PRESIDENT'S MESSAGE

If you missed the Fall Seminar for 1987 at the Equinox in Vermont, you missed a program which was exceptional and professionally planned, organized and hosted by Bob LeBlanc, the program Chairperson, and his committee. You also missed the Annual Meeting, where you would have learned what our goals were for the year and how well we met them, therefore, I will inform you as follows:

One of our planned goals for this year was to initiate a program for Professional Career Development. This was accomplished to a high degree by the newly established committee chaired by Jack Berger. Another goal which was met very well was improved communication, primarily between the Board and each of you as members. Early in the year, each of you received a copy of our "Guidelines for the Board of Directors" which was intended to inform you as to how the Board and our Society is run. This is being expanded by Ed Boyer, our Vice President, to become our Policy and Procedure manual. Each of you have also received copies of our "News Bulletin" in addition to four issues (including this one) of our regular "Newsletter". The News Bulletin was established this year to get important information to you in a more timely manner. There were three surveys sent to each of you, one by the Education Committee, chaired by John Crowley; one by the Professional Development Committee, chaired by Jack Berger; and one Equipment Survey by the Research Committee, chaired by Rod Cameron.

Another of our objectives this year was to increase our membership. Bob Campbell, Chairperson of the Membership Committee, has worked on this and reported 44 new members for 1987.

In closing, your Board of Directors has worked hard this year to maintain your Society at a very high level and improve it to the transition to the new President, Theron Manning, and the Board of Directors should go very smoothly. It has been my pleasure and honor to serve as your President and Chairperson of this excellent board of Directors for 1987. I thank each of you for the honor and for your help and encouragement in this service and ask each of you to continue your support of the new President and Board for 1988.

Richard E. Popham
President 1987

FALL '87 SEMINAR
WELL DONE, ROBERT LEBLANC

The NEHES Fall Seminar in Manchester VT. was outstanding. The Board of Directors at its December 4 meeting praised the hard working chairman of the fall program - Bob LeBlanc - for a year and a half of great planning and hard work. There were 70 hospital engineers, 45 wives and 70 vendors representing 30 exhibitors present. The delightful location pleased everyone. It seemed that the Hotel Equinox went out of its way to make everyone comfortable. The planning of these seminars is not an easy task, but when an effective manager like Bob LeBlanc starts putting the pieces together carefully he would make you think it isn't difficult. The Board members know that one must push ideas from everyone and twist arms to get help because the job takes several people to be successful. That too is a task that Bob seemed to do very nicely and we thank you very much, Bob LeBlanc.

NEHES Board of Directors

NEW OFFICERS FOR 1988

President - Theron Manning
President-Elect - Ed Boyer
Vice-President - Tom Shubbuck
Secretary - Jack Gosselin
Treasurer - George Hawley

EMERGENCY GENERATOR FAILURE

North Country Hospital of Newport, Vermont had an experience in October with their Cummings emergency generator which, if it were not for luck and timing, could have been a disaster.

According to Jack Gosselin, Director of Engineering, the local electrical utility requested the hospital to go on emergency power while work was being done on the primary high voltage lines. Because the 580 KW diesel was more than adequate to match the connected load, and because Jack had confidence in the preventive maintenance program on his equipment, he felt this could be accomplished with very little disruption to the hospital.

The generator was started and ran under no load for 10 minutes. After checking to insure the operating conditions of the generator were normal, transfer switches were manually initiated and the hospital was on emergency power. Within 5 minutes of the transfer, the 12 cylinder engine stalled with an overheat alarm. After the engine was allowed to cool for two hours... checking the antifreeze, cleaning the dirt out of the fins of the radiator and insuring the louvers were opening properly, the generator was again started and again failed on "overheat".

