Browne Named Engineer of the Year

Ed Browne, CHFM, CHC, SASHE, Vice President Support Services Cambridge Health Alliance in Cambridge, Massachusetts was honored as the Engineer of the Year recently at the New England Healthcare Engineers’ Society Fall Conference in Whitefield, New Hampshire.

The Engineer of the Year Award recognizes a member’s contributions beyond their normal duties to their local state chapter, to NEHES, and to the facilities management profession.

Browne was noted for his ongoing service to the board especially in the area of sustainability initiatives. He continues to serve the board as sustainability liaison.

Bickford Receives Chapter Leadership Award

Dan Bickford CHFM, CHC, Director of Engineering at Central Maine Medical Center in Lewiston, Maine was honored at the NEHES Fall Conference as a recipient of the Chapter Leadership Award.

Bickford has served as a NEHES Board Member and a Chapter Representative for the Maine Healthcare Engineers’ Society.

In addition to receiving a commemorative plaque, Bickford will receive free conference admission to the NEHES 2017 conferences.

The awardee also receives a stipend toward the cost of the 2017 ASHE national conference and consideration as a candidate for the ASHE Emerging Regional Leadership award.

Roberts Finishes Term NEHES President

Jona Roberts, CHFM, SASHE, Engineering Manager at Dartmouth-Hitchcock Medical Center in Lebanon, New Hampshire completed his term of office as NEHES President at the 2016 Fall Conference.

Roberts has served as a NEHES Board Member and Secretary and Chair of the Education and Career Development Committee for the New England-wide organization. He will continue in this role in 2017.

An avid supporter of the healthcare engineering profession, Roberts has spearheaded many educational initiatives including the Twin State Seminar which offers free educational opportunities to members as well as launching the highly successful Leadership Series.

Awardees at NEHES Fall Conference—2016

Ed Browne, CHFM, CHC, SASHE (at left) receives the Engineer of the Year Award from NEHES Past President, Paul Cantrell

Dan Bickford, CHFM, CHC (in middle) receives the Chapter Leadership Award from Jona Roberts (at left) and Paul Cantrell (at right)

NEHES President, Jona Roberts, CHFM, SASHE, (at right) receives some send-off gifts from Incoming President, Alison Brisson

NEHES Board Leadership for 2017

President Alison Brisson, CHFM
President-Elect Wes Pooler, CHFM
Secretary- Dan Bickford, CHFM, CHC
Treasurer David Rosinski, CHFM

Congratulations to our Officers
- Brisson works at Dartmouth-Hitchcock in Bedford, NH.
- Pooler works at the University of Vermont Medical Center (VT)
- Bickford works at Central Maine Medical Center (ME)
- Rosinski works at Noble Hospital (MA)
Learning is the Key

The New Hampshire Society of Healthcare Facility Managers, under the leadership of Peter Girard, brought together nationally and regionally known experts to lead educational sessions on many topics of interest for healthcare engineers and facility managers.

The keynote address by William B. Weeks, MD, PhD, MBA, gave an overview of the healthcare system as outlined in his book, Unraveled—Prescriptions to Repair a Broken Health Care System.
To view these presentations, go to nehes.org. Click on Education and then Presentations.

Little Known Codes and Standards: What You Don’t Know Can Hurt You by Dave Dagenais, FASHE, CHFM, CHSP, Wentworth-Douglass Health System, Director of Plant Operations, Clinical Engineering and Safety Officer - Little Known Codes

High Reliability in Healthcare by Alison W. Brisson, CHFM Dartmouth-Hitchcock Senior Manager Regional Facilities 2016 NEHES President Elect and Vicki Patric, MS Dartmouth-Hitchcock Community Group Practices Director Quality and Patient Safety - High Reliability

What Facility Managers Need to Know About the Management of Waterborne Pathogens and ASHRAE 188 by Steven D. Cutter, MBA, CHRF, HRDA, Dartmouth-Hitchcock, FASHE Director of Engineering Services - ASHRAE 188


Designing for an Aging Population: New Emergency Departments on Cape Cod by EDWARD M. BROWNE, CHFM, CHC, CLSSHFM, Vice President Health Service, Cambridge Health Alliance and MARTIN BATT, AIA, RIBA, President, Isgenuity– Project Principal and KEVIN WYRSCH, AIA, Associate Principal – Project Manager - Aging Population

Patient-Centered Design – The Impact of Acoustics at Boston Medical Center by BEN DAVENNY, PE, Senior Acoustical Consultant, Acentech and BERNADETTE MUNCY, AIA, LEED AP BD+C, Senior Associate, TRO and KIM COCHRANE, AIA, NCARB, LEED AP BD+C, Associate, TRO and GERALD TOPPING, PE, LEED AP, Senior Project Manager of Facilities Design & Construction at Boston Medical Center, - See more at: Patient Centered Design

Virtual Reality & the Design of Healthcare Environments by MIKE BENNETT, AIA, EDAC, Staff Architect, MorrisSwitzer Environments for Health and AILYN MENDOZA, Director of Architecture, IrisVR - Virtual Reality

Designing the Built Environment by PAUL KONDRAT, PE, LEED AP BD+C, TRO and RON GORHAM, Assoc. AIA, TRO and FRANK PEROPAT, Grifols USA, LLC - Built Environment

Creating a Culture of Civility in the Workplace by ANDREA MCGILL-O’ROURKE, PHD, Assistant Professor Healthcare Administration, Franklin Pierce University - Culture of Civility

Lessons Learned From Two Recent Hospital Fires by Nick Gabriele, CFPS, Vice President, Russell Phillips & Associates, LLC - Hospital Fires
From the White Mountains of NH—NEHES Fall Conference
Networking, Learning and Recognition

(At left) NEHES Members Loved the Historic Inn—With daytime sessions in a modern conference center, our guests retired to one of the few remaining grand hotels in New Hampshire.
(At right) Honored Guests—The Inn has played host to famous guests including President Warren G. Harding on the golf course. President Eisenhower also stayed here.

