

# The Whistle

# FHEA

VOLUME XXVII, NUMBER 2

SUMMER 2011



Once again our Spring meeting, hosted this year by District IV at the Delray Beach Marriott, was a huge success! We had several great educational presentations which seemed to be very well received by all, and we also had the opportunity to hear a few remarks from Wayne Young, AIA, NCARB, the new Bureau Chief of AHCA's Office of Plans and Construction. For those who were unable to attend the 2011 Spring Meeting, several

of the presentations are posted on the FHEA web site under Past Events. But special thanks to all of you who were able

next year's Spring Meeting and confirms the property we select meets the high standards that we have come to expect, in terms of space for meetings and vendors, excellent food services, and other amenities we might enjoy.

Our 49th Annual Meeting and Trade Show will be held at the Rosen Shingle Creek Resort & Golf Club in Orlando on Monday, September 26 through Wednesday, September 28, 2011. Once again our trade show and meeting will be held in conjunction with AHCA's Educational Seminar, which is again being organized by Skip Gregory. This cooperative effort continues to be highly successful for both our groups. For those of you who enjoy golf, be sure to come a day early for AHCA's annual golf tournament to be held on Sunday, September 25th. This year registration for both the AHCA Seminar and the FHEA Annual Meeting share

one online registration site, the link for which appears on the home page of our website. The AHCA registration price has been discounted for current FHEA active members; to take

## The President's Corner

DAVID DENHAM, P.E., CHE, PRESIDENT

to attend and make it the exciting meeting that it turned out to be. The tabletop vendor displays received very positive comments from our participants, and I would like to say a very special THANK YOU to all of our vendors who contributed to making this meeting so successful. There was also a very nice dinner at Boston's Restaurant the night before, which was sponsored by Waco and Industrial Engineering. Finally, kudos must go to Greg Hodgson, CHE, CHFM, for organizing another great golf outing on the Thursday before the Spring Meeting, and, of course, none of this would have happened without all the continued efforts of our stellar ED, Alethea Vitray.

Special congratulations also go to Greg once more, who in his capacity as state vice president, completed the lengthy documentation for the Platinum Chapter Award, which the FHEA will receive again from ASHE this year. I will have the honor of accepting this award on behalf of the association in Seattle on July 18th.

We will be putting the finishing touches on the program for our 2011 Annual Meeting at our Summer Board Meeting at the Mission Inn Resort and Club (could another golf outing be in the works?) in Howey-in-the-Hills, FL next month on Friday, August 12th. At the Summer Board Meetings your Board inspects the proposed location for the

advantage of this discount you must register on the "active member registration" page.

Your active involvement in FHEA activities represents a great resource for your career and is helpful to you in your everyday dealings within your facility. I recommend you bring the program and the vendor resources you have identified to your senior management to help them understand the benefits of our Association as well as the value to your facility for supporting you in attending these educational sessions and trade shows, including the opportunity to partner with AHCA and your specific inspectors at a casual venue outside of your facility.

In closing, I would like to again encourage you to make a commitment to regularly attend your District meetings and make every attempt to make the Spring and Fall Annual Meetings. Getting involved assures your voice will be heard, and allows you to network with your peers, share some "war stories", and get some suggestions on how others may have dealt with a specific issue or problem. These meetings help you realize that you are NOT alone in your leadership position, and that others probably have already "been there and done that." I can personally attest that you will find a willingness from the district and state members to help in as many ways as possible.

# Welcome New Supporting Members

The following have joined our growing ranks since our last newsletter.

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## A GUIDE FOR IT MANAGERS/FACILITIES MANAGERS

# Preventing IT Heat Disasters

## Backup air conditioners for small to mid-size server rooms and network closets

IT managers with small to mid-size server rooms and network closets know their equipment is especially vulnerable to overheating during air conditioning outages, yet frequently they do not have a backup cooling system in place.

Such equipment rooms are often located within medical facilities whose temperature is controlled by the buildings central air conditioning systems. Most IT rooms are interior rooms and thus prevent installation of a permanent backup system, which usually requires cutting an opening in an outer wall or the roof and, in many cases, internal walls.

At the same time continuing to operate with no backup system at all, or relying on out-of-date solutions such as electric fans, risks heat-caused equipment failure and possible damage, as well as system downtime.

Fortunately a class of commercial portable air conditioners also called portable spot coolers can solve this problem by providing IT managers with backup air conditioning that does not require lease-prohibited construction. This paper will examine the advantages of using such portable air conditioners as backup systems.

### Air conditioning outages likely to increase

If current predictions hold true, rising average temperatures and more frequent periods of severe hot weather, as well as growing IT equipment –room heat densities, will likely put greater stress on air-conditioning systems resulting in an increased number of outages.

