Volume XLVIX: Marking 47 Years of Service to Healthcare Engineers

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Special Insert in This Issue:
* Codes and Standards *

Reserve Your Spot NOW at the 2005 NEHES Fall Conference Program – "Brilliance in Engineering" – and Get The Latest News in NFPA and JCAHO Codes and Standards, Clean Air Act Updates, Fire Safety, Emergency Power Supply Systems (NFPA 110 Changes), and More

The Vermont Healthcare Engineering Society is bringing several experts to Burlington, VT October 3-5, 2005 for the 2005 Fall Conference with panel discussions, featured speakers, question and answer sessions, large vendor show, annual NEHES business meeting, golf tournament, awards banquet, a tour of the Renaissance Project at Fletcher Allen Health Care, and a Past Presidents Breakfast.

The golf tournament will be held October 2 in nearby Shelburne and conference meetings are at the Sheraton Burlington Hotel and Conference Center. Spouses and guests of attendees have a scenic and fun-filled itinerary to look forward to: a day trip to Montreal, a visit to the Shelburne Museum and Farm, and tours of the Lake Champlain Chocolate Company and The Magic Hat Brewery.

Visit www.nehes.org to see the entire registration brochure and form.

Speakers and their topics include:


NEHES Members Pay Tribute to Mark English on his Retirement

Although Mark English wanted to retire from Hartford (CT) Hospital and move to Vermont without fanfare, NEHES members weren't ready to let him go without a few public tributes to recognize his dedication to NEHES, the Connecticut HealthCare Engineers Society (CHES), and his profession. Despite retiring, the longtime volunteer plans to help VHES with the 2005 Fall Conference in Burlington, and hopes to continue as NEHES Archivist and participate in the Society in other ways.

Recently named an Honorary NEHES member in recognition of his years of service to the Society, Mark was also honored by Hartford Hospital, where he completed 30 years of service this summer.

His contributions to NEHES and CHES are almost too numerous to mention, and there is hardly a Board of Directors seat, elected officer position, or committee chairmanship that he didn't offer to take on at one time or another since joining NEHES in 1995. Many times, Mark served in a position not once but twice, often filing in when an elected or appointed person could not continue in the job.

He served NEHES as President (twice), as interim President Elect, Steering and Bylaws Committee Co-Chair, Education Chair, Interim Treasurer, Spring Seminar and Fall Conference Planning Chairs, and Connecticut State Representative. He has been CHES President and held other chapter offices. He acted as a facilitator at many Board of Directors' planning retreats; he contributed numerous articles to The NEHES Newsletter; and he has been instrumental in preserving and storing NEHES archives. He was elected the NEHES Engineer of the Year in 2001. He earned the certifications

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- Gene Cable, PE, FPE, Regional Safety & Fire Protection Engineer, Department of Veterans Affairs, Albany, NY: Fires at VA Medical Centers; and Fire Alarm System Design, Occupant Notification in Health Care Occupancies


- Richard Foote, TURP, HEM, Healthcare Environmental Specialist, Triumvirate Environmental, Somerville, MA: Complying with State and Federal Air Emissions Requirements in Health Care

- David Keelty, Director of Buildings and Projects, Fletcher Allen Health Care, Burlington, VT: Construction and Project Management: Lessons Learned - the Renaissance Project at FAHC, largest construction project ever to take place in Vermont


- George Mills, FASHE, CHFM, CEM, Associate Director, Accreditation Operations, JCAHO: JCAHO Updates

- Dean Samet, CHSP, Director of Regulatory Compliance Services, Smith Seekman Reid, Inc., Nashville: Regulatory Updates

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**Important Dates**

**2005 DATES**

October 2-5, 2005

2005 NEHES Fall Conference

(Golf tournament October 2)

Organizers: VHES

Sheraton Burlington Hotel and Conference Center

Burlington, VT

October 23-29

National Healthcare & Facilities Engineering Week

November 3-5, 2005

2005 NEHES Board of Directors Planning Retreat

Whites Regional Conference and Hospitality Center

Westport, MA

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**2006 DATES**

March 24, 2006

2006 NEHES Spring Seminar

Organizers: RIHES

Four Points by Sheraton Leominster Hotel

Leominster, MA

October 3-5, 2006

2006 NEHES Fall Conference

(Golf tournament October 2)

Organizers: Massachusetts groups

Whites Regional Conference and Hospitality Center

Westport, MA
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He was elected the NEHES Engineer of the Year in 2001. He earned the certifications of SASHE (Senior of ASHE), CHFM (Certified Healthcare Facility manager), and CCE (Certified Clinical Engineer).

A few of the many tributes to Mark are listed below:

From Kevin Keating, NEHES Treasurer:
"I am extremely happy for Mark and wish him all the best with his retirement. I'm glad to hear that he will continue to be involved in NEHES. Mark's commitment to making NEHES a successful organization is unparalleled. He has been instrumental in keeping NEHES at the forefront of active engineering societies. He has been an inspiration to me and my involvement in NEHES. I'm looking forward to working with Mark for many years to come."

From Ron Vachon, ASHE Region 1 Director and NEHES President Elect:
"Mark helped the Society by mentoring new members and new officers, assisting officers in transition, making a huge contribution to the newsletter with articles, putting in personal time to ensure that the chapter headed in the right direction, and participating in Chapter Leadership forums. Mark can only be described as an outstanding, extraordinary talent, brilliant, incisive, a debater of skill, and a persuasive leader. As NEHES Board members we were close colleagues. You learned to rely on Mark, a backbone of the Society. He was always stimulating and energetic; he grasped every detail of the Bylaws and Guidelines of the Society, and always kept us on course. I remember at numerous meetings and retreats over the years his amazing capacity for the right input at the right time to bring about progress, and being a tremendous support and help to all of us. In my short term as ASHE Region 1 Director, I have learned that NEHES is one of the strongest and highest esteemed ASHE chapters in the country. Mark played a crucial role in NEHES' growth and in developing our strong commitment to quality education and advocacy. Although we sometimes disagreed, I always respected the way in which he presented his case. Mark was never a passenger on the Board, always a leader. His all-volunteer, all unpaid, contributions to NEHES are very significant."

