



The Whistle

FHEA

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In this my second letter I would first like to comment on our 2007 Spring meeting. Hosted by District IV at the Delray Beach Marriott, the meeting was a huge success! With over 140 registrants, we had to expand the meeting room as well as vendor space. Rumor has it that it was the largest Spring meeting ever! Financially we did *great* but much more importantly we had a great educational program which was well received by all. The weather was certainly hot but the setting was perfect for that, right across from the

beach. In my opening presentation I joked that perhaps the large turnout was due to the location at the beach, but a review of those present in the room indicated that all were interested in the presentations and not so much in taking in

will be held in conjunction with AHCA's as this cooperative effort has been very successful for both groups. For those of you who enjoy golf be sure to come a day early for AHCA's annual golf tournament held on Sunday, October 21. Please visit the website www.fhea.org and look in the events section for more information. Space in the Trade Show (October 22-23) is disappearing quickly; fewer than one quarter of the booths remain at this time! This demonstrates once again the strong relationship between our active and supporting members where everyone benefits from the association. Your involvement in FHEA activities represents a resource for your career and is helpful to you in your everyday dealings within your facility. I recommend you bring the agenda and resources you have identified to your senior management to help them understand the benefits of the association as well as the value to them for supporting you in attending these educational sessions and trade shows, including the opportunity to partner with

AHCA and your specific inspectors outside of your facility.

As I write this letter I am preparing to attend the ASHE annual meeting in New Orleans. My first order of business there will be to accept the GOLD award

The President's Corner

DINO GAVAZZA, CHE, PRESIDENT

from the beach! As we do after all meetings, we have reviewed your evaluations. The overall satisfaction with the program was 91%. There were some comments on layout and procedures that will be taken into consideration at our next meeting; we take your input seriously.

We will be finalizing the venue for our 2008 Spring meeting at our Summer board meeting in Tampa next month. At the Summer board meetings your board reviews locations and confirms the property we select is suitable in terms of space for meetings and vendors, with current technologies available for the educational presentations, and food and services to make our stay comfortable. We are also charged with the review of the location and area points of interest as well as "things to do" for our members and their loved ones.

Which brings up the next topic: our 45th Annual Meeting will be held in Orlando on Monday, October 22nd through Wednesday, October 24th. Once again our meeting

from ASHE for our state. My congratulations to Mr. Dave Palmer, our Vice President, for all the hard work and commitment of time in putting the binder together and submitting it to ASHE.

In closing I would like to again encourage you to make a commitment to attend your district meetings and make every attempt to make the Spring and/or Fall 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 on an island, and that others probably have "been there and done that." I can attest that you will find a willingness in the district and state members to help in as many ways as possible. I also want to thank all our members and supporting members for their ongoing efforts in making this a great organization with continued growth and commitment to excellence.

Welcome New Supporting Members

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

DAVE RILEY

President
Project Controls/Management, Inc.
Orlando, FL 407/455-5390

DAVE SHORTZ

Vice President
Engineered Lining Systems, Inc.
Jacksonville, FL 904/378-0900

BRENDAN ELLIS

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HDR Architecture, Inc.
Tampa, FL 813/262-2792

WENDY J. MICKEY

Vice President/Managing Principal
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Tampa, FL 813/262-2720

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The Garland Company, Inc.
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KENDALL MASON, PE, LEED AP

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Rogers, Lovelock & Fritz, Inc.
Winter Park, FL 407/647-1039

SCOTT T. FOTE, PE, LEED AP

Director, Mechanical Engineering
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Hero Medical
Pembroke Pines, FL 954/249-3359

JERRY SELLERS

Area Sales Manager
Vanguard Modular Building Systems, LLC
Jacksonville, FL 800/448-6772

MARK TAUDIEN

VP Southeast Region
Array Healthcare Facilities Solutions
Boca Raton, FL 561/995-1700

ERIC KIRKLAND

Vice President, Building Sciences
Enviro Team
Pompano Beach, FL 954/978-8839

GENE PETRE

American Event Services
Cape Canaveral, FL 321/783-4111

Codes and Standards UPDATE

The Joint Commission Speaks Up on Generator Testing

The Joint Commission's July issue of *Environment of Care*® News addressed the subject of combining the 2 hour annual load banking requirements for under-loaded generators sets, a 30 minute 'monthly test', and the 4 hour triennial EPSS test. My reading of it suggests that the rumors we mentioned of a softening of The Joint Commission's stance that *three* documented tests must be performed in one month those years when the 4 hour triennial, and 2 hour annual tests coincide— has come to pass.

