls service company* specializing in maintenance, diagnostics, and repair. To find out more about our comprehensive Preventive Maintenance Program please visit our website at [www.mscnj.com](http://www.mscnj.com) or call MSC today.



# TECH TALK

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NEWSLETTER - OCTOBER 2013

973-884-5000

## PHARMACEUTICAL PLANT CASE STUDY

**A Pharmaceutical client located in Puerto Rico, was performing a \$140 million building renovation addition to their production facility and the project was at the substantial completion phase of construction.** They were in the midst of starting the HVAC and process equipment throughout the facility. As with most projects, the budget was tight and the schedule aggressive, making daily progress essential. The new facility was important to the client and needed to be on line on time and needed to get through start up, commissioning and into validation. Conditions were such that they were losing time and running in to one problem after another.

MSC was called to lend a technical hand to help resolve issues. We quickly responded to our clients needs, shipped down a few needed instruments, and were on the job a few days later. We met with the site staff and discussed the systems experiencing problems and what was required to get them online and through commissioning in the shortest possible time frame. The commissioning being performed by others was accelerated and ended up being stalled each time a problem was encountered. We began our diagnostic process going unit by unit and system by system, prioritizing the problems and then correcting them.

[download the PDF here.](#)



## BAS Mobile Applications

**BAS mobile applications offer many advantages.** Critical process information, historical data, graphics, and **other** key functions from multiple building systems can be accessed from anywhere in a facility or from a remote location, allowing tighter, more frequent monitoring, and response to notifications and alarms can be achieved more rapidly and effectively. Users can view graphics of real-time environmental conditions, set preventive maintenance notifications, and create, view and send condition graphs and reports. With view-and-control access, operators can use their mobile device to interact with and control building automation systems. Access can also be limited to view-only, allowing non-building management personnel to monitor environmental conditions, energy use, etc.



### DID YOU KNOW...

○ MSC has received an A rating from ISNetworld. ISNetworld is a global resource for connecting corporations with safe, reliable contractors in capital-intensive industries.

When BAS mobile applications first became available, some facility owners and managers questioned data security, but these concerns are unfounded. The technology uses a variety of encryption key protocols and user-access rights, and experts consider BAS mobile apps to be as secure as wired networks. To find out more about how you can use mobile applications to integrate, monitor and control your building automation systems, contact MSC at 973-884-5000.