From Dawn LeBaron, CHFM, 2005 Fall Conference Chair:
"I feel very fortunate that Mark English has chosen Vermont as his residence. As you know, I have done my best to ensure that he fits in by way of my gift to him (remember the orange hunting hat?) as outgoing NEHES President. In addition, I have benefited from Mark's expertise in a number of ways and the fact that he has offered to help us with Fall Conference activities is a huge bonus for the VHES group. When I first met Mark at the 1998 Fall Conference in Bermuda, he welcomed me to the Board and has been a wonderful support every step of the way. I look forward to working with Mark in his new phase of life and I'll do my best to ensure that he suppresses his flatlander ways as soon as possible!"

From Bob Thompson, NEHES Liaison to JCAHO:
"While everyone in NEHES, and especially on the Board, has worked with dedication for the Society, no one that I know of has worked more diligently and more precisely and bailed us out so many times as Mark English. Surely, this must have been the hallmark of every aspect of Mark's career. Mark, I just thank you for all you've been doing!"

Have you visited NEHES's new website lately?
President Urges NEHES Members to Take Advantage of Fall Conference's Education Program

It hardly seems possible that the summer has gone by and we are entering the last quarter of 2005. If you have not seen it by now, you will shortly be getting the brochure for the 2005 NEHES Fall Conference in Burlington, VT. The Vermont Healthcare Engineers have put together an outstanding program. "Brilliance in Engineering" is a very apt description of not only the seminar topics but also the location at a time during the year that has no equal for sheer natural beauty. What a great opportunity to enjoy the splendor of Vermont in the fall and to increase your knowledge at the same time. Please look through this program brochure and make every effort to attend. In addition to the array of topics, which we can all apply in our day-to-day operations, you will have an opportunity to meet with fellow members and develop the networking contacts that prove so invaluable to all of us in our jobs.

On Tuesday, October 4 the Society will conduct its Annual Business Meeting. This is your opportunity to hear and learn about what your Society has been doing over the last year, and talk about where you feel we need to be going moving forward. At this meeting, the Society will present a slate of officers for the Executive Committee. It is also the time when the Society's State Chapters nominate and elect the State Representatives for the coming year.

Finally, I want to make note of the retirement of Mark English. Mark has been an active member of the Society for many years. In each association and society, there are individuals who give their “all” in making things work and doing what needs to be done. Mark is such an individual. He has been there for all of us over the years and we should all be proud to count Mark as one of our members and as a friend. Please take a minute to congratulate Mark on his retirement.

John Crowley, SASHE, is Director of Facilities Management at Saints Memorial Medical Center, Lowell, MA. His e-mail is maint.jc@stmmc.org

Get Help from Your Colleagues via the NEHES Listserv!

Members of VHES (Vermont Healthcare Engineering Society) have long known the value of a listserv to share ideas and answer questions about their facilities. Now active NEHES members (healthcare facility managers) are realizing the same benefits from their own listserv system. Ray Forsell is the VHES volunteer webmaster and Clinical Engineer with the Technical Services Program at the University of Vermont. The University of Vermont Technical Services Program sponsors both the VHES and NEHES listserv. TSP Director Tobey Clark has supported UVM's involvement and has managed the VHES listserv system since its creation several years ago.

The NEHES Listserv

Recently, the following exchange between NEHES listserv members answered a facility manager's question within minutes:

Question: I am curious if any of you have formal partnership agreements with local electrical or mechanical contractors. I am exploring setting up an arrangement to be able to call an electrical contractor first if additional help is needed for a reduced hourly rate and they would keep some parts on hand. In addition, we would consider having them on call for electrical problems 24/7. If you have such a program and have some written agreements I would like to hear from you!

Answer #1: We have never had any formal agreements, but have contracted with local contractors when the need has come up for short spans of time. We have also just looked, based on in-house labor availability, at identifying jobs that can be defined and outsourced. This shifting has always been for short spans of time, nothing on a continual basis.

Answer #2: We have that type of an arrangement here with a local contractor. It has worked out well. The price break is not that great a deal. What makes this advantageous is response time and familiarity with the facility. This particular contractor has done some extensive work here (contract bids), and his staff is quite familiar with our facility. It is extremely helpful in an emergency during off-hours if our staff is not able to respond for various reasons. The response is rapid, usually under 60 minutes, and the person responding has worked here before so he is not coming in cold, so to speak. An important element to this is the commitment by the contractor. In our case the owner is involved and he makes certain that the staff that will be responding is familiar with the facility. He may respond himself depending on the severity of the situation. Whenever we know of our staff not being able to cover the facility due to illness, vacation, emergency leave, etc, we notify the contractor in advance and appropriate personnel are on call.

The VHES Listserv

VHES members have recently been actively discussing and sharing information on the new Vermont law requiring carbon monoxide (CO) detectors. Among other things, the law would require hard-wired CO detectors in corridors outside patient sleeping rooms in all healthcare facilities. A knowledgeable group of VHES members have drafted letters to the Vermont Public Safety Department, and the Society is actively lobbying for final regulations which are reasonable and make allowances for the small degree of CO hazard posed on patient sleeping floors in most healthcare facilities.

Communication among members on advocacy issues such as the Elevator Code and USP 797 pharmacy regulation is easily

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accomplished via the listserv, Ray said. "The listserv has also saved VHES a lot of money on postage, since all meeting announcements and information sharing is done electronically."

Two enthusiastic Vermont facility managers praised their listserv.

