



A timely rehab...

Big changes after 60 years.

It is not often a high production industrial facility shuts down production for 2 weeks for an HVAC change out. But it is not often a high production industrial facility has a 60+ year old, 100,000 CFM air handler and all its structure and components completely demolished and built again from the ground up.

This past spring this international company with a household name turned to IES to take on a variety of tasks utilizing a variety of skill sets. With a 2 week window and no opportunity for delay, IES started the demo process and began removing the 18 foot tall, antique air handler that had been housed on this roof longer than most of the crew had been alive. Breaking the air handler down and removing it in pieces was the only way the 300 ton crane could handle the 200 foot reach.

Once the unit had been completely removed from the roof the IES team installed a spider web of structural steel to accommodate the 2 new 50,000 CFM air handlers, a solids separator and a new cooling tower. This support structure also included catwalks, service platforms and safety mechanisms to ensure the end product was not only functional but also serviceable.



Large duct work is lifted into place



Upon the new equipment being set, 3 separate IES teams, and 3 non-IES subcontractors worked in a confined area to tie the new lifelines back into the equipment. Brand new welded steam piping and steam reducing station with an integrated bypass was installed. Condenser, domestic, and steam

Continued on Page 2

In this Issue...

Food Production Face lift.....	1-2
Manage Smart.....	3
Manage Green.....	4
AirWaves.....	5
“Fan” Mail.....	
Lunch and Learn Calendar.....	7
High Performance Recipe.....	8

Continued from Page 1

lines were run to the 2 new pieces of equipment. A brand new pumping station was installed that utilized a solids separator and chemical treatment station. Steam and condenser water control valves were installed and wired to allow the new system to run stand alone with increased efficiency.

For the air delivery system, heavy gauge 96 inch duct was installed 7 foot off the roof to allow for easy access to the equipment. The two pieces of equipment were ducted together to match the single point, existing duct connection and heavy duty structural supports were installed and roofed in to guarantee a weather tight seal.

Within 2 weeks the rooftop was completely transformed. An antiquated air handler with leaks and jagged edges was removed and replaced with a premium system designed for safety and customer usability.

What IES did for this client

- Design Build Engineering
- High Efficiency Units for Energy Savings
- On Time – On Budget
- Installed 2 – 50 Ton Phoenix Air Handlers
- Water Treatment System
- Controls Integration
- Complete Demo of 100,000 CFM Air Handler
- Steam Reducing Station
- Start to Finish in 2 Weeks



It was gratifying to see how IES' carefully thought-out plan took shape, was executed safely, on time and within budget.

Virtually all of the mechanical and structural requirements of the project installation were handled in an expeditious, seamless and professional manner by their teams.

We have successfully contracted with IES for smaller projects than this in the past, but with the successful completion of this project under their belt, IES is now considered to be a high level contractor worthy of consideration for bidding on other major projects as they are developed in the future."



Manage Smart. The Case for PACE

Clean-Energy Financing for Commercial Buildings Holds Promise

New Study Projects \$2.5 Billion Annually For New Property Tax-Based Loans For Commercial Retrofits. But the Program Faces Questions In the Marketplace

The pace of innovation in solar and other energy efficiency technology has historically outstripped the ability of government and the private sector to come up with creative ways to finance solar retrofit and other green technology improvements in a way that pencils out financially for commercial landlords and homeowners.

In simple terms, PACE programs create local bond financing districts, which then lend back capital to building and home owners to fund energy retrofit projects. Owners repay the loan through their property tax bills, typically over a 15- to 20-year term.

The concept potentially helps commercial property owners overcome the hurdle of the high up front cost of energy upgrades. While the industry has come to agree that retrofits can sharply reduce energy costs and consumption and offset greenhouse gas emissions, private owners have struggled to finance such improvements due to capital constraints, especially in today's economy.

Aggressive NOI goals and the need to split the benefits of tax credits and other incentives with tenants present other barriers for owners. PACE financing has emerged as a promising, albeit untested, tool for commercial owners.

"The opportunities are really tremendous from an energy retrofit perspective." "A lot of the hesitation from building owners comes from the upstream expenses and not wanting to make those expenditures. This type of financing can help alleviate some of those concerns and convince owners to make these types of investments, which are going to be cost effective as well as energy efficient in the long run."