The article states that after a discussion with the Technical Committee responsible for NFPA 110, Emergency Power Supply Systems, the Joint Commission concedes that

a facility will be in compliance with EC 7.40, EP1 and EP5 (footnotes), in that "...the combining of the tests into one event as described above will be permitted provided no other action is rendered from the NFPA...." (Note: in order to be accepted, the test at no time can be less than 30% of nameplate, including the initial start of the load bank test. This could mean that either a load bank (or other non-essential load) will need to be connected in parallel with the building load.)

Opinions expressed above are those of Dan Chisholm, Sr., pres., MGI Systems, and Technical Committee member of NFPA 110, who provided the material for this column. We are indebted to him for taking the time to cover these issues for us. Dan can be reached at: dan.chisholm@mgisys.com



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Alethea Vitray
Executive Director

For hospitals, emergency generators are not just luxuries that provide comfort and convenience when the power goes out. They are a mechanism so critical that even a brief ‘glitch’ during transition could cause life support systems to malfunction. Healthcare professionals, their patients and the general public have a reasonable expectation of safety, be they in surgery or ICU. Hospital generators provide critical power in the event of a blackout.

The vast majority generators are powered by diesel. Large facilities will

rain finds its way through pipe fittings and manhole covers in submerged piping sumps. Also, as fuel is drawn from the tank, air is sucked in through the vent together with dust and, you guessed it, more moisture. Water, in and of itself, is mostly a precursor to larger problems. Where there is water, there is algae.

Water and algae go hand-in-hand. Algae live at the water/fuel interface. They feed on hydrocarbons (hydrogen and carbon) in the fuel. Algae and bacteria reproduce and multiply rapidly. Their ‘waste’ as a result of consumption is acidic and therefore corrosive to the

sure in place to try to minimize contaminated fuel from reaching the engine; however anyone would be ill advised to believe that these controls will guarantee a healthy fuel supply.

Fuel Testing

What can you do, you ask? An ounce of prevention will go a long way to minimize critical down-time when it is least expected. Here are a few simple suggestions that should be added to your maintenance schedule.

Check for presence of water monthly—and weekly during rainy season.

Hurricane Preparedness

Backup Power Generators: Fuel Maintenance Tips & Tricks

—D. Barry Fernandez, President, Clean Fuels of Florida, Inc.

have as much as 40,000 gallons of fuel storage capacity with the average being about 10,000 gallons. Unless the tank was recently installed, this fuel is usually several years old.

As the fuel ages, it becomes susceptible to varying degrees of contamination. Water, algae, bacteria, yeast, acids, sludge, oxidation, sediment, suspended solids, emulsification—we have even found tools, rags and cigarette butts in fuel storage tanks. Using fuel of a less than optimal quality will not only plug filters, starving the engine, but will also result in poor combustion and eventual failure. Storage tank contamination can run the gamut, but for the purposes of this article we will focus on the most common, and their causes, then look at some preemptive measures that can be taken.

The Most Common Fuel Problems

One of the most common problems is water which finds its way into the tank in any number of ways. Temperature changes cause condensation to form on the inner walls of the tank, and heavy

tank and its elements. In addition, the organic hydrocarbons in diesel oxidize when exposed to this acidic environment which results in the formation of insoluble particles and gums. These particles will plug filters which can lead to poor engine performance and stalling due to fuel starvation.

As algae dies it becomes sludge at the bottom of the tank and is suspended as solids throughout the fuel supply. Dirt, sand and other solids contribute to the ‘big picture’ of contamination.