"I think the NEHES listserv is an excellent expansion of availability to reach so many more of our peers. The VHES component is a great way to make contact with a lot of folks very quickly, whether to share information or ask questions. So, it only seems logical to expand that capability to its next step. Our state chapter and NEHES are both composed of intelligent, experienced folks; why not use the resources? Our jobs are complicated enough and having access to pertinent information only makes sense to me." -- Doug Stringfield, CHFM, Director of Engineering/Security, Southwestern Vermont Healthcare, Bennington.

"I have found the VHES listserv to be very informative. It's interesting to see what items are on the radar of various hospitals, from weapons policies to pharmacy compliance with USP 797. It is also VERY helpful when one of our colleagues shares their strategy and/or opinion on a particular topic. In today's world where folks expect an answer yesterday, we can't always wait until the next VHES meeting to discuss hot topics with our peers." -- Rob Prohaska, Engineering Supervisor, Southwestern Vermont Healthcare.

Any active NEHES member (facility manager) who wishes to join the NEHES listserv should e-mail Ray at Raymond.Forsell@its.uvm.edu and indicate name, facility, e-mail address, hospital affiliation, and job title. "Make sure you indicate 'NEHES Listserve' in the subject line so that I don't think your e-mail is spam. Once you are signed up, the system will send messages to help you use the system correctly. If you don't like it, it's easy to be removed from the list later," Ray said.

AHA: American Hospital Association
AIA: American Institute of Architects
ASHE: American Society for Healthcare Engineering
CCE: Certified Clinical Engineer
CEU: Continuing Education Unit
CHA: Connecticut Hospital Association
CHES: Connecticut Healthcare Engineers Society
CHFM: Certified Healthcare Facility Manager
CHSP: Certified Health Care Safety Professional
CMS: Centers for Medicare & Medicaid Services
CPE: Certified Plant Engineer
CPSM: Certified Professional Services Marketer
CSHM: Certified Safety and Health Manager
EOC, EC: Environment of Care
EPA: U.S. Environmental Protection Agency
FASHE: Fellow of ASHE
FPE: Fire Protection Engineer
JCAHO: Joint Commission on Accreditation of Healthcare Facilities
MHES: Maine Healthcare Engineers Society
NHSHS: NH Society of Healthcare Engineers
NFPA: National Fire Protection Association
OSHA: Occupational Safety & Health Administration
P.E.: Professional Engineer
RIHES: Rhode Island Healthcare Engineers Society
SASHE: Senior of ASHE
USP: United States Pharmacopeia
VHES: Vermont Healthcare Engineering Society
WMTS: Wireless Telemetry

Abbreviations Often Used in The NEHES Newsletter

ASHE President Tom Schipper (far right) presented an ASHE Gold Chapter Award to NEHES (accepted by Ron Vachon, far left, and Kevin Keating, second from right) and to Mark Kaplan, president, Central New York Society for Healthcare Engineers (second from left) at the ASHE Annual Conference.

Check out the new www.nehes.org today!

See what you’ve been missing!
(the new and improved nehes.org)
Member News

New CHFM Recipient Calls Exam Challenging, But a Good Overview of Facility Management Duties

Milt Dudley, CHFM, CPE is the latest New Englander to earn the CHFM (Certified Healthcare Facility Manager) from ASHE.

Milt lives in Gardiner, ME and is Director of Engineering at Inland Hospital in Waterville. He has more than 25 years experience in facilities management, with the last ten years being in health care. He was recently named the “Healthcare Engineer of the Year” by the Maine Healthcare Engineers’ Society (MHES). He received his award during the Maine Hospital Association’s annual convention in Rockport in June. The award recognizes Milt’s commitment to his profession and his leadership in technical areas and team building. He has served two terms as President of the Maine Healthcare Engineers’ Society and has been a strong supporter of customer service initiatives at Inland Hospital.

Milt has served in several key roles in MHES. He is currently Secretary and represents the Maine group on the NEHES Board of Directors.

He recently sat for and passed the exam for CHFM. When asked about his choice of certification, he said, “The CHFM designation is earned through the American Hospital Association’s Certification Center. As such, it has instant recognition and credibility with healthcare administrators nationally and even internationally. I feel it is the one certification that is a ‘must have’ for facility professionals in any healthcare setting. I would highly recommend the CHFM to any professional looking to validate his/her knowledge and experience while adding significantly to their resume. The test is very challenging but does a good job of covering all the areas of facility management responsibilities.”

Milt is also a CPE (Certified Plant Engineer).

Congratulations to Don Garrison, New SASHE Recipient, and to Jack Gosselin, New FASHE Recipient

Two of the longest-serving and most dedicated NEHES and ASHE volunteers have recently earned their SASHE (Senior of ASHE) and FASHE (Fellow of ASHE) designations, respectively.

They are:
Don Garrison, SASHE, Chief of Facility Management, Franklin Community Health Network, Farmington, ME, active NEHES member, and
Jack Gosselin, FASHE, CHFM, Principal of Gosselin Associates, LLC, North Stonington, CT, honorary NEHES member.

Criteria for both designations include industry expertise, experience, contributions to the healthcare facility management field, and support of ASHE.

Both Don and Jack have served their state chapters, NEHES, and ASHE in various ways for many years.

Brian Sallisky Wins Free ASHE Membership

Brian Sallisky, CHFM, Project Manager at Southwestern Vermont Healthcare (Bennington), was the lucky winner of a one-year, free ASHE membership at the ASHE booth at the NEHES Spring Seminar in March.

How do you like NEHES’s new look?

Get Fall Conference details now at www.nehes.org
Fire Alarm System Design Occupant Notification in Health Care Occupancies

By Gene Cable, PE, FPE
Regional Safety and Fire Protection
Engineer
Department of Veterans Affairs
Albany, NY,
NEHES Liaison to NFPA,
Chair, Engineer-of-the-Year Committee

Editor’s note: This article is a preview of the issues that Gene will discuss in his presentation at the 2005 NEHES Fall Conference October 3-5.