(At left) Book Signing—Jim Carroll from the Rhode Island Healthcare Engineers’ Society gets an autographed copy of Unraveled from co-author, Dr. William B. Weeks. (At right) State Chapters Honored—New Hampshire, Maine and Massachusetts chapters were given special recognition for excellence in their ongoing work.

(At left) Networking and Dining—NEHES members make the most of dining time to catch up with other members. Friends and Co-workers—You will often see this duo together who are long time NEHES members and co-workers. John Crowley and Ralph Pelosi pose for a shot.

(At left) Changing of the Guard—Outgoing President, Jona Roberts receives a plaque for his presidential year of service from Alison Brisson, the 2017 NEHES President. (At right) Serious Business—Discussion with peers can get serious even though the conference setting can be casual and relaxed.

To see a photo gallery from the NEHES Fall Conference, go to Conference Photos>> You can also see photos at the NEHES Facebook page
Supporting Members Make Things Happen
Technical Exhibits and First Night Gala Highlights

A Night in the Mountains—In true rustic style, the opening night gala for the 2016 NEHES Fall Conference was held at the Bellevue Barn at Carlisle Place in Jefferson, New Hampshire. Food, fun, lively discussion, and music filled the rafters thanks to event organizer, Anne Kroger, NEHES Supporting Member Liaison.

Technical Exhibits Rock in the Mountains—NEHES members enjoyed the opportunity of visiting with dozens of Supporting Members in the Technical Exhibits at the Fall Conference.

One of the best parts of the NEHES Conferences, according to many of its members, is the opportunity to learn about products and services that could benefit member healthcare organizations. Supporting Members were often seen enjoying the historic grounds at the Mountain View Grand while engaging NEHES members in conversation about happenings in the industry.
President’s Message– Jona Roberts

Jona Roberts, CHFM, SASHE  
Engineering Manager  
Dartmouth-Hitchcock Medical Center -Lebanon, NH  
2016 NEHES President

The budget has been set for 2017, and there will be plenty of educational and scholarship opportunities to increase your knowledge and assist you with your career development and advancement.

Active members may be eligible to take advantage of CHFM exam fee waivers, scholarships, state chapter seminars and events, the Twin State Seminar, the Fall Conference, and for the first time, CHC exam fee waivers.

In addition, NEHES is planning to offer the ASHE Certified Health Care Constructor (CHC) exam review course as a preconference activity at the 2017 Fall Conference at Burlington Vermont. (Additional details will be made available at www.nehes.org. in the near future.)

There will also be additional opportunities through the scholarship program in 2017. The Scholarship Committee has been allocated sufficient funds to start offering scholarships to select programs as well as to applicants that wish to further their academic education. Funds will also be available for a limited number of stipends to attend the NFPA Annual meeting in Boston in June.

Further details regarding all the scholarship opportunities will be communicated by the Scholarship Chair, Milt Dudley.

Planning is currently underway for the major educational events of 2017. Please mark your calendars for the Spring Seminar on March 31 (Leominster, MA), the Twin State Seminar on July 28 (Lebanon, NH), and the Fall Conference September 24-27 (Burlington, VT).

You, as a member of NEHES, are able to help shape the future of the society by getting involved in the various activities that are undertaken each year. The easiest way to get started is to reach out to any board member and let them know what would add value to your membership. All of us on the NEHES Board of Directors are here to help so please let us know how we can. Our areas of service and contact information is available on the website under the About Us link.

As 2016 comes to a close it is time to reflect on the past and look toward to the future. I have been honored to represent NEHES through another interesting year as the turmoil within healthcare continues to impact our organizations and membership.

And yet, through it all, NEHES is still providing extraordinary value to the membership. That value is made possible by the tremendous support of our members and exhibitors through the guidance of the board of directors. I thank you all for this continued support and wish you all a happy and healthy new year.

Incoming President’s Message– Alison Brisson

Alison Brisson, CHFM  
Sr. Manager, Regional Facilities  
Dartmouth-Hitchcock  
Bedford, New Hampshire  
2017 NEHES President

The 2016 Fall Conference held at the end of September in beautiful Whitefield, NH was an event filled with educational and networking opportunities.

With approximately 320 people in attendance, the collective professional experience was impressive. Our hosts, the New Hampshire Society of Healthcare Facility Managers, worked diligently to ensure that everything went off without a hitch. Many of the presentations are now available on our website. I would like to personally thank all of our presenters, sponsors, exhibitors, attendees and volunteers who helped make this conference a success. Taking the time to be active in this society and attend these conferences helps us all find meaningful ways to contribute to our field and improve the healthcare physical environment.

The 2017 planning retreat was held in Burlington, VT at the beginning of November. The NEHES Board has planned an exciting year with many opportunities for our membership.

I would urge all members to find a way to get involved in your healthcare engineering profession. Start small, if you’d like, by joining your state chapter association. Here, you will meet your peers in similar positions that know the challenges and rewards of working in your individual state.

After this, you might want to expand your horizon. That is where becoming a member of NEHES can grant big rewards.

In NEHES, you will network with peers from throughout the six state New England region from healthcare systems both small and very large. You will find that the concerns of other healthcare systems might vary in scope, but that there is much similarity in the codes, regulations, and guidelines that govern us all. Trading insights and tips with fellow NEHES members can be among the most rewarding benefits as a member.