Think of water in a swimming pool. We add chemicals, run the pool filter daily, brush and skim it to keep the water free of contaminants. Stop adding chemicals and turn off the pump, and in a day or two the pool will begin to turn green and after a week you won’t be able to see the bottom. Place the pool in a cool dark place, and within a month you will have thick slurry of biological pool-partying sludge. To prevent this from happening to our pools, we spend a great deal of time and money, and implement mechanical controls. Unfortunately, this is less true with our critical fuel supplies.

Many diesel engines have oil/water separators, fuel filters and other mea-

sure it in inches and convert it to gallons using your tank chart. A tube will last years and your fuel supplier should be able to tell you where to purchase it.

Water Paste: For about three or four dollars you can purchase Kolor Kut water finding paste. Apply a thin layer of this yellow paste along the bottom six inches of your measuring stick when you manually gage your fuel level. The paste will turn bright red where it contacts “free water”. You should be able to mea-



sure it in inches and convert it to gallons using your tank chart. A tube will last years and your fuel supplier should be able to tell you where to purchase it.

Bottom sampling: Koehler Instruments makes an 8 oz stainless steel “bacon bomb” for taking bottom samples (www.koehlerinstrument.com Part No. K27781). The cost is close to \$300. You can take your own samples and visually inspect them for algae, sludge, sediment, oxidation, etc.

Other tests and procedures will also point to the presence of contaminants:

The White Bucket Test: First, purchase fuel from a reputable company. When they show up for delivery, have a clean, white 5-gallon bucket available. Have them pump the first gallon or two into the bucket. Carefully inspect it to make sure it's free of contaminants. Place a lid on the bucket and store it for a day. Inspect it again, this time paying particular attention to the bottom and see if any water has separated out. If you see any free water at the bottom, promptly stick the tank with water paste to see how many inches of water there is. Have the water removed as soon as possible.

Slime and odor filter test: When changing the fuel filter on the generator, inspect the filter before discarding it. If it has 'slime' or a rotten egg odor, algae has made its way to the filter. This will starve the engine of fuel or it can "blow-by" the filter and cause expensive damage to the fuel injection system and engine.

Take Prompt Action

Do not allow water accumulation if you can help it—remove water regularly. Companies with vacuum trucks provide this service to gas stations. A word of caution: vac trucks operate at high suction rates and, while they will remove water from your tank bottom, they do so at the expense of several hundred gallons of fuel at the same time. A preferred method is to use a pump at slow speed. Do not attempt to do this yourself unless your staff is familiar with explosion proof motors, the dynamics of static electricity and are trained to handle a spill. You will also need to have several 55-gallon drums available. Two inches of water in a 10,000 gallon tank could mean a hundred gallons or more depending on the tank configuration. Petroleum contact water should be disposed of properly.

Use Biocides and Additives correctly: I always chuckle when I hear of boat captains who dose their fuel tanks with biocide at the first signs of algae.

This only serves to make a problem worse by killing the algae mass and stirring it in with the fuel. For the most part, algae will live at the fuel/water interface, that is, between the water and fuel. Kill it and it will be everywhere. Biocides should be used to prevent algae and bacterial growth before it happens. Use biocides only after you have removed all water, and you are sure there is no algae.

Additives will enhance and replenish cetane levels to the fuel lost to aging and oxidation caused by colonizing microorganisms. Additives should be thoroughly circulated into the fuel in order to work properly. Manufacturers instruct you to administer the additives just prior to fueling your tank. Depending on how much fuel you are adding, this may not be enough to properly blend the product. A pump may be necessary to re-circulate thoroughly.

The older the fuel, the quicker it will break down so you may need to administer additives more frequently than recommended. The Florida Department of Agriculture regulates fuel quality and will perform certain tests for free. They have laboratories in Port Everglades, Tallahassee and Tampa. Call (850) 488-9740 for sample submission and procedures.

Filtration Systems: I'm bewildered as to why storage tank manufacturers haven't integrated dedicated fuel filtration systems into their tanks when the application calls for long-term storage. After market systems can be installed, but can be expensive and may require constant monitoring. An alternative is to use a Filtration Service Company discussed in the next section.