An early warning fire alarm system is only effective if occupants and staff take timely and appropriate action. The fire alarm system must match the fire plan, which must match the building smoke compartments and according to occupancy classification per smoke compartment! Should the system be designed for private mode or public mode? Should the smoke detectors be programmed for “alarm verification” allowing up to one minute delay but also preventing unwanted alarms? Should we be installing so many smoke detectors, are they required by Code, given the total package of life safety are they really beneficial? For new building designs and major renovations should the sprinkler system water flow zones be designed to exactly match the fire alarm notification zones? Should you have an evacuation alarm, a signal to summon help, a building-wide notification signal, or a phone operator announcement? Should you design the system to activate audio and strobes, which, where, and for how long? Should the strobes activate in any compartment beyond the “compartment of fire origin”? Would the alarm signals interfere with staff to staff communications? Should every building on campus automatically receive an alarm or notification signal of some type? Do all smoke barrier doors have to close? Do elevators have to recall and go out of service?

It depends.

The problem is that NFPA Codes - the Life Safety Code (NFPA 101) and the Fire Alarm Code (NFPA 72) - do not answer these questions. Actually, it is not a problem, it is truly an engineering opportunity. You, along with your safety officer, will have to answer these questions according to your specific building and health care operational situation. Modern fire alarm systems have functional capabilities that are absolutely awesome and, if design complexities are thoroughly examined according to your fire plan and the system’s programming options decided accordingly, you will have greatly enhanced life safety and staff operational options. The modern addressable alarm system is designed according to a description of fire alarm notification sequencing, called notification logic, so that alarm signals and any automatic voice messages are coordinated with the fire plan and smoke zones. If even a part of your building has a fire plan to defend patients in a safe place or a plan to move patients horizontally, then the fire alarm system must automatically notify staff of the zone where the alarm was initiated [that is Code, NFPA 101 (2000 Edition) Section 9.6.3.7 exception #2 last sentence]. For new systems, the phone operator’s voice announcement over a non-supervised PA system is unacceptable. Here are just two examples of “it depends”:

Example number 1) The NFPA 72 Code (1999 Edition for JCAHO purposes, Section 3-8.1.2) requires a very specific notification signal, three pulse temporal pattern, for those occupancies (zone, floor, building) where the fire plan requires occupants hearing the alarm to evacuate the building immediately. The sound can be whatever you like; horn, tone, slow whoop, and bell; but the pattern must be three pulse temporal pattern identical to Code specifications. This is the NFPA required alarm signal nation-wide and world-wide, where NFPA is adopted. It comes as an available signal with any addressable fire alarm system. Even home smoke alarms, since 1995 or so, use this evacuation alarm. For those sections of your building where the fire plan is to evacuate; probably the business occupancy, assembly, industrial, the engineering shops, laboratories etc. this evacuation signal should be used. And, the point is that persons in those areas will readily recognize the alarm and take the appropriate and timely action to evacuate. (This is a huge improvement from the “coded signal” when staff counted bells or chimes and then decided what to do according to the fire plan, no one evacuated until told to do so.) Now, should you alarm all business compartments within the building or just the one compartment where fire is detected? Or maybe the one compartment plus the one above it? The answer to that question is not spelled out in the NFPA codes; it is up to
Fire Alarm System Design Occupant Notification in Health Care Occupancies

the designer and depends on your fire plan. The fire plan is the key, and was developed considering the building fire safety features, for example is it fully sprinkler protected, etc.?

Conversely, the evacuation signal should NOT be used for those patient care areas where occupants are incapable of evacuating themselves. So the system should be programmed to sound certain alarms or give automatic voice announcements specific to the occupancy and fire plan per smoke/fire compartment.

Example number 2) The fire alarm system also initiates certain functions. One of those functions is releasing the “automatic closing” smoke barrier and fire barrier doors. [NFPA 101 (2000) Section 18.2.2.2.6 and section 7.2.1.8.2]. The Life Safety Code clearly allows the option to close doors only within the compartment where fire is detected. NFPA 72 (Section 2-10) addresses smoke detector placement for closing A door, no mention of other doors within the compartment or building. So again you have almost every option available by simply programming the panel to close doors as you wish according to your fire plan and also according to your staff operational needs. For example, you could have all smoke and fire doors close only on the floor of fire detection. Closing all doors in the building could hamper normal patient care and can even be somewhat detrimental to staff response and bringing equipment to the patient care areas.

It is likely the health care building, especially a high-rise health care building, is THE most complex situation in which to design and install a fire alarm system. These new systems, even existing addressable systems, allow health care engineers amazing opportunities to both enhance life safety and make friends with clinical care staff by improving the operational situation. These new system designs also present a very serious challenge in that fire alarm designers are generally not familiar with health care facilities, health care fire plans, and the associated code requirements and code allowances.

Learn more about the baseline Life Safety Code requirements and suggested most effective design options for health care occupancies at the Fall Conference in Burlington, VT.

The Solution Came out of an ASHE Education Seminar

Doctors at Franklin Memorial Hospital are Happy Now: A New Desiccant Dehumidification System Balances Comfortable Operating Room Temperatures with Safe Levels of Humidity

Like many facility managers, Don Garrison has faced a critical, daily challenge: how to keep humidity low and temperatures comfortable for physicians in his four operating rooms (ORs) without causing excess moisture to accumulate on walls and elsewhere.

Like his colleagues who join their state chapters, NEHES, and ASHE to network with other facility managers and seek solutions to common problems, Don found the answer to his dilemma from his peers.

“At one of the ASHE annual conferences, I went to a presentation on controlling the environment in the ORs,” Don said. “The engineer doing the presentation had similar problems that were solved by installing a desiccant air handing system that controls humidity and temperature by removing more water from the air than traditional methods. FMH had to replace the air handler anyway, so it was time to incorporate the new technology.”

Proof that this system does the job is available at www.sitepower.org, which provides real time data monitoring of moisture leaving Don’s ORs. Relative humidity is lowered when air passes through two cooling coils and then a desiccant wheel.