Make your voice heard and take the opportunity to learn from your colleagues. You will not be disappointed. I hope to see you all at the Spring Conference!
NEHES President, Alison Brisson is pleased to announce the following appointments for 2017.

**Scholarship/Recognition**
Milt Dudley

**Membership**
Peter Girard

**Steering/By-Laws**
Kevin Keating

**Education/Career Development**
Jona Roberts

**Research**
Wes Pooler

**Nominating**
Alison Brisson

**Audit / Co-Chairs**
David Rosinski / Paul Cantrell

**Liaisons**
- **ASHE/Advocacy**
  Ed Lydon
- **Supporting Member**
  Anne Kroger
- **Sustainability**
  Ed Browne

**Special Appointments**
- **Parliamentarian**
  John Crowley
- **Finance**
  Paul Cantrell
- **Newsletter/Website**
  Ron Vachon
- **Chapter Relations**
  John P. Duraes

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**2017 NEHES Appointments**

**State Chapter Officers—Promoting the Healthcare Engineering Profession**

**Connecticut**
President and Chapter Rep: Paul Roth, CHFM, Facilities Operations Manager, Lawrence and Memorial Hospital, New London
proth@lmhosp.org

Vice-President: Al Wasko, Associate Director, Plan Maintenance, Yale-New Haven Hospital, New Haven
alwasko@ynhh.org

Secretary: Ron Hussey, Manager of Facilities and Engineering, Johnson Memorial Hospital, Stafford Springs
ronald.hussey@jmmc.com

**Maine**
President: Chris Henderson, Facilities Director
Acadia Hospital, Bangor
chenderson@emh.org

Vice-President: Brian Campbell, Maintenance & Construction Manager
CMMC Lewiston campbri@cmhc.org

Chapter Rep -Secretary/Treasurer: Cole Teague, CHC, CHFM, Director of Facilities Management
Franklin Memorial, Farmington
cleague@fchn.org

**Massachusetts**
President & State Chapter Rep: Corey McNulty, CHFM Regional Director of Plant Operations

Vibra Healthcare, New Bedford
CMcnulty@newbedfordrehab.com

Secretary: Dave Fowler, Senior Director- Support Services, Anna Jacques Hospital, Newburyport
DFowler@ajh.org

Treasurer: Dann Boyer, Sturdy Memorial Hospital, Attleboro
DBoyer@sturdymemorial.org

**New Hampshire**
President: Greg D’Heilly, Facility Manager
Dartmouth Hitchcock Manchester,
Gregory.E.DHeilly@Hitchcock.org

Vice President: Peter Girard, Facility Manager
Dartmouth-Hitchcock, Concord
Peter.r.girard@hitchcock.org

Secretary/Treasurer: Tim Bishop, Facility Manager
Dartmouth-Hitchcock, Nashua
Timothy.m.bishop@hitchcock.org

NEHES Rep: Scott Lever, Mechanical & Utilities Systems Manager, Nashua
Southern NH Medical Center
scott.lever@snhhs.org

**Rhode Island**
President: Charles Brown, Facilities Operations Manager, South County Hospital, - cdbrown@schospital.com

Vice-President: - Pamela Mace, Director Facilities Services, Newport Hospital, pmace@lifespan.org

Treasurer: John R. Zoglio, MBA, CHFM, CHSP, Manager of Safety and Emergency Preparedness, Kent Hospital—john_zoglio@mhri.org

State Chapter Representative: James Carroll, Director of Facilities, Butler Hospital jcarroll@butler.org

**Vermont**
President: Erik Lahr, Supervisor of Facilities Management and Environmental Services, UVMC-Fanny Allen,
Erik.Lahr@uvmhealth.org

Vice-President: Joe Voci, Supervisor of General Maintenance,
UVMC, Joseph.voci@UVMhealth.org

Secretary/Treasurer: Robert Prohaska, Director of Plant Services, Brattleboro Memorial Hospital,
rprohaska@bmhvt.org

**Chapter Representatives:**
Vermont: Erik Lahr
New Hampshire: Scott Lever
Maine: Cole Teague
Massachusetts: Corey McNulty
Rhode Island: Jim Carroll
Connecticut: Paul Roth

**Spring Seminar Chair**
Paul Roth and Connecticut Chapter

**Fall Conference Chair**
Wes Pooler and Vermont Chapter
New NEHES Members—Welcome Aboard!

Connecticut

Ronald Goodin
Healthcare Principal
Crosskey Architects
Hartford, CT

Bridget Romagna
Account Executive
Morse Watchmans Inc.
Oxford, CT

Massachusetts

Greg Dube
Account Executive
Spirax Sarco Inc.
Boston, MA

Edward Orazine
Technical Manager—Fire Protection
EPM, Inc.
Framingham, MA

Jack Sins
VP Business Development
Unison Energy
Wayland, MA

New Hampshire

Greg Sullivan
Account Executive
Spirax Sarco Inc.
Hudson, NH

Rhode Island

Matt Payne
Business Development Manager
Northeast Efficiency Supply (NES)
Providence, RI

2016 ASHE Energy and Water Survey

ASHE is asking all health care facilities to complete its 2016 Energy and Water Survey, which will help update ENERGY STAR scoring models in addition to identifying energy and water use trends. The data will be anonymously shared with the U.S. Environmental Protection Agency with the goals of:

- Updating the ENERGY STAR 1-100 score models for both General Medical & Surgical Hospitals and Medical Office Buildings
- Expanding to new ENERGY STAR 1-100 score models for other health care space types
- Evaluating the potential to develop a 1-100 score for water efficiency
- All health care organizations are encouraged to participate. A large response rate is critical because large amounts of data is needed to update the ENERGY STAR scoring models. To help encourage participation, ASHE will randomly select one survey participant from each ASHE region to win a $250 Amazon gift card. See rules>>
- The deadline to complete your submission is January 13, 2017.
- The success of this effort will largely depend on the response rate. Please set a time to complete this important survey.