The problem was an overly rich mixture of antifreeze. Apparently the mechanic responsible for the generator adopted the philosophy "more is better". When the level in the radiator was found to be low, pure ethylene glycol was added to bring the level back to normal. In adding the solution undiluted the assumption was made that the engine should be even better protected. In checking the coolant with a hydrometer, the generator was protected to "something" in excess of -50 degrees F. This is, after all, Vermont.

The mechanic couldn't have been more wrong. According to Dr. Dale McKenzie, Manager of Technical Services for First Brands Corporation, it is a common mistake made at one time or another by all of us, even trained diesel and gasoline engine mechanics.

When a higher than recommended solution of ethylene glycol is added to an engine, two things negatively effect the performance of that engine. The first is the specific heat of glycol is .58 which is nearly half that of water. A 50/50 mixture of glycol and water will boil at 225 degrees F. A 100% solution of glycol will have a boiling point of 330 degrees F. A concentrated mixture will pick up the heat from the engine slower and also dissipate it slower. Of all the steps in which heat transfer takes place in an engine (i.e., metal to metal, metal to liquid, liquid to air, etc.), the metal to air coefficient is the poorest transfer. The importance of equilibrating this transfer is exemplified in maintaining the correct mixture of water and glycol.

The second negative effect on the engine is the physical properties become highly concentrated, thus making it difficult for the inhibitors to stay in the solution. At the higher temperature, sodium phosphate will precipitate out causing corrosion, and lining the cooling systems with solids. The same problem occurs when a solution is not changed every two or three years and the inhibitors become nonaqueous.

There is not a linear relationship from mixture to mixture as one would expect. A 50% mixture of glycol and water will protect an engine down to -34 degrees F whereas an increase to 60% glycol will provide protection to -62 degrees F. As already demonstrated, the effects become increasingly detrimental.
VIDEO TAPES AVAILABLE

The following video tapes (VHS) are available to N.E.H.E.S. members on a free, loan basis.

Tapes may be held for 10 days. Extensions may be obtained depending upon availability.

To obtain a tape, please send your request to:

John Crowley  
Education Committee  
QO St. John’s Hospital  
Hospital Drive  
Lowell, MA 01852  
Tel. (617) 458-1411 - Ext. 431

Include the dates needed. You are responsible to return the tape to the library.

Video Tapes Available:

1. Steam Trap Operation and Maintenance
2. Code 101
3. Pass It On (Re-use of Refrigeration Cylinders)
4. Fire Safety
5. Return of the Lost Profits - HVAC retrofitting

(The following are from the Grossman’s series):

6. Drywall
7. Roofing
8. Ceramic Tile
9. Plumbing
10. Exterior Painting
11. Electrical
12. Kitchens
13. Baths
14. Interior Wallpapering
15. Decks
16. Fences
17. Cabins
18. Finished Carpentry

19. Oil Spill - Hebrew Rehabilitation Center for the Aged
20. Safe Handling of Medical Gases
21. Fire: Countdown to Disaster
22. Evacuation of Medical Facilities

Tapes are being added on a regular basis, please call for additional information.

NEWS FROM CONNECTICUT

On October 3, 1987, the Connecticut Hospital Engineers’ Society met at the Red Bull Inn in Waterbury, CT, for their Eighth Annual Inaugural Ball. The event was well attended and a enjoyable time was had by all.

The first General Meeting of the Connecticut Hospital Engineers’ Society was held at Newington Children’s Hospital, Newington, CT, on November 19, 1987. The afternoon program consisted of a informative presentation by Mr. Edwin Bahrndt of the State Fire Marshalls Office, on the 1985 Life Safety Code. Additions and changes to the Code pertaining to health care facilities were presented by Mr. Bahrndt. The afternoon program consisted of a lively “Round Table” discussion on the 1985 Life Safety Codes and hosted by Mr. Bahrndt.

J.E.Osikany  
Connecticut Representative

OIL TANK REPLACEMENT

It wasn’t too long ago that a very serious oil spill at the Hebrew Rehab Center in Reoldale occurred. Thanks to luck and George Hawley’s preparedness, the spill never became an environmental disaster.