To access this information:
• Go to www.sitepower.org
• Next screen: Click on Cooling, Heat & Power in center of screen
• Next screen: Click on desiccant dehumidification bottom right of screen
• Next screen: Click on Click for Details at Don’s facility is 3rd from top
• Next screen: Click on Real Time Data Monitoring at bottom of page

Don, the Chief of Facility Management at Franklin Community Health Network in Farmington, ME, described the problems he had faced with temperatures and humidity. “We always had problems being able to satisfy the surgeons, who wanted the temperature at 62-65 degrees, while the anesthesiologists and other staff wanted higher temperatures. It’s hard to satisfy everyone with air that has a lot of moisture in it.”

“Sometimes when you lower the temperature, you have so much moisture that you have condensation in the room, which is unacceptable. If you raise the temperature, it’s too warm for surgeons during procedures. So what you strive for is a comfort zone with lower humidity and higher temperatures,” Don explained. “On really hot and humid days with our old air handling system we were tweaking everything on the computer up and down to control the humidity.”

In addition, Don and his staff feared that condensation would form on surgical packs if they didn’t fix the humidity problem. “If you hit 70-80 percent humidity, you would have to take all of those packs back to the sterilization room and re-sterilize everything in them, costing thousands of man hours and dollars,” Don said.

Following the ASHE conference that he attended two years ago, Don looked at desiccant dehumidification systems from several manufacturers, especially those units used in hot and humid areas such as New Orleans and Florida. His hospital subsequently installed a similar system.

Later on, the Department of Energy contacted Don, seeking permission to use his facility and its new system as a case study for the Sitepower website. The DOE installed sensors, connected to a telephone line in Florida, to record relative humidity and temperature data 24 hours a day, seven days a week.

Every OR, Don said, should have a desiccant dehumidification system. He is especially gratified by the comments from Franklin Memorial’s doctors. “It’s refreshing and rewarding to get the testimonials from the doctors. I’ve talked to perhaps ten of the OR doctors, who have stopped me in the halls to say they love the new system because it keeps them so comfortable.”
ASHE News

By Ron Vachon
Director of Facilities Management
St. Andrews Hospital and Healthcare
Boothbay Harbor, ME
ASHE Region I Director,
NEHES President Elect

ASHE Board Meeting

The ASHE Board of Directors met July 7-8 at the Anaheim Marriott Hotel in Anaheim, CA. This year much effort has been focused on the educational and advocacy initiatives. The HCC (Healthcare Contractor Certificate) program turned out to be an overwhelming success with over 100 attendees at each session and most sessions selling out within two days of the advertising for it. The year started with only 6 programs scheduled and ended up with over 15 programs offered. There is a demand for information by contractors - it seems like they are trying to work better in our facilities.

The Staff and Education Committee rolled out a demo of the e-learning process that will change how ASHE delivers many of its entry-level educational programs. From the learning module that we toured, I found that this would be a great tool for getting people the basic education they need. The e-learning preparation course for the Healthcare Contractors Certificate Program should hit the ASHE website by February 2006.

The Education Committee also is looking to work with other societies and higher learning institutions to gain approval of ASHE continuing education credits.

With notable improvements to ASHE.org, members are returning to the Internet portal with positive comments. We are looking to the future to roll out an “Ask ASHE” section on the web to provide answers to commonly asked questions and highlight emerging trend/technical questions on a rotating basis.

The ASHE advocacy group is currently talking with EPA on their proposed standard to limit emergency generators to 30 hours annual runtime for testing and maintenance for new generators starting in 2007. It is likely the EPA will not relax limitations; we are looking for flexibility for total maintenance time, however.

The expert advisory group is beginning to work on revision of NFPA 99 standard with plans at this point in time to modify it with a focus on a user-friendly document.

Please take the time to fill out the ASHE member survey and if you haven’t yet, cast your ballot for new ASHE president-elect.

This is a member organization and these two methods of feedback are some of the strongest ways that we can help to steer the direction of the organization.

If you or your chapter has an issue that you believe should be discussed, please contact me. (See my contact info at the end of this story) As your representative, I will do what I can to make sure your idea is carried forward.

ASHE Annual Conference

The ASHE Annual Conference in Anaheim in July was a huge success by any national conference standard. Developed by a committee of your peers, the Annual Conference provided information on today’s pressing issues while giving a preview of what tomorrow would bring. Total attendance this year was over 3,300 as we continue to see significant increase year to year. There were over 1200 products and service exhibitors with many new products and product improvements showcased. There were approximately 100 speakers and over 50 sessions. I would estimate over 70 members and friends from Region 1 attended. Keeping yourself informed is as important as creating a peer network. From the keynote speaker - NASA Space Shuttle Colonel Mike Mullane - to many educational offerings such as Codes and Standards Sessions including representatives from ASHE and JCAHO giving the inside track, Emerging Technologies sessions, Planning Design and Construction sessions, and Leadership sessions, there were just too many programs to list. The Chapter leadership forum was a new format this year with leadership training by People Power Unlimited, Inc. teaching processes and practices to ignite energy and involvement in Chapters. At the Region 1 breakfast, there were attendees from NEHES, Genesee Valley Regional Association for Healthcare Engineers (GVAHE), the Central New York State Groups (Syracuse), the Hospital Engineering Society of Greater New York (HESGNY), and Connecticut Healthcare Engineers Society (CHES), plus several more from such far away places such as Johannesburg, South Africa and Saudi Arabia. As you probably know, Region 1 includes New England, New York, Eastern Canada, and all foreign countries. The breakfast went well with a brief update on ASHE activities and a brief question and answer session, then people moved about the room to meet and network.