In addition, as healthcare facilities become more and more dependent on IT equipment for critical everyday operations such as internet transactions, internal and external e-mail, IP telephones, etc. they are less able to bear the cost of even short periods of downtime, including those caused by scheduled maintenance outages.

### Challenges of not having a backup air conditioner

Without a backup air conditioner, it is almost impossible to avoid having a certain amount of downtime. Although air conditioning outages can occur any time, they often occur during the hottest weather, when systems are most stressed. During these periods of severe heat, in the absence of air conditioning, IT equipment can heat up very fast, leaving only a short window of time during which to act.

Servers contain a company's valuable data, but when they are overheated they will usually shut down before any serious harm is done to them or data is lost. The most sensitive pieces of equipment, however, are the network routers. These handle internal and external data transmissions, including e-mail and IP telephones. If they heat up too much, they may become permanently damaged and need to be replaced entirely, often at considerable cost.

In a heat emergency, one tempting solution is to use portable evaporative coolers, also called swamp coolers since these work by evaporation, however, they add significant amounts of humidity to the air and are therefore not generally suitable for use in IT equipment rooms.

Another solution, often resorted to in the past but still not unheard of today, is to open doors and use electric fans to bring in outside air. This assumes, however, that cross-ventilating doors are available, and that leaving such doors open will not create a security problem. It also assumes that the air outside is cooler than it is inside and relatively low in humidity, neither of which is necessarily the case during heat waves, when outages are most likely to occur.

Moreover, especially with the higher heat densities of today's IT equipment, fans can provide only partial, temporary relief at best. They can often keep the temperature from rising as quickly as it would otherwise, but they usually can't prevent the inevitable. When the temperature inside the server room reaches a critical level, the only real solution is to shut all the equip-

ment down and wait for the air conditioning to be repaired. This of course may take hours or, in the worst cases, a day or longer. In the meantime, business activities that depend on the IT equipment are brought to a halt.

### Air conditioning backups: A historical perspective

In the early days of IBM mainframes, which put out very large amounts of heat, the vendor provided both an air conditioning system and a redundant backup system as part of a total package.

With the transition to server technology and the development of large data centers containing dozens of server racks, dedicated air conditioners and N+1 or N+2 redundant backup systems became the rule, as they still are.

On the other hand, many companies with a relatively small number of servers and whose air conditioning was supplied by the building's central cooling system, did not at first feel the need for a dedicated backup system. As long as downtime was not excessive, the lack of a backup was not a problem.

Yet as IT and telecom applications have continued to proliferate in the general business world, not only has the number of servers and routers used by a typical company grown, but the heat density of that equipment has also grown. Accordingly, air conditioning and air conditioning backups have today become critical factors for even smaller server and telecom rooms.

### The Solution: Portable air conditioners as backup systems

The introduction of a relatively new class of commercial portable air conditioners, also called portable spot coolers, has given IT managers of smaller server and telecom rooms a convenient way of solving their air conditioning backup problems.

There are two types of portable air conditioners: air-cooled and water-cooled.

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Water-cooled portable air conditioners are more efficient than air-cooled models, but they use high-pressure water lines that can leak. Therefore, like portable evaporative coolers, they are usually considered unsuitable for use with IT equipment. For the purposes of this article, the terms “portable air conditioners” or “portable spot coolers” refer only to air-cooled systems.

Portable air conditioners are self-contained units, containing both a compressor and evaporator coil. Cold refrigerant flows from the compressor into the evaporator coil. A fan blows over the coil, pushing cold air out. A second fan pushes exhaust hot air out through the system’s built-in flexible ducting, usually to the empty space above a drop ceiling. Excess moisture removed from the air collects in a small condensation tank, which can be emptied manually or, with most models, automatically via a pump.

## Benefits of portable air conditioners

The most important benefit of portable air conditioners is that they allow quick and easy installation that does not violate most lease agreements and does not normally require prior approval of the building owner. Installation usually consists of no more than rolling a unit in, removing a drop-ceiling panel from the existing ceiling and positioning the exhaust duct in the space where the panel was.

Another outstanding benefit of portable air conditioners is their flexibility. Whenever necessary, they can be quickly

and easily moved to a different location in the server room and their airflow redirected. This is particularly helpful if any new hot spots develop when equipment is added or racks are reconfigured.

## Renting vs. buying

Because installation is so fast and simple, portable air conditioners are popular as rental units for emergency use. In many cases this may be a completely satisfactory solution. However, the popularity of portable air conditioners extends to many more applications than just IT equipment rooms.