For questions or to submit your completed survey, go to ASHEenergy@aha.org.

Click here to ACCESS SURVEY>>

NEHES Membership Provides Cost Savings for Your Facility

The cost of joining NEHES in 2017 will remain at $35 for Active Members, $100 for Supporting Members and $10 for Students/Educators.

Each year, thousands of dollars are given back to members in the form of benefits. There’s a tremendous return on investment for being a NEHES member. Here’s how NEHES makes this all happen.

- **Educational programs are the backbone of NEHES.** With a single day spring seminar, a summertime Twin State event and a multi-day fall conference offered to its members, NEHES sets a standard of excellence for quality educational programs with acclaimed speakers. CHFM Review Courses are offered at no charge and CEUs are offered for all programming.

- **NEHES provides a quarterly newsletter** with important information about upcoming events and NEHES programming. It is also a resource to share information among NEHES members. Members can receive an online or printed edition.

- **The NEHES website** is a source of information for the New England society. Moving forward, we are looking at better ways to improve the value of the state chapter pages on the website.

- **We provide current information on codes and standards.** Each of us lives by these items and NEHES is a vital source of updated information. Oftentimes, new guideline books are given out free as part of attendance at one of our events.

- **NEHES members receive advocacy support locally and nationally.** When new or updated regulations are being proposed, you have someone in your corner willing to advocate for meaningful and reasonable changes in codes and standards.

- **NEHES supports its state chapters** as they recruit members and offer their own statewide programming. In fact, the Twin State Seminar is offered at no cost to members. NEHES stands ready to support special financial needs of state chapters.

- **NEHES Scholarships help members reach their educational goals.** With individual scholarships up to $2000 per year, every NEHES Active Member has the opportunity to advance their career studies.

- **Supporting Members have the opportunity to meet one-on-one with potential customers** in need of their products and services. Vendor exhibit space is offered at two major events each year specifically for Supporting Members.

- **Networking for solutions!** If you have a question or concern about a project, you have the combined knowledge of over 500 members to solicit information from. This, alone, can save you time and dollars.

In a presentation at the Fall Conference in 2015, former ASHE President and long time NEHES member, Dave Dagenais, suggests that healthcare engineers “transition from an expense department to a cost avoidance ambassador.” A membership in NEHES can help do just that.
It’s hard to believe that fall is over and winter is upon us. These are busy times for Health Care Facility Mangers with the CMS adoption the 2012 editions of NFPA 101: Life Safety Code® and NFPA 99: Health Care Facilities Code, and The Joint Commission is revising, not only their standards to match the newer codes, but even their survey processes as well as gutting the statement of conditions process.

ASHE National Conference

The 53rd ASHE Annual Conference and Technical Exhibition was held in Denver, Colorado in July and it was an unbelievable success driven by the ASHE team. The attendance was at an all-time high, in fact, record breaking when nearly 4,000 professionals gathered on-site to get vital information on health care compliance, codes and standards updates, and emerging trends. I really enjoyed having the opportunity to meet with all the Region I members present at the conference during the Region I breakfast.

As a result of all the regulatory changes, 10 different sessions on Life Safety Code and Health Care code adoption were held. Then during one of the sessions, the Joint Commission announced their proposed changes to their standards and processes. The biggest announcement was the changes to the Statement of Condition process. If you were unable to attend, ASHE has created an entire web page dedicated to this topic.

As an ASHE member, you may recall that we conducted a member survey. We have since reviewed the initial results and will be sharing these results with the membership in the near future. We were happy to see a three percentage point increase in response rate, which included a greater response from associate members as well. Members rated access to news/updates about changes in codes and regulations and access to technical information as their highest member benefits. The results of the survey will drive the future direction we take as a board in the area of member value.

The board has completed an in-depth review of the relationship between the American Hospital Association (AHA) and ASHE. It was confirmed that ASHE is very much aligned with the key objectives of AHA. ASHE is working closely with AHA leadership to ensure the successes of the organization are shared with C-level health care management.

ASHE Website Resources

If you recall, ASHE and the Joint Commission announced their joint effort to address the most problematic physical environment issues at the July 2015 ASHE Annual Conference in Boston. To that end, The Joint Commission’s Physical Environment Portal is available at The Joint Commission’s website under the main TOPICS heading. Once there, you can sign up to obtain Joint Commission e-Alerts on new information when it is issued.

ASHE’s Focus on Compliance web page is available at ASHE’s website under the main “Resources” heading. Once there, you can sign up to obtain email alerts from ASHE when new physical environment compliance resources are added, and you do not need to be an ASHE member to receive the alerts. Most of ASHE’s posted resources are available to everyone; however, there are a few resources which are only available to ASHE members.

As an additional opportunity, ASHE has begun a course offering entitled “Beyond Competency: Health Care Facilities Leadership Development,” which focuses on the soft skills of management. Be sure to check it out.

Energy to Care Makes Strides

We continue to focus on sustainability efforts through Energy to Care. Energy to Care honors health care facilities that reduce energy consumption by 10 percent. The program also recognizes previous award winners that reduce energy consumption by 5 percent.

I am excited to announce the challenge is on in our region. There are ten hospitals in Region I that have agreed to participate in the energy battle with other chapters across the United States.