Chapter News

Congratulations once again to those chapters that earned Gold or Silver ASHE Awards (NEHES earned a Gold). As well as recognition for performance, these awards are important because they offer free conference registrations, free publications, and free annual dues to the recipient chapter. I would once again like to congratulate Kevin Keating (General Services Director of Shriners Burns Hospital in Boston, MA) for being recognized as the “Regional Leader Award” recipient. This award provides recognition to one leader in the region and is submitted by peers. The award brings an all-expense-paid trip to ASHE Leadership Institute in Phoenix for two weeks in the fall. If you have a strong candidate that you think should be considered, please let me know about him/her so they can be considered for next year’s award.

I am told that ASHE Committees for 2006 are now fully assigned. If any of you have interest in 2007 committees, get your volunteer resume filled out and sent in to ASHE within the next few months (it’s on ASHE.org), then let me know what committee you are interested in: facility operations, construction, safety, advocacy, emerging trends, education, etc. I will do what I can to be your advocate. I urge each of you, if you are non-members, to join a local chapter and get involved. If you need information about a local chapter near you, please contact me.

My best to all. It was great meeting several of you face to face at the ASHE Annual in Anaheim. The next two months are very busy for ASHE with several committee meetings and end-of-the-year Board meetings, so remember, if you have issues that you would like me to convey to the Board, please send me a note or call as I will be able to focus more attention on these issues by presenting them in person.

Contact Ron, rvachon@standrewshealthcare.org or (207)633-1908.
Newsworthy Items for Busy Facility Managers

Re-Engining the Standard for Healthcare Facilities (NFPA 99)
ASHE is undertaking an unprecedented project of re-engineering NFPA 99. This project requires expert input from all stakeholders, starting with ASHE members. We need your assistance as we go through the existing document to determine what is missing, what needs to be rewritten, and what needs to be removed. We will then recommend revisions to make the document as dynamic as healthcare is today. All types of expertise are needed to draft new language and to review and refine that language prior to being submitted to the NFPA for publication as a proposal. To learn more about how you can help, go to http://www.ashe.org/ashe/codes/nfpa/nfpa099volunteerreengineer.html.

Expiration of FCC Freeze Will Impact 460-470 MHz Medical Telemetry
On December 31, 2005 the Federal Communications Commission (FCC) will lift its freeze on the granting of licenses for new high-powered transmitters in the 460-470 MHz frequency band. If your hospital still has telemetry operating at 460-470 MHz, there is a high potential that this equipment will be subject to interference after the freeze is lifted. The FCC has stated that it will not extend the freeze beyond December 31, 2005. Hospitals that have not transitioned into the dedicated spectrum - the Wireless Medical Telemetry Service (WMTS) - and are likely to still operate in the 460-470 MHz band after December 31, 2005 have few options left to protect their patients from effects of harmful interference to their telemetry systems.

NFPA Key Safety Codes to Require Sprinklers in All Nursing Homes, New 1- and 2-Family Dwellings, and Many Nightclubs
The codes and standards development oversight body of the NFPA, known as the Standards Council, recently issued two of the Association’s key safety codes that will require fire sprinklers in all nursing homes, in new construction of one- and two-family dwellings, and in all new construction of nightclubs and like facilities, as well as for existing nightclubs and like facilities with capacities over 100. The provisions apply to the 2006 editions of NFPA 101(r), Life Safety Code (r) and NFPA 5000(r), Building Construction and Safety Code (r); they went into effect on August 18.

Education Update
For information on ASHE programs, go to www.ashe.org and click on Conferences and Seminars, then on Calendar of Events, or contact Avis Gordon, agordon@aha.org, (312) 422-3800.
- Infection Control: Managing Risk During Construction Operation and Maintenance of Facilities.
- Healthcare Construction Certificate Renewal Program
- Healthcare Construction Certificate Program

NFPA Adopts ASHE TIA to NFPA 99
NFPA notified ASHE of their acceptance of ASHE’s Tentative Interim Amendment (TIA) to NFPA 99 - Standard for Health Care Facilities - 2005 edition at the July Standards Council meeting. This proposal was in response to enforcement of existing NFPA 99 language which prohibited the use of alcoholic skin prep when use of ignition source was contemplated. The TIA emphasized the need to use skin prep solutions according to manufacturer instructions and introduction of a “time-out” before initiating activation of the ignition source to assure that there was no pooling of fluid or soaking of drapes and that the solution had fully dried. Acceptance of this TIA further strengthens the growing relationship between the fire safety and healthcare communities in their mutual goal of safe and effective healing environments. For complete information, go to ASHE’s web page.

OSHA Extends Comment Period for Occupational Exposure to Ionizing Radiation
OSHA is extending until November 28, 2005 the period for the public to submit comments and information to help the agency determine what action, if any, it should take to update its standards for occupational exposure to ionizing radiation. This extension will give stakeholders adequate time to comment on the National Academy of Sciences’ Biological Effects of Ionizing Radiation (BEIR) VII report on health risks for exposure to low levels of ionizing radiation, which was not issued until June 29, 2005.

NIMS and the Hospital Emergency Incident Command System
The NIMS Integration Center has received a number of questions recently concerning the relationship between the Hospital Emergency Incident Command System (HEICS) and the National Incident Management System (NIMS). HEICS is an ICS-based crisis management plan for hospitals to use to coordinate their own response to emergencies or disasters. NIMS establishes standard protocols and procedures for incident managers and responders to work together to prepare for and respond to incidents of all kinds, including natural disasters and acts of terrorism. Contrary to rumors and recent reports: Hospitals do not have to replace HEICS with NIMS. The new HEICS needs to be NIMS compliant, not replaced by it. We are working with California Emergency Medical System Authority to make sure HEICS IV is fully compatible. The current version of HEICS was issued before NIMS was released and there is no reason to stop using it now. Hopefully, the revised HEICS will have what it takes to be NIMS compliant. Already it addresses the ICS component of NIMS. The deadline for full compliance with NIMS is by the end of FY 2006. That means jurisdictions and emergency services organizations that receive federal preparedness funding have until September 30, 2006 to achieve full compliance. Everyone working in a hospital does not have to be NIMS trained. We recommend that only those directly involved in emergency response activities take the NIMS introductory course offered by FEMA’s Emergency Management Institute (IS-700 NIMS, An Introduction). It is just that, a three-hour introductory course intended to familiarize persons in the emergency preparedness and response community with NIMS; much of the course focuses on the ICS component of the NIMS. It is up to the state or county to decide who must take it in order for the jurisdiction to be compliant with NIMS. Hospitals are an important component of the emergency response/services community. They do not operate in isolation from other responders involved in a major event. We recognize that HEICS is part of a larger emergency management program and we support current efforts to make it NIMS compliant. There are other hospital emergency management programs and we expect to work with them also. Questions or comments should be sent to NIMS-Integration-Center@dhs.gov or phoned to (202) 646-3850. See www.fema.gov/nims for more information.