This means that if an outage occurs during a heat wave when the demand for rentals is usually running high, there may be a significant delay before the dealer can arrive. It is also possible that dealers in a particular area will run out of units with the required cooling capacity and voltage. In addition, not all dealers have 24/7 service, which can be a problem if the outage occurs at night, on a weekend or on a holiday.

For facilities that can’t afford to gamble on a delay, having their own backup portable air conditioner may be a better solution. That way, when an outage occurs, the unit only has to be rolled in and connected. Such a procedure usually takes only minutes, but even so, if the outage occurs during off-hours, there is still some risk that equipment may shut down or suffer damage before company personnel can arrive.

For facilities that can’t tolerate any amount of downtime, on the other hand, the best solution is to install a portable air conditioner as a permanent backup, with the thermostat adjusted a few degrees above

the maximum temperature allowed by the main air-conditioning system. With this type of setup, if there is an air conditioning outage or other malfunction, the backup unit will take over automatically. Direct benefits include:

- Eliminating the risk of IT or other equipment damage and system downtime.
- Removing the stress and difficulty of having to deal with an emergency situation.
- Eliminating emergency call to IT personnel during off-hours.
- Assuring peace of mind.

## Industry standard measurements

Cooling capacity, measured in Btu/hr or tons (12,000 Btu/hr = 1 ton), is the most basic measure of an air conditioner’s ability to cool a given space.

When choosing a portable air conditioner, be sure that the manufacturer’s claimed cooling capacity has been arrived at following an industry-accepted standard from the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), and not just an arbitrary one. Otherwise, the unit may provide inadequate cooling.

For portable spot air conditioners, the relevant ASHRAE Standard 128-1989 specifies ambient conditions of 95 deg F at 60% RH. Unless this standard is used, the cooling capacity of the equipment in question may be much lower than what is claimed.

BUILDING COOLING SYSTEMS, INC.  
(Content courtesy of MovinCool/Denso California, Inc.)

## MovinCool Portable Air Conditioners

MovinCool, the world’s largest manufacturer of commercial portable air conditioners, offers a complete line of models used in a variety of applications, including server and telecom rooms, network closets and other IT equipment rooms. Models are available with cooling capacities as high as 60,000 Btu/h (5 tons) and in all voltage ranges.

Within the air conditioning industry, MovinCool enjoys a reputation for highest quality and reliability. Dealers who specialize in renting portable air conditioners, and who stand to lose significant profit if they have to replace a unit once it’s delivered, consistently say they prefer MovinCool models for their rental fleets because they know they can always count on

them to deliver the highest levels of performance their customers demand.

MovinCool is a brand of DENSO, one of the world’s largest manufacturers of automotive parts. As the principal supplier of advanced automotive technology, systems and components, including air conditioning to all of the world’s major car manufacturers, DENSO’s commitment to quality is paramount.

In the 1980’s, DENSO pioneered the concept of workspace spot cooling to meet its own factory needs. Since then, MovinCool has developed a wide range of portable and ceiling-mount air conditioning systems for many different applications.

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# Embracing New Challenges



## Candid

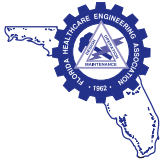


Photos courtesy of Lily Salkoff-Piner of Siemens.

## 49<sup>TH</sup> ANNUAL MEETING & TRADE SHOW - SEPT 26-28, 2011

*As of press time, the following companies have secured booths in our upcoming trade show. The majority will be participating with door prizes. Visit all of them at the Rosen Shingle Creek.*

3M  
 AAF International (AmericanAirFilter)  
 ACF Standby Systems/Air Centers of Florida  
 Acousti Engineering Company of Florida  
 Advanced Technologies Group, Inc.  
 a-fabco, inc.  
 Airstron  
 Ajax Building Corporation  
 Allstate Construction  
 American Portable Air Conditioning  
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 Hoar Construction, LLC  
 HSA Engineers & Scientists  
 HSI (Hospital systems, Inc)  
 Hunt Construction Company  
 Hurricane Protection Industries  
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 Ingersoll Rand Security Technologies  
 INNERFACE Architectural Signage, Inc.  
 Innovative Hospitality Concepts  
 InPro Corporation  
 Kaba Access Control  
 Kaleidoscope Ltd.  
 Kaufman Lynn Construction  
 KHS&S Contractors  
 Kontrol Kube by Fiberlock Technologies  
 Kwalu  
 Leviton Manufacturing Co., Inc.  
 Lifespan Healthcare, LLC  
 Link Construction Group, Inc.  
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**& TRADE SHOW**  
held jointly with  
**AHCA's 27th Seminar**

ROSEN SHINGLE CREEK  
Sept. 26-28, 2011  
Orlando, Florida

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