ASHE Election Results

The annual elections have concluded, the deadline was September 1, 2016. The following have been elected:

2017 President Elect – Brad Taylor
Region 1 – Ed Lydon
Region 2 – Jeff Henne
Region 4 – Ralph Graham
Region 5 – John Mauer
Region 9 – Devin Hugie

Associate Member Director:
Sean Goings

Upcoming Events:

- NFPA Conference & Expo comes to Boston, Massachusetts June 4-7, 2017.

The NFPA Conference & Expo® is the premier fire, electrical and building safety event, and we would like a large presence from our ASHE members to continue to foster our vision of a unified code.

Also, keep in mind CMS now has the ability to create Categorical Waivers providing relief using more current editions of the Life Safety or Health Care code. Please join us at the conference. For info: www.nfpa.org/conference

Energy Efficient Ventilation Design
A Case Study

By Chris Glover
Airxchange
Rockland, MA
airxchange.com

Anna Jaques Hospital opened as a small community medical facility in 1884. The main building was constructed at the turn of the 20th century and then greatly expanded in the mid 1970's to early 1980's timeframe. As part of the HVAC design, 100% outdoor air handling systems serving the expanded facility were equipped with energy recovery wheels (also known as “enthalpy wheels”) to minimize the heating and cooling costs associated with 24/7 operation.

The inclusion of energy recovery ventilation (ERV) technology in HVAC designs has proven to be a sound long term investment for many types of buildings. The lower price of downsized chillers, boilers, or packaged rooftop units often offsets the initial investment in ERV, while ongoing annual operating costs to condition the incoming outdoor air are lowered by as much as 80%.

The sheet metal cabinet enclosures on larger air handling systems frequently outlive their internal mechanical components, which are typically replaced once or even twice within the lifetime of the unit. The original energy recovery wheels at Anna Jaques reached the end of their useful life after approximately 20 years of continuous service. With no way to effectively clean or restore the wheels, and the original manufacturer no longer supporting the product, the hospital's facility maintenance staff was forced to remove the energy transfer media.

The hospital’s current Senior Director of Support Services, David Fowler, recalls that the decision to remove the energy transfer media came after exploring several options. A complete overhaul of the HVAC system was not an affordable option and the replacement wheels he researched would not fit through available access points into the mechanical rooms housing the air handling units. The only solution at the time was to remove the media and abandon the benefits of the energy recovery wheels.

A Unique Solution

It was several years later that Fowler met representatives from Airxchange at a facilities management trade show and learned about a possible solution in their modular replacement wheel design. "I was unaware of any replacement wheels that could be delivered and assembled within the tight quarters of our equipment rooms and air handlers,” he recalls.

Airxchange replacement wheels feature non-corroding polymer energy transfer media segments that can be easily removed and cleaned as necessary to ensure optimal performance for the life of the product. The lightweight segments are held in place by a rigid structural stainless steel wheel. The wheel, drive mechanism, and outboard wheel bearings are all supported by a structural galvanized steel cassette frame. Every component is designed to be assembled in the field with conventional hand tools (sockets, rivet gun, Allen wrenches). Airxchange assembles and tests the entire field replacement kit at the factory before it is shipped and assembled onsite.

A Compelling Return on Investment

The Airxchange team specified two 9 foot diameter wheels that were sized to match the performance of the original wheels. The estimated total installed costs were presented to the hospital.

“Energy efficiency projects compete for funding with other projects, such as investing in IT, so our proposals must present an attractive return on investment,” says Fowler.

With a pre-approved gas efficiency incentive from utility provider National Grid, plus a budget number to prepare and button up the air handlers following assembly of the replacement wheels, Fowler was able to present a financially compelling incentive for the hospital to move forward with the project.

Renewed Energy Savings

The results of the efforts by Fowler and his technical staff are two new and robust energy recovery wheels that are expected to save energy for another 20+ years. And unlike their predecessors, the new wheels are completely serviceable, with a 5-year warranty and a full compliment of available replacement parts.

The unique modular design of the replacement wheels enabled Anna Jaques Hospital to once again recapture valuable energy from exhaust air, indefinitely extending the energy efficient design decisions made in the 1970's and 1980's.

No special building openings or lifts are required– all parts fit through standard doorways.

Individual panels can be removed for cleaning or replacement.
Deicing Chemicals

By Lawrence E. Keenan, AIA, PE
Hoffmann Architects, Inc.
hoffarch.com

It’s important to select and order a supply of ice melting and/or loosening chemicals well ahead of the winter season, before supplies dwindle and prices inflate.

While rock salt (sodium chloride) may serve to get the job done, it is extremely corrosive to steel and destructive to masonry and concrete. Because of its low cost, rock salt has retained its popularity in spite of these damaging properties, but the small savings in upfront product costs is generally insufficient to justify subjecting building materials to this harmful chemical. Ultimately, it may prove the more expensive choice, when the cost of rehabilitating salt-damaged components is taken into account.

So what are the other options?

Calcium chloride, while somewhat pricier, is generally the most effective deicing chemical. While detrimental effects do tend to be less severe than with rock salt, calcium chloride is nonetheless a corrosive compound that is damaging to concrete. Avoiding these harmful properties altogether, however, may mean using a chemical that is somewhat less effective, particularly at lower temperatures. A number of proprietary products are also available which claim to correct the deficiencies of any one compound. These products usually combine various deicing chemicals, sometimes alongside other performance-improving agents, such as corrosion inhibitors or traction enhancers (e.g. corn starch). While proprietary blends pledge greater effectiveness than their simpler counterparts, they also come at a higher price.

**Alternative—CMA**

The chemical that is most sympathetic to existing structures—and most highly recommended—is calcium magnesium acetate (CMA). However, CMA does not work at lower temperatures, must be applied before snowfall, and demands expeditious, and, often, continuous snow clearing. An ice loosening chemical, CMA does not melt snow or ice, but rather creates a slurry that interferes with the bond of the ice to the surface, aiding mechanical removal.