Fuel 'Polishing' Services: There are also service companies that will 'polish' the fuel on site with mobile filtration units. Ideally, the company you choose will have specialized equipment built into their trucks with several stages of filtration. The first process in decontamination will be to remove any free water followed by the filtering of the

fuel to remove any solids. In addition to several stages of particulate filters, some companies use a coalescer that contains several elements for removing any emul-



sified (or suspended) water. The process should also include dosing the fuel with biocides and additives to achieve optimum fuel quality. Again, choose a reputable company. Look at their equipment carefully, ask questions, and become knowledgeable about the process and the desired results. Also make sure they are licensed to transport and dispose of the contaminants and filters. If they operate out of a rented U-Haul, chances are you'll be watching a good dog and pony show and accomplishing nothing. Ask for copies of their permit and insurance. The last thing you want is a spill at your facility.

Be proactive: Hurricane season is upon us. Don't wait until there's one on the radar to start looking at the preparedness of your fuel supply. It doesn't take a direct hit from a tropical storm to cause a power failure. On August 14, 2003 a power grid shutdown resulted in a blackout affecting 50 million people throughout the northeastern US and parts of Canada. As with most power failures, there was no warning.

The transition from municipal electricity to backup generated power must happen seamlessly without so much as a flicker. Once that transition has been made, the generator must run without interruption until power is restored, whether it means a few minutes or several days. Always keep in mind that many lives are at stake and prepare accordingly.

PROFESSIONAL, AFFORDABLE ENVIRONMENTAL SERVICES

Mobile Fuel Decontamination and Tank Cleaning

- Specialized portable filtration units filter to *half a micron*
- Multi-stage system even removes emulsified water
- Additives and biocides blended in at time of service
- Annual quality inspections of your fuel supply free of charge



The Fuel 'Polishing' Process:

- Suction hose is inserted to the bottom of the tank. "Free water" is pumped from the bottom into our trucks for proper disposal.
- The fuel then passes through a strainer screen, two particulate filters and a five element coalescer for a total of 8 stages of filtration.
- Digital and analog meters allow us to monitor flow rate, volume, PSI and element capacity.
- The clean fuel is returned to the tank creating recirculation and agitation of the contents.
- During the process, we introduce fuel additives and biocides to ensure optimum performance and restoration of fuel components lost to long-term storage and contamination.

Could there be trouble in your tank?

You lose nothing to find out – and you may find you have a lot to lose if you don't.

Clean Fuels will visit your facility, sample your tanks, and evaluate the condition of your fuel. You will see with your own eyes where dirt, water, algae or other contaminants may have infiltrated your fuel. We

will provide a written inspection report.

All of this **FREE OF CHARGE!**

THIS NO OBLIGATION OFFER NEVER EXPIRES!

We also specialize in Complete Hazardous Waste, Pharmaceutical and Chemical Waste Management

Ask us about the DEP's new pharmaceutical waste regulation!

CLEANFUELS
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23rd Spring Meeting - May 11, 2007



2007 TRADE SHOW UPDATE

Show is selling out quickly!

The FHEA's 45th Annual Meeting and Trade Show is proving as popular as past shows. As of press time, the following firms have secured booths for the October 22-23 show at the Renaissance Orlando Resort at SeaWorld. Well over 75% of the booths have been sold. If you are interested in participating in this show, please do not delay in contacting the FHEA office (407/332-7767 or aletheav@earthlink.net).