The Bay Area in particular is home to progressive and environmentally conscious real estate companies - own-

ers that don't need to be convinced of the potential value of retrofits and energy efficiency to their bottom lines, tenants and the environment.

PACE was launched as a demonstration project in 2007 in the Bay Area city of Berkeley. Based on its early success, states soon began passing bills enabling local cities and counties to create their own programs. At least 19 states have passed the legislation, including Arizona, California, Florida, Colorado, New York, Maryland, Massachusetts, Texas and Maine.

It works like this. A municipality establishes a PACE program, creating a special assessment district utilizing a voluntary tax lien on private property to secure financing for retrofits on existing buildings for energy efficiency, solar and other renewable energy projects, and sometimes water conservation. The liens are paid off over terms ranging from 5 to 20 years, most commonly through annual property tax bills.

Using the lien as security opens several financing options. But in most programs to date, PACE bonds are issued by special municipal finance districts or finance companies, or funding is borrowed from the municipality's general fund, to fund loans to owners for commercial and residential retrofit projects. In some programs, each large commercial project secures its own third-party financing such as an additional loan from the primary mortgage lender.

Commercial owners who are initially most likely to be candidates for the program include those with modestly sized buildings burdened by high energy bills - owners who plan to keep their property for a while and have accumulated 10% or more in equity. Initial applications will probably include office buildings of less than six stories, select service hotels, small malls with central HVAC, and grocery stores. "Until now, private buildings such as these have had minimal access to financing for energy retrofits," the Pike report said.

Manage Green.

Energy Conservation Measure (ECM) *By Gregg Perry*

There is a huge focus on energy saving today, not only because of the green revolution, but also because of the potential savings realized by reducing consumption. Investments in energy conservation are truly the best way for any company to reduce their impact on the environment, while improving your bottom line. There are many ECMs where you can reduce energy consumption and waste for little or no cost.

HVAC (Heating Ventilation and Air Conditioning)

Heating and air conditioning is normally the largest contributor to energy consumption in any facility. You can control this consumption in a few different ways.

- Verify optimum start and stop programming is being utilized. This energy conserving feature for HVAC systems, automatically adjusts the equipment's operating schedule depending on the temperature and humidity in the space and outside air. Start and stop programs should be set to minimize the time the HVAC systems operate while maintaining occupant comfort. Optimum start and stop programming can greatly reduce energy waste and expense. These settings should be reviewed by facility operators on a regular basis.
- Maintain temperature set points, which are standardized for different types of facilities. For example, in the winter the set point might be 70 degrees; in the summer it might be 76 degrees. The temperature set point is the temperature that is determined to be the most energy efficient for a given facility while maintaining a comfortable and healthy environment. This can be done with the facility's energy management system, programmable thermostats, or manually. The rule of thumb is that in the cooling season, you raise the temperature. In the heating season, lower it. Even raising or lowering by just one degree, can have an effect on the amount of energy needed without impacting the comfort of the people using the space.
- Utilize free cooling whenever possible. This is not a feature built in to all HVAC systems, but for those that have it, it's prudent to check that this is being utilized and is working properly. A malfunctioning free cooling feature can waste energy, instead of conserve it.
- Stage multiple chillers in order of their efficiency, from highest to lowest. Avoid using the more inefficient equipment unless absolutely necessary.
- Turn off any kitchen equipment not being used. Larger appliances like refrigerators and freezers should stay on, but small appliances should stay off and even be unplugged.
- Check for proper boiler temperature setting and possible night shut off, and be sure to turn the boiler off or lower the outdoor air temperature cut out in hot summer months
- Encourage employees to shut off their PC's when leaving the office for the night. And if you'll be gone for more than 15 minutes, lights should go off also.
- Discourage use of personal heaters or fans.

These are just a few tips on how to get on the road to reducing your energy costs and making your building run more efficiently. Some of these have a very small price tag and some have no cost associated with them at all. Let IES get you on the road to lower utility costs while increasing the value of your building.

For a free energy consultation please call Gregg Perry at 916-570-1030



Airwaves

Maybe you do...maybe you don't... know these terms, acronyms and industry abbreviations. Here is a handy glossary for you.

HVAC—An acronym that stands for the closely related functions of “Heating, Ventilating, and Air Conditioning”—the technology of environmental comfort. Refrigeration is sometimes added to the field’s abbreviation as HVAC&R or HVACR.