**When ice melting is essential**

Should an ice melting chemical be required, opt for potassium chloride, magnesium chloride, or a blend of the two, but not outside their operating temperature range (generally down to 5-15°F). For colder, more severe conditions, it may be necessary to use calcium chloride or a proprietary blended material to maintain safety.

In all cases, application of grit/sand greatly increases traction and diminishes the amount of deicing chemical required.

**Plan and document approaches**

With the high liability of slippery surfaces, it’s important to consider snow removal options well before the first snowfall forces last-minute decisions. Pilot test proposed materials to verify suitability and performance, and integrate these into a comprehensive snow and ice removal strategy. Detailed record-keeping in your winterizing program log will be instrumental in demonstrating your facility’s proactive approach to deicing, should a litigation issue arise.

### Common Deicing Chemicals

<table>
<thead>
<tr>
<th>Product</th>
<th>Lowest effective temp.*</th>
<th>Method</th>
<th>Performance</th>
<th>Longevity</th>
<th>Corrosiveness</th>
<th>Concrete freeze/thaw resistance damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Chloride (Rock Salt)</td>
<td>12°F</td>
<td>Melting</td>
<td>Very Good</td>
<td>Low</td>
<td>Very High</td>
<td>High</td>
</tr>
<tr>
<td>Calcium Chloride</td>
<td>-20°F</td>
<td>Melting</td>
<td>Excellent</td>
<td>Moderate</td>
<td>Moderate to High</td>
<td>Moderate to High</td>
</tr>
<tr>
<td>Magnesium Chloride</td>
<td>5°F</td>
<td>Melting</td>
<td>Good</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Potassium Chloride</td>
<td>12°F</td>
<td>Melting</td>
<td>Good</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Calcium Magnesium Acetate (CMA)</td>
<td>20°F</td>
<td>Loosening</td>
<td>Good (dependent on snow removal frequency)</td>
<td>High</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Urea</td>
<td>15°F</td>
<td>Melting</td>
<td>Used only in special circumstances (e.g. runways)</td>
<td>Low</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

*Conditions vary. Test materials to verify suitability and performance.
Sponsorship Opportunities with NEHES

Sponsorship Packages Include:

Annual Corporate Sponsor
For one year with only one sponsor

Benefits:
- Logo with link to your website prominently displayed on homepage of NEHES.com
- Premium exhibit booth space at Spring Conference (with those benefits)
- Platinum-level exhibit booth space at Fall Conference (with those benefits)
- Exclusive event (details to be determined) with Active Members at Fall Conference

Website Sponsor
For one year—Four spots available

Benefits:
- Logo on homepage of NEHES.com website with link to your company website
- Exclusive event (details to be determined) with Active Members at Fall Conference

NEHES Newsletter Sponsor
One per newsletter—Quarterly

Benefits:
- Logo/name prominently displayed on newsletter
- Sent in both print and online formats

NEHES Spring Conference Opportunities

Website opens for NEHES Members January 1st
Website opens to non-members January 15th

Exhibit Booth Sponsor (40)
Technical Guidebook Sponsor (4)
Event Program Sponsor (1)
Food & Beverage Sponsor (4)
Keynote Sponsor (1)
Trade Show Bags Sponsor (1)
Sponsor an Engineer to Attend (unlimited)

* Sponsorship may be adjusted based on venue and conference-specific opportunities.

NEHES Fall Conference Opportunities

Website opens for NEHES Members May 1st. Website opens to non-members May 15th

Platinum Exhibit Booth Sponsor (2)
Gold Exhibit Booth Sponsor (5)
Silver Exhibit Booth Sponsor (40)
Bronze Exhibit Booth Sponsor (15)
Technical Guidebook Sponsor (4)
Event Program Sponsor (1)
Food & Beverage Sponsor (4)
Keynote Sponsor (1)
Education Session Sponsor (10)
Trade Show Bags Sponsor (1)
Sponsor an Engineer to Attend (unlimited)

* Sponsorship may be adjusted based on venue and conference-specific opportunities.

For more info, contact Anne Kroger at AKroger@CANNONDESIGN.com

NEHES Annual Sponsor: Facility Connex

FacilityConnex

2016 Annual Sponsor

Real-time Building Commissioning Software

Info: facilityconnex.com
Here is a brief update on our work.

Education
The Committee continues to provide at least one article for each edition of the NEHES newsletter. If members have ideas on articles they would like to see, please drop me a line.

At the Spring Seminar, we hosted a table with information about Energy to Care efforts. We connected with many members at the seminar and followed up on their interest in the past few months.

Website
The committee has developed Sustainability pages for the NEHES website and submitted same to the website committee. The new pages include:
1.) Sustainability announcements
2.) Calendar page
3.) Sustainability resources
I welcome your feedback on these.

ASHE
All criteria were met for NEHES to apply for the Elite level of chapter membership as it pertains to sustainability.

I have become a member of the ASHE Sustainability Committee which is co-chaired by Ed Lydon. We were able to attend both the spring and fall meetings of this national committee.

I will be chairing a task force that will address improving communication about the Energy to Care Program to the “C-Suite” team at member hospitals.

Participation
The committee has been successful in getting hospitals to participate in the Energy to Care Chapter Challenge.

Special thanks go to the nine hospitals that have signed on to the initiative:
- Addison Gilbert Hospital
  Gloucester, MA
- Beverly Hospital / Beverly, MA
- CHA Cambridge Hospital / Cambridge, MA
- CHA Everett Hospital / Everett, MA
- Fannin Allen Hospital / Burlington, VT
- Hahnemann Hospital
  Philadelphia, PA

I hope you are able to lead your chapter by example and encourage your members to be in Boston July 7th, 2017.