Meeting the Requirements of USP <797>: Understanding Pharmaceutical Clean Room Design
A key component of the USP <797> standard is the creation of environmental controls to reduce the potential for airborne contaminates at and around the work surfaces where compounding of sterile drug products is performed. A proper HVAC system is a critical part of
the creation of this pharmaceutical clean room environment. ASHRAE has granted ASHE special permission allowing ASHE members to access the article UNDERSTANDING PHARMACEUTICAL CLEAN ROOM DESIGN by John Zhang, P.E. This article, originally published in the ASHRAE Journal - September 2004, describes the fundamental of clean room design, the sources of and controls for airborne particles, the air change rates to achieve ISO classifications of particulate matter in room air. This article provides a clear engineering approach to the design of clean rooms and provides invaluable insight into the complexities of meeting USP <797> clean room requirements.

To access this article, go to www.ashe.org/ ashe/codes/epa/pdfs/JournalSept2004PharmacyDesign.pdf

JCAHO Releases 2006 Patient Safety Goals and Requirements

On June 1, 2005 JCAHO released six National Patient Safety Goals and associated requirements for accredited hospitals and critical access hospitals in 2006. Additions to the fourth annual JCAHO goals include a requirement under the goal to "improve the effectiveness of communication among caregivers" that hand-off of patients between caregivers be standardized, with particular attention to assuring the opportunity for asking and responding to questions. JCAHO removed a requirement under the same goal that hospitals identify three organization-specific "do not use" abbreviations, acronyms or symbols in addition to the list defined by JCAHO. A new requirement under the goal to "improve the safety of using medications" specifies that all medications, medication containers and other solutions used in perioperative settings are to be labeled. Overall, the 2006 goals have the same number of requirements as this year, JCAHO noted. Go to www.jcaho.org for the goals.

(All items courtesy ASH*E*Flash, a weekly e-newsletter published by ASHE and distributed free to ASHE members. Items compiled by Robert Thompson, PE, CSHM, The Thompson Group, Fire, Life Safety, and Safety Consulting, NEHES Liaison for JCAHO)

### EPA Proposed Standards of Performance for Stationary Compression Ignition Engines Assessment Process

#### A Message to ASHE Members:

On July 11, 2005, the Environmental Protection Agency (EPA) published a proposed rule in the Federal Register that sets performance standards for stationary compression ignition internal combustion engines. Although this proposed rule affects many industries, it specifically affects healthcare providers with emergency generators, engine powered fire pumps, and generators used for peak shaving or load curtailment.

#### Why is this rule being proposed?

The EPA is proposing this rule to reduce the formation of specific air pollutants from new engines. In the proposed rule EPA states, "Emissions from stationary compression ignition (IC) internal combustion engines (ICE) contribute significantly to air pollution and cause adverse health and welfare effects associated with ozone, PM, NOX, SOX, CO, and NMHC." Rather than focus on add-on controls for existing engines, EPA is striving for more stringent standards on new engines.

#### What is the specific issue?

The proposed rule is intended to set minimum air quality performance standards for new engines only (beginning with model year 2007 engines). It is not meant to be applied to existing engines already in service. These new performance standards must be achieved through the engine design rather than through the use of additional emission control devices. After model year 2007, engines must perform to a designated level (Tier 1, 2, 3, or 4) based on a number of factors including intended use, engine size, and displacement per cylinder. Emergency generators are allowed to meet a lower performance level than other stationary engines based on their infrequent use. But to maintain that designation as an "emergency generator" there is a restriction of 30 hours per year in non-emergency usage. The limitation of 30 hours includes routine testing and maintenance. There is no limitation on runtime hours for emergency operation.

#### How will this proposed rule impact my operations?

Engines specified for purchase after April 1, 2006 must be certified by the manufacturer as meeting the required minimum performance. These engines must have a non-resettable hour meter to allow the owner to keep records of hours of operation for non-emergency service. Emergency engines are allowed up to 30-hours non-emergency operation per year. These records must be available for viewing by the enforcing agency. There is no upper limit on the number of hours in emergency operation per year.

#### Possible concerns with the proposed rule?

1. The requirement for "certified" engines may increase the purchase cost of new generators.
2. The 30-hour limit on non-emergency operation may be insufficient to meet all required testing including monthly JCAHO testing and weekly state requirements where applicable.

#### Next Steps

Review the proposed rule at http://www. ashe.org/ashe/codes/epa/pdfs/fedreg30870_ ice_050711.pdf and discuss its implications with your emergency generator provider.

Watch for further ASHE Regulatory Advisories and/or guidance documents on this issue including a call for comments from ASHE members.

For questions or comments contact Dale Woodin at dwoodin@aha.org or (312)422-3812.