At my location, the J.B. Thomas Hospital in Peabody, a new 10,000 gallon tank was being installed to replace an older one in the ground. This was part of our boiler plant conversion from high to low pressure and from #6 to #2 fuel.

During the tank replacement phase, an oil tanker was situated on the parking lot to serve as the temporary oil supply. As you can see from the photograph, our Fire Department had the last word.

First, the tank was firmly checked and leveled. Next came the sandbags, six high. That was followed by Jersey Barriers, and then the eight foot chain-link fence complete with barbed wire. Around that fortress, we situated brightly colored barrels, yes, with blinking lights. The arrangement lasted about two months until the new tank was installed, tested, and put into service.

Did the Fire Chief “go overboard”? Who can say? Our hospital is in a highly residential neighborhood on the side of a hill. A spill of number two fuel not only would create a serious fire hazard but it would spread out fast. Faster than any recovery crew could act. How would you have handled it if you were in charge?

Jack Berger

A.S.H.E. ELECTS NEW PRESIDENT

The A.S.H.E. membership has elected Gary Fowler as their President Elect for 1988.

I would like to extend my thanks to everyone for supporting me in my candidacy for this office, even though I wasn’t successful.

James M. Lawson

DISTRIBUTION OF MASS. HEALTH CARE MAGAZINE

Starting in January 1988, all members of the New England Hospital Engineers’ Society will receive a free monthly issue of Mass. Health Care, the magazine of the Massachusetts Hospital Association.

This magazine is directed to middle and upper level hospital management and to public policy makers and major opinion leaders in the public and private sectors.
Although it focuses heavily on the State of Mass., it also covers many of the health care issues common to all hospitals. I think you will find it a pleasant and most beneficial edition.

Robert N. Downing, Director, Editorial Communications of MHA has graciously offered this free subscription to all our members. Your subscription will be mailed to the mailing address our Society is presently using. Anyone who does not wish to receive the magazine, may contact me and I shall have his name removed from the list.

As you are all aware, our Newsletter is published quarterly and will continue to be. The MHA magazine is not meant to replace our Newsletter. In addition to being more informative, it could help in getting our notice on a monthly basis since we are invited to forward material for consideration for publication, including notices of special activities, to the Editor, Mass. Health Care, 332 Congress Street, Boston, MA 02210.

Edward Boyer
Vice-President for NEHES

REPORT FROM MAINE ENGINEERS

Maine engineers are concerned by the recent move of the Department of Oil and Hazardous Waste to classify infectious waste as hazardous waste.

At our last Maine Engineers' meeting, a representative from E.P.A. gave a seminar on the requirements for licensing incinerators. He recommended that we contact the Bureau of Oil and Hazardous Waste.

Maine group called the Bureau and found them very co-operative. They asked the Maine Hospital Engineers' Society to draft some guidelines for handling infectious waste; they would then meet with us in January of 1986. The tone of this exchange was very positive and the Maine Engineers felt they had been given the opportunity to have a part in shaping their own future.

Robert Lord
Parkview Memorial Hospital
Brunswick, ME

ARTICLES FOR NEWSLETTER

Please send information for our Newsletter to your State Representative or the Editor:

Barney Bolton
Plant Operations
New England Memorial Hospital
5 Woodland Road
Stoneham, MA 02180

We depend on your contributions to make this publication a success.

POWER FACTOR CORRECTION
WINDSOR HOSPITAL

Why buy electrical power that you can get for free? In July of 1986, Boston Edison, who supplies the hospital with electrical power, raised the demand charge part of their bill from 80% of the peak demand KVA to 90%. Without any correction a hospital's typical power factor is 70% to 80%. The Winchester Hospital's power factor ranged between 74% and 79%. Calculations showed that from July 86 the Hospital would lose $24,000 a year in demand charges alone. And payback for the cost of correction would take only 10 to 11 months!