American Air Filter International	Filter Pure Systems, Inc.	Pure Air Filter Sales & Service
ACF Power Gen., Inc.	Florida Detroit Diesel-Allison	R. J. Griffin & Company
Active Power	Florida Copy Data	Robins & Morton
ADT Security Services, Inc.	Florida Door Control, Inc.	Rogers Lovelock & Fritz, Inc.
AirScrub Systems	Florida Power & Light Co.	Roof System Services, Inc.
by Clean Air Systems Engineering Inc.	Follett Corporation	Roofing Technology/Fibertite
Anderson-Moore Construction Corp.	Forbo Flooring	Rulon Company
APG Electric, Inc.	Georgia-Pacific Gypsum LLC	Safe Check East, Inc.
Array Healthcare Facilities Solutions	Glazing Consultants International LLC	Shannon Sales Inc.
ASCO Power Technologies	Gobbell Hays Partners, Inc.	SimplexGrinnell
ASCO Services, Inc.	Graef Anhalt Schloemer & Associates, Inc.	Skanska USA Building
Assa Abloy - DSS of Florida	HDR Architecture, Inc.	Smith Seckman Reid, Inc.
Automated Building Controls	Hill York	Southwest Engineers
Balfour Beatty Construction	Hill-Rom	Square D Company/Schneider Electric
Batson-Cook Company	Hurricane Protection Industries, LLC	Smith Seckman Reid
Batten & Shaw, Inc.	IBA Consultants, Inc.	Stafford Consulting Engineers
Becker Pumps Corp.	Industrial Engineering Company	Stan Weaver & Company
Belimo Aircontrols (USA), Inc.	Ingersoll-Rand Security Technologies	Stanley Security Solutions
Bernhard Communications Inc.	InPro Corp	Steris Corporation
BGA, Inc. A ConEdison Solutions Company	Jeron Electronic Systems, Inc.	Sto Corp
Bovis Lend Lease, Inc.	KHS&S Contractors	Strut Technologies
Brasfield & Gorrie	KNH Inc	Swisslog Healthcare Solutions
Carrier	Life Safety Services, LLC	System Components Corporation
CAT/Pantropic Power/Ring Power	Link Construction Group, Inc.	T.D.W. Services, Inc.
Charles Perry Construction, Inc.	M. J. Harris, Inc.	Tampa Bay Trane
Coastal Mechanical Services	Marshall Erdman & Associates	TekTone Sound & Signal
Commercial Flooring Distributors	Mechanical Services of Central Florida, Inc.	The Whiting-Turner Contracting Company
Comprehensive Energy Services, Inc.	Meridian Art Group	TLC Engineering for Architecture
Construction Specialties Inc.	MET Laboratories	TMA Systems
ConVault Florida	MGE Architects	TNT Combustion Inc.
Creative Arts Unlimited, Inc.	Medical Gas Maintenance & Cert. Inc.	Total Door
Curbell Electronics, Inc.	Modular Building Systems Intern'l	Tremco Incorporated
Datarep, Inc.	Modular Services Company	TWC
Door Control Inc.	Ohio Medical Corporation	Universal Engineering Sciences
Dorma Automatic	Optimum Power and Environment of FL	US Design Source
Dorma Architectural Hardware	Original Solutions Company, Inc.	Valcourt Building Services of Florida
Doster Construction Company, Inc.	Pevco Systems	W.G. Mills, Inc.
Dynatherm Resources, Inc.	Phoenix Products LLC	Waco Associates
Electrical Reliability Services	PowerLogics, Inc.	Walbridge Aldinger
Engineered Lining Systems	PQ Testing & Rentals, Inc.	Walker Parking Consultants
Enviro Team	Primex Wireless, Inc.	Wal-Mark Contracting Group LLC
Environmental Graphics, Inc.	Project Controls/Management Inc.	Watson McDaniel Co.
EUTHENICS	Project One Systems Sales Inc.	Wesco Distribution
Evergreen Medical Services	Protek Systems of Florida Inc.	Whitehall Mfg. Co/Acorn Eng Co
Exeter Architectural Products, Inc.	Pure Air Control Services	Williams Scotsman
Facilities Technology Group		Workplace Resource



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FHEA's 45th Annual Meeting & Trade Show

October 22-24, 2007

Renaissance Orlando Resort at SeaWorld

IMPORTANT!

Registration materials for the Annual Meeting and Trade Show will be mailed out in August after the educational program is finalized. In the meantime, **even before you receive your meeting packet, please call the Renaissance reservation line NOW to make your reservations!!** Our block of rooms is limited; don't be among those scrambling to find rooms elsewhere! Mention FHEA and/or AHCA.

Hotel Reservations: 407/351-5555