EMERGENCY GENERATOR FAILURE DURING TEST

On May 4, during routine testing of emergency generators, Holyoke Hospital experienced a failure in the output voltage control panel. This caused the generator to put out over 300 volts instead of the 208 volts which it was designed to deliver. The generator, installed in 1972, is a Caterpillar Diesel Model D348 JWAC generating set with a 565 KW Caterpillar generator. The voltage control panel, however, is one which was manufactured for Caterpillar by Republic Electric and Development Company.

While the emergency power transfer switches are designed not to switch over if the generator voltage is below certain limits, nothing in the system prevents switchover if the generator voltage is above certain limits. As a result, this excessively high voltage was switched onto the building’s power system by the transfer switch and remained on line for a few minutes before it was noticed and the generator was tripped off. While the actual damage in this instance was limited mainly to the burned out lights and blown fuses, the consequences would have been far more serious if the generator had remained on line for a longer period of time. This would have happened if the transfer had been in response to an actual power failure. The fact that many of these blown fuses were in critical systems such as the Fire Alarm and Telephone Systems was serious enough.

The failure occurred in a relay in the voltage control panel which functions as an exciter voltage buildup control. It is supposed to remain energized only long enough for the exciter voltage to reach the proper level, then drop out and switch control to a regulator circuit which maintains the voltage at that level. Failure of the relay drop out at the proper time or deterioration of the contacts as occurred in this instance, can cause the voltage to build up beyond the proper level in a regulator panel of this type.

1983 NEW ENGLAND HOSPITAL ENGINEERS' SOCIETY FALL SEMINAR

The 1983 Fall Seminar is being held at Sebasco Estates, Maine. Sebasco is a complete Ocean Resort featuring attractive accommodations, great food, golf, tennis, swimming, boating and many other activities. Registration starts at 1:00 p.m. on Wednesday, September 14th and the program ends with a scrumptious lobster/ clambake at 12:30 on the 16th.

A complete session outline will be mailed to the membership in June. Registration forms will be mailed with the outline and should be returned as soon as possible. There is a cut off date of September 2nd, but please return yours early so plans can be made. Mark your calendar now and plan to attend.

The Educational Program is being put on by the American Society for Hospital Engineering. A summary of the material that will be covered is:
- NFPA Electrical Standards
- CAH Update
- Risk Avoidance
- Perspective Reimbursement
- Heat Recovery and Incineration
- Telecommunications
- Ethylene Oxide/Infections
- Waste Management
- Asbestos Management