Correcting a bad power factor is like getting free power. You get all the working power for the facility you had before except it costs you less. The only thing you don't get from the power company is unnecessary amps to feed the reactive power in large motor windings, because these are now fed in the electrical system with capacitors.

However, the benefits don't stop there. The voltages in the facility get better, that is, closer to the values they are supposed to be, instead of lower. Feeders to corrected locations carry less amps so new or added loads can be put on these feeders instead of having to add new lines. And beside saving on demand KVA charges, some overall kilowatt savings are realized; this is because the reduced current in the electrical distribution system causes less heating in the wiring (I sq R losses).

With both demand and I sq. R loss savings, the Hospital expects to save about $30,000 per year after payback. Over the twenty year life of the capacitor system, that will be more than $550,000, after deducting for repairs and payback.

The power factor was corrected at Winchester Hospital by July of 1987 to about 97%. Although a correction of 90% would have been sufficient it is anticipated the power company will, in the future, raise their charges to 95%, and eventually to 100%. After all, it's only fair that companies should pay for what they receive in power from the utility, rather than have individual inefficiency be paid for by averaging the cost over everyone's bill.

If you would like a recommendation for a vendor, please call me at Winchester Hospital: (617) 729-9000, Ext. 3403.

Philip Maher

NIEPA FALL MEETING

The fall meeting of the National Fire Protection Association was held at the Red Lion Inn/Joy Center in Portland, Oregon. The meeting held significant importance to the Health Care industry due to the approval of a new NFPA 101 Life Safety Code. This is the major code utilized by Health Care and has a major effect on safety and Health Care costs.

The American Society for Hospital Engineering sent out several requests to both administrators and the facilities managers requesting their attendance at this meeting. There was concern that a proposal to require smoke detectors in all patient rooms and door closers on patient rooms would be recommended for adoption. As a result of NFPA's "Code Red" publication and ASHE/AHA's requests, there was a record turnout of representatives of Health Care facilities. Due to the diligent work of the subcommittees and the Health Care section, the proposal sent to the floor for vote did not include requirements for smoke detectors or door closers in patient rooms. In fact, in what may be a first, the Health Care section recommended that NFPA 101 be adopted as presented. With the strong voting block of Health Care members and support from many other sections, it was adapted as presented. I feel that this is a milestone for Health Care. We developed good relationships with other sections, showed interest, concern and solidarity of Health Care members, responded well to requests from AHA/ASH and averted costly changes for hospitals that, in my opinion, would not have provided additional safety for our patients and staff.

David O. Elliott
Director of Facilities Management
Department of Mental Retardation

JOB OPPORTUNITIES

Several positions are currently available. If you would like further information, please call Theron Manning, Gifford Memorial Hospital, VT, (802) 728-4414.

HAPPY NEW YEAR

We hope that 1988 will be a year that will bring much happiness to you and those you hold dear.

CORRECTIONS

1. LEAK-JUNE 87 NEWSLETTER

In the June 1987 NEHES Newsletter, I reported that we had a Miran automatic ETO alarm. I was incorrect and should have omitted the last sentence in that article.

An ECRI Health Devices alert stated that the AMSCO Medallion ETO Sterilizers had an optional modification to protect personnel in case of malfunctioning gas pressure regulating valves. We happened to have that modification but a solenoid valve in the safety circuit had failed to close because its gasket had broken down and clogged the seat.

This only shows that Murphy's Law can apply to safety circuits too. An automatic alarm would have sounded after the operator realized something was wrong. However, if a failure happened at night, workers entering the space would be warned if an automatic alarm were present.

David Hathaway
Lawrence Memorial Hospital
Medford, MA

2. NEWS FROM CONNECTICUT-JUNE 1987

Omitted from the list of officers for the Connecticut Hospital Engineers:

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James Loughery
Newington Children's Hospital
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