Editor's Note: In addition to the rules for new generators in 2007, the EPA is proposing to limit the run time for existing generators to 30 hours per year also. Don Garrison, NEHES Newsletter Editor and Website Manager, has been working with Dale and the advocacy committee to get this artificial limit increased to at least 100 hours.
Come to Fall Conference and Hear these Speakers

Kenneth M. Armstrong, PE, DEE, CHMM
Haley & Aldrich, Inc.
Ken Armstrong is a Senior Engineer with Haley & Aldrich, Inc. and has an extensive background in environmental and safety program management. He is a registered Professional Engineer, a Board Certified Environmental Engineer, and a master level Certified Hazardous Material Manager. His direct experience includes facility auditing, program management, and regulatory negotiations. He has also provided project engineering and consulting support to industries and healthcare institutions requiring regulatory program preparation, implementation and evaluation.

Eugene A. Cable, PE, FPE
NEHES NFPA Liaison
Mr. Cable has worked for the U.S. Department of Veterans Affairs for nineteen years as a Regional Safety and Fire Protection Engineer out of Albany, NY. Beyond his “normal” VA work, and for the past 12 years, Gene has operated an active consulting business.

Dan Chisholm
Dan Chisholm, Sr. is an emergency power supply systems consultant and a commissioning agent specializing in acute care facilities. He is a member of the Technical Committees responsible for NFPA 110 and NFPA 99, Electrical Section. Dan is also the editor of the website Healthcare Engineering Network, and author of the correspondence certificate course, “Maintenance and Testing of the Healthcare EPIS.”

Richard Footo, TRUP, IEM
Healthcare Environmental Specialist
Mr. Footo is a senior environmental consultant for Triumvirate Environmental. He has an Associates Degree from Middlesex Community College in environmental studies and a Bachelor of Science Degree in organizational management from Daniel Webster College.

Rick is a certified OSHA 301 Trainer and is licensed as a Toxics Use Reduction Planner (TRUP) in Massachusetts, as well as a member of the Board of Directors of the Toxics Use Reduction Planners Association. He is also a Certified Healthcare Environmental Manager. In addition, he is a senior member of Triumvirate Environmental’s compliance auditing team.

Dave Kealty
Fletcher Allen Health Care
Mr. Kealty has 32 years of hospital engineering, facilities management, real estate and project management experience. Dave holds a Bachelor of Science through the Vermont State Colleges with a degree emphasis in Facilities Management. His credentials include Certified Energy Manager; Licensed Power Engineer; VT Plumbing and VT Electrical Licenses. He is currently employed by Fletcher Allen Health Care as the “Renaissance” Project Manager.

Donald P. Leonard
NCARB
Senior Vice President for Quality Assurance
Mr. Leonard's 30 years of professional experience includes responsibility for providing a full range of architectural services to healthcare, senior living, and institutional clients.

Mr. Leonard has national expertise in the interpretation and practical application of codes and standards for all building types, but his primary focus is with healthcare facilities. He is a specialist in the preparation & implementation of ADA and JCAHO surveys.

George Mills
Standards Interpretation Group, Associate Director, Accreditation Operations
George Mills is an Associate Director for the Standards Interpretation Group at the Joint Commission. He is a Fellow with ASHE (FASHE), a Certified Healthcare Facility Manager (CHFM), a Certified Energy Manager (CEM), and President of an ASHE local state chapter. He left ARAMARK Facility Services as the National Director of Regulatory Compliance to accept his current position with the Joint Commission. Mr. Mills consulted for two years, worked for the AHA Personal Membership group ASHE as Director of Codes & Compliance and was with the Joint Commission from 1995-1997.

Dean Samet, CHSP
Smith Seckman Reid, Inc.
Director of Regulatory Compliance Service
Dean Samet joined SMR coming from the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) where he served for the past 15 years, most recently as Associate Director and Senior Engineer. He is a Certified Joint Commission Surveyor with the Standards Interpretation Group’s accreditation operations department. At JCAHO, Dean led the development and interpretation of the Environment of Care Standards for safe, functional and effective environments within healthcare facilities. Dean has 30 years of combined construction management, safety, and Joint Commission experience.

Robert Solomon, PE
NFPA
Robert is the Assistant Vice President for Building and Life Safety Codes at NFPA. He oversees the operations of the department whose projects include NFPA 101, Life Safety Code and the NFPA Building Construction and Safety CodeTM. After graduating from the University of Maryland in 1982, he worked with the Naval Facilities Engineering Command in Charleston, SC. Since 1986, he has held several positions at NFPA, including staff liaison for the water extinguishing systems projects.

He is a member of the JCAHO Committee on Healthcare Safety; Chairman of the Healthcare Interpretations Task Force; the Council on Tall Buildings and Urban Habitat; the AISC Fire Engineering Steering Committee; the UL Fire Council; The Infrastructure Security Partnership; and he serves as Secretary-Treasurer of the World Organization of Building Officials.

David L. Stymiest, PE, SASHE, CHFM, CEM
Smith Seckman Reid, Inc
David is a Senior Consultant at Smith Seckman Reid, Inc., specializing in Facilities Engineering and Management consulting for hospital clients. He is an AHA Certified Healthcare Facility Manager, an AEE Certified Energy Manager, and a Registered Professional Engineer in four states.

Before joining SSR in 2000, he was Senior Electrical Engineer for more than 10 years for Massachusetts General Hospital and the other hospitals of the Boston-based Partners HealthCare System, Inc. David has 32 years of experience in all facets of facilities electrical engineering.

W. Thomas Schipper
ASHE President
Tom Schipper has been in the field since 1970. He is currently the National Environmental of Care Consultant for the 31 hospitals of the Kaiser Permanente Medical Care Program. He has achieved stature as a clinical engineer and as a Fellow of the American Society for Healthcare Engineering. His tenure with the American Society includes nine years as a board member and he is completing his second term as President this year. In CSHE he has served as a perennial State Codes Chair since 1984 and is currently State Vice Chair of the California Board. He has also served four years as President of the Los Angeles Chapter.

His Regulatory and Standards background include ten years on the California Hospital Building Safety Board and Chair of the Seismic Protection Policy Committee. Tom also spent six years on the JCAHO Committee on Healthcare Safety during the years the Standards moved from prescriptive to process orientation.