VFD—A variable-frequency drive (VFD) is a system for controlling the rotational speed of an electric motor by controlling the frequency of the electrical power supplied to the motor. A variable frequency drive is a specific type of adjustable-speed drive. Variable-frequency drives are widely used. In ventilation systems for large buildings, variable-frequency motors on fans save energy by allowing the volume of air moved to match the system demand. They are also used on pumps, elevator, conveyor and machine tool drives.

DCV—Demand-controlled ventilation (DCV) adjusts outside ventilation air based on the number of occupants and the ventilation demands that those occupants create. DCV is part of a building’s ventilation system control strategy. It may include hardware, software, and control strategy and is an integral part of a building’s ventilation design. Large assembly spaces such as gymnasiums, auditoriums, lecture halls, conference rooms, churches, and theaters are good candidates for DCV.

BTU—The British thermal unit (BTU or Btu) is a traditional unit of energy equal to about 1.06 kilojoules. It is approximately the amount of energy needed to heat 1 pound (0.454 kg) of water 1 °F (0.556 °C). It is used in the power, steam generation, heating and air conditioning industries.

EMS—The term Energy Management System (EMS) can also refer to a computer system which is designed specifically for the automated control and monitoring of the heating, ventilation and lighting needs of a building or group of buildings such as university campuses, office buildings

or factories. Most of these energy management systems also provide facilities for the reading of electricity, gas and water meters. The data obtained from these can then be used to produce trend analysis and annual consumption forecasts.

IAQ—Indoor air quality (IAQ) is a term referring to the air quality within and around buildings and structures, especially as it relates to the health and comfort of building occupants. IAQ can be affected by microbial contaminants (mold, bacteria), gases (including carbon monoxide, radon, volatile organic compounds), particulates, or any mass or energy stressor that can induce adverse health conditions. Indoor air is becoming an increasingly more concerning health hazard than outdoor air. Using ventilation to dilute contaminants, filtration, and source control are the primary methods for improving indoor air quality in most buildings.

DDC—Direct digital control (DDC) is the automated control of a condition or process by a digital device (computer).

AFUE—The annual fuel utilization efficiency (AFUE) is a thermal efficiency measure of combustion equipment like furnaces, boilers, and water heaters. The AFUE differs from the true ‘thermal efficiency’ in that it is not a steady-state, peak measure of conversion efficiency, but instead attempts to represent the actual, season-long, average efficiency of that piece of equipment, including the operating transients.

SEER—SEASONAL ENERGY EFFICIENCY RATIO: The efficiency of air conditioners is often rated by the Seasonal Energy Efficiency Ratio (SEER) which is defined by the Air Conditioning, Heating and Refrigeration Institute in its standard ARI 210/240, Performance Rating of Unitary Air-Conditioning and Air-Source Heat Pump Equipment.[1] The SEER rating of a unit is the cooling output in Btu (British thermal unit) during a typical cooling-season divided by the total electric energy input in watt-hours during the same period. The higher the unit’s SEER rating the more energy efficient it is.



Fan Mail



Banking for Everyone™

GREAT JOB ~ JERRY CREMINS

From: Brenda Gipson
Sent: Monday, July 19, 2010 9:59 AM
To: Joni Scott
Subject: FW: [HS] - Request HVAC AC unit disfunctioning in data center - Ref: # 7344 #

Hi Joni,

I spoke to Tom this morning and he said Jerry from IES was great to work with. He was very personable as he took care of the problem on Friday. Tom was extremely pleased with how Jerry handled our issue, and asked that I pass that on.

Brenda Gipson
 Administrative Assistant II
 Schools Financial Credit Union



Sent: Thu Aug 12 17:06:02 2010
Subject: Kudos to James Kooch

Robert,

It is important for you to know that the gentleman, James Kooch, who visits our office to provide service on the HVAC systems in our facility is well deserving of kudos. You are fortunate to have him as part of your team.

Excellent customer service is important to us and this is well recognized in Mr. Kooch. Every time he visits our office, he lets us know ahead of time; he keeps management well informed on what service is needed; and if there are any potential problems, he informs us on what to expect. I can trust that he conveys information back to the building owner's property management group on our concerns. When we have requests, e.g. about air flow, he explains what options we have so we can make an informed decision. He is keen on communication and has a delightful sense of humor. With all this, you have a terrific employee who provides excellent customer service.