2017 Goals and Beyond
The Committee agreed that designating a “social media czar” to fully utilize services like LinkedIn, Twitter, and Facebook would be valuable towards getting our message out.

We will also continue the chapter challenge recruitment and regularly update sustainability content on the NEHES website.

Sustainability Highlight
Climate Change Impacts by State
The Environmental Protection Agency maintains a series of fact sheets which provide an overview of climate impacts by U.S. state and territory.

The impacts of climate change are likely to be very different from state to state. To learn more about impacts in your state, go to epa.gov/climate-impacts/climate-change-impacts-state

Advocacy Update—Chad E. Beebe, AIA Deputy Executive Director

We sometimes call upon your individual chapters regarding our advocacy efforts. Often, our reach on important issues is limited only to our ASHE membership. You have the ability to share with a much broader audience with your chapter membership and we encourage you to share your messages in your chapter communications.

In July 2017 we have a very important opportunity to vote on critical changes to NFPA 101 and NFPA 99 at the NFPA Conference and Expo in Boston. The ASHE team worked hard the past three years to propose positive changes to these codes, to further align these codes with other model building codes and defend changes that were not in the best interest of patient safety. However, this is only part of the effort and the rest of the process depends on everyone to actively participate.

There are two comments we hear most often about hospital participation at these events:
“Can’t get approval to attend”
“Thought ASHE or someone else was going to do that?”

To address item #1, we have an on demand webinar that will give healthcare facility managers the tools needed to justify attendance at the conference. You can review the webinar on demand here: https://youtu.be/M0hFObhsgnU

To address item #2, The ASHE team has done 90% of the heavy lifting so far and our ability to influence the codes now comes down to the numbers. We need to equally as many critical votes on NFPA 99 and NFPA 101 in past years. Some votes have been lost by as little as 4, but many have been lost by 200 or more votes. Our plea is that everyone make an effort to attend to vote.

In the coming months we will be preparing more tools and resources to help everyone to prepare for the vote. It will be several months before we will know all of the issues that may come up for discussion. Please share a similar plea with your chapter members and feel free to share the video and this article: http://www.ashe.org/advocacy/initiatives/nfpa2017.shtml. (We would love to be copied on what you send out!) The article link includes a quick survey so we can find out how many people are planning on attending.

I hope you are able to lead your chapter by example and encourage your members to be in Boston July 7th, 2017.

Be prepared to talk about this at all of your board meetings from now until June (make it your mantra) and make sure you reserve time on the agenda to talk about advocacy issues at your spring meetings. Together we really can make a difference.
Boiler Cleaning and Refractory Maintenance

**By Robert Patmalaee**
Refractory Division Manager
Anchor Insulation Co.
anchorinsulation.com

When it comes to boiler maintenance are you proactive or reactive?

By far the worst strategy is reactive boiler maintenance. This may be defined as repairs made only when there is a failure. There is no planning, no anticipation of repairs that may be required to prevent failure. It is only when equipment fails that the operators will evaluate the cause and then try to make the repairs. The costs associated with these repairs are typically high both in labor, and associated down time. By far this is the least desirable approach to boiler maintenance.

A proactive maintenance program pays dividends in not only peak boiler performance but also in the overall safety of those working in the boiler plant. Proactive maintenance will include boiler cleaning, refractory maintenance, refractory repairs and relines.

Boiler heat transfer surfaces must be kept clean to provide for safe and economical boiler operation. Excessive fireside deposits of soot, scale, and slag cause: reduced boiler efficiency, corrosion failure of tubes and parts, reduced heat transfer rates and boiler capacity, blocking of gas passages, high draft loss, excessive fan power consumption, and fire hazards.

As slag accumulates during operation, it actually insulates the tube from the heat of the boiler. Soot has a very high insulation capacity, causing more fuel consumption to reach the same temperature and produce the same output as a clean boiler.

For example, some estimate that just 1/50" of scale deposit can reduce boiler efficiency by 4%. When too much soot is deposited and the passages become plugged, hot water washing, air lancing, scraping, and brushing are generally used to clean the boiler and maintain efficiency.

Refractory maintenance seems to be the one component of the boiler that gets the least attention. The refractory protects the steel shell from high heat. Maintaining the refractory components will prevent hot spots, provide proper heat transfer where needed, protect from gas loss, and proper combustion. These components usually consist of the steel shell itself, the burner cone, and target wall.

Proper gaskets and seals will always be a factor for good operations. Although it is difficult to calculate, generally a one to four percent energy and gas savings are typical.

**Water Filtration Reduces Usage and Cuts Energy**

**By Dan Wheatley CEM**
Business Development
ElectroCell Systems, Inc.
electrocellsystems.com

A multiple-technology water filtration/cooling efficiency system for commercial/industrial cooling plants reduces makeup water usage by 20% to 30% and reduces chiller energy use by 10% to 15%. It also installs in as little as one day, with no interference to operation of the facility. Is this too good to be true? Water use and energy savings data confirms the system’s performance at many installations.

After nearly two decades of research and development, the ability to sustain cooling plant efficiency in medium-to-large-scale commercial/industrial facilities is here with a revolutionary side-stream particle precipitator that does exactly what it claims to do. The efficiency comes from successful removal of 90%-95% of suspended particles and improvement of condenser heat transfer.

Traditional media filters, still used in many facilities, are far less effective in removing particles, including the smaller particles (1-3 microns) that are the majority of the particles in cooling water. Sustaining effective filtering with conventional side-stream filters requires frequent backwashing or changing bags, plus periodic filter media replacement which is labor intensive. Sand filters can also lead to bacterial growth in the sand media. Legionella, in particular, poses a serious problem, leading some states to enact stricter guidelines for cooling tower water. The system reduces the risk of Legionella by removing 90-95% of the smaller particles which are predominantly organic.

The system also induces the electrohydrodynamic (EHD) effect, which causes turbulent flow to collapse the laminar boundary between the condenser pipe wall and the liquid flow. This creates continuous contact with the pipe wall, significantly enhancing heat transfer through the chiller tubes and leading to impressive chiller energy savings. The shear force of the turbulent flow also serves to clean away existing fouling and scaling, and prevent its reoccurrence. A clean system works more efficiently, lasts longer, and is much easier to maintain. A clean condition also enhances performance of the chemical treatment. (Note: chemical treatment is performed by others and not a function of this system).

The system functions without a filter media, which significantly reduces backwash and contributes to the substantial reductions in make-up water. For solids removal, the system requires only the blowdown water that is necessary to maintain conductivity setpoint.

This ingenious approach provides a fully-automated, side-stream/skid mounted efficiency system that requires no operation by facility personnel. On-board intelligence supports communication with multiple devices, including building automation, laptops, cell phones, tablets or workstations, allowing remote access to data.

Some of the largest Fortune 500 Companies have realized enormous costs savings in energy, water, and maintenance by utilizing this next-generation technology for their HVAC facilities.
2017 NEHES Educational Events Set

Mark your calendars now for great opportunities in 2017.

- **NEHES Spring Seminar**—Friday, March 31 at the DoubleTree by Hilton in Leominster, MA. The event will be chaired by Paul Roth and the Connecticut Healthcare Engineers Society. NEHES members will find great educational sessions, time for networking, and a first class technical exhibit hosted by our Supporting Members.

- **Twin State Seminar**—Friday, July 28 at Dartmouth-Hitchcock Medical Center in Lebanon, NH. This is a special summertime educational session that is free of charge. Truly a summer treat.

- **NEHES Fall Conference**—Sunday, September 24 through Wednesday, September 27 at the Sheraton Burlington in Burlington, VT. The event will be chaired by Wes Pooler and the Vermont Healthcare Engineers Society. Vermont's largest hospital, the UVM Medical Center, is located in Burlington. In 2015, Burlington became the first city in the U.S. to run completely on renewable energy.

New Administrative Services with CMP

The NEHES Board of Directors has secured a contract with CMP Management to provide its Administrative Director functions. Carolyn Price, CAE, will serve as the new administrative director. CMP Management is an accredited association management company located in Austin, Texas that provides chapters of professional societies association management services ensuring that clients have the infrastructure they need to foster growth.

CMP will bring experience, expertise, best practices and proven processes to the management of NEHES. They manage a variety of similar associations in the U.S. For more info about CMP, go to [cmpmanagement.com](http://cmpmanagement.com)

Here is the new contact info for NEHES:

NEHES
P. O. Box 29881, Austin, TX 78755

Phone Number: 844-616-4446

NEHES may also be contacted via email info@nehes.org or events@nehes.org.

Thanks to Our AD Team

For the past four years, we have had outstanding service by our administrative director team.

Jack Gosselin and Michele Deane served as an “AD pioneer” taking NEHES to another level as we transitioned daily administrative duties from our volunteer board positions to a consultant.

Jack’s knowledge of the industry, history with NEHES, and passion for the profession, has always been something that we have valued.

Michele’s attention given to members and her warm, inviting smile at NEHES events will be long remembered.

Thank you Jack and Michele for all that you have done to advance the healthcare engineering profession.

CHC Exam Review Set for Fall

A Certified Health Care Constructor (CHC) Exam Review Course will be offered at the NEHES Fall Conference in 2017. This course provides test taking tips, key topics, and sample questions identified in the CHC content outline (as listed in the CHC Candidate Handbook). This course will also use interactive polling technology, allowing each participant to answer questions and compare their answers with averages among those in the class.

Fees for the course have not been determined at this time. For more information, go to [ashe.org/education/chc/index.shtml](http://ashe.org/education/chc/index.shtml)

Call for Presentation Abstracts

To assist with education planning, the New England Healthcare Engineers’ Society is soliciting abstracts for presentations at the 2017 Spring Seminar on March 31. Abstracts must be submitted through the web form at this [link>>](#). We ask that all abstracts support the conference theme: “*Dynamic Facilities for Healthier Communities*” and fit into at least one of the general competency areas of Compliance; Planning, Design & Construction; Maintenance & Operations; Finance; and Administration. You must also provide four specific learning objectives, to help identify what attendees will be able to apply in their workplace following your session.

Deadline to submit your abstract: January 13, 2017
Events & Dates to Remember

- **March 12-15, 2017**
  International Summit & Exhibition on
  Health Facility Planning, Design, &
  Construction
  Orlando, Florida

- **March 31, 2017**
  NEHES Spring Seminar at the
  DoubleTree by Hilton in Leominster, MA
  Connecticut Healthcare Engineers Society
  Chair: Phil Roth

- **August 6-9, 2017**
  ASHE Annual Conference and Technical
  Exhibition
  Indianapolis, Indiana

- **July 28, 2017**
  Twin State Seminar
  Sponsored by NH and Vermont Chapters
  Dartmouth-Hitchcock Medical Center
  Lebanon, New Hampshire

- **September 24-27, 2017**
  NEHES Fall Conference
  Sheraton Burlington (Vermont)
  Vermont Healthcare Engineers Society
  Chair: Wes Pooler

- **For full list of ASHE Calendar of Events**

Thank you to our Fall Conference Sponsors

We’d like to take a moment to thank the sponsors that helped make the 2016 NEHES Conference possible.

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