Madeline M. Johnson
 Acting Office Manager/EDA LT
 Sacramento Primary Call Center #024



I am writing you regarding your employee Jon Eschenburg. His persistence and helpful attitude is excellent. He was able to explain the issues at our Fairfield location so well that we were finally able to get long overdue repairs done on our AC units. I would like to thank Jon and IES on behalf of the University of Phoenix students and staff for his hard work and great customer service.

Thank you,

*Chris Nunes
 Facility Manager
 University of Phoenix
 Fairfield Learning Center*



From: Ann Diamondstone [adiamondstone@thatsmybank.com]
Sent: Wednesday, July 14, 2010 11:41 AM
To: David Yee
Subject: thank you

David, I want to share with you how pleased we are with the service provided by you and your team. Larry Rosenberger and Yuriy Troshin are true professionals. They are so concerned that they do not interrupt our business that every time they have to run noisy equipment they make sure we have no clients at our desks. To make matters even more pleasant they are always updating us as what will happen next. Last night when they were leaving they apologized that the vacuum cleaner they were using was not picking up as well as they would like. They told me they would bring in a better vacuum cleaner so that the branch would look presentable to our customers. Wow is all I can say!!!!!!!. I have been in business for 25 plus years and worked with many contractors. I must say this is the most pleasant experience I have ever witnessed. My hats off to you David and your team. I will definitely refer you and your company to all of my business clients.
 Thank you, Ann



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Lunch and Learn Seminars

In an effort to keep our customers on top of changes in this industry, IES is pleased to present the “Lunch and Learn” seminar series. These seminars are conveniently scheduled between our two IES locations, with topics and speakers that are important

factors in keeping IES customers current and competitive. Make a point to mark these on your calendar. Lunch is provided, so we need to know if you are joining us.

RSVP to Bert Johnson—916-988-8808.

Sacramento 1512 Silica Avenue • Sacramento, CA 95815			
September 23	11:45 – 1:30	Green Cabinet	Russell Garcia
November	11:45 – 1:30	TBD	

Santa Rosa 1604 Airport Blvd. • Santa Rosa, CA 95403			
September 30, 2010	11:45 – 1:30	Green Cabinet	Russell Garcia
November	11:45 – 1:30	TBD	



The GREEN CABINET is an organization in pursuit of a sustainable world. We are a coalition of companies both large and small who believe that transforming the environment in which we work, the ways we work, and how we work together, we will build a stronger economy and cleaner environment.

**PROVIDING GUIDANCE,
EDUCATION, RESOURCES,
AND AWARENESS TOWARD
GOING GREEN &
SUSTAINABILITY AND
FACILITATING CURRENT
ENVIRONMENTAL FEDERAL
STATE AND LOCAL LAWS**



Lobster Rolls

Great for a summer evening!
Serve with 2009 Darioush Viognier

4 servings

For the vinaigrette:

- 1 1/2 tablespoons Dijon mustard
- 1/4 cup freshly squeezed lemon juice (2 lemons)
- 5 tablespoons good olive oil
- 3/4 teaspoon kosher salt
- 1/2 teaspoon freshly ground black pepper

For the salad:

- 2 ripe avocados
- 1 lemon, juiced
- 1 bunch arugula, washed and spun dry
- 1 1/2 pounds cooked lobster meat, cut in 3/4-inch dice
- 1 pint cherry tomatoes, cut in half or quarters
- 1 1/2 teaspoons kosher salt
- 1/2 teaspoon freshly ground black pepper
- 1/2 pound lean bacon, fried and crumbled
- 3/4 cup crumbled English Stilton, or other crumbly blue cheese
- 8 hot dog rolls

Directions

For the vinaigrette, whisk together the mustard, lemon juice, olive oil, salt, and pepper in a small bowl.

For the salad, cut the avocados in half, remove the seed, and peel. Cut into 3/4-inch dice and toss with the lemon juice. If the arugula leaves are large, cut them in half crosswise.

Put the lobster and tomatoes in a bowl. Sprinkle with the salt and pepper and toss with enough vinaigrette to moisten. Add the diced avocados, crumbled bacon, blue cheese, and arugula and toss again. Fill the hot dog rolls with the salad. Serve at room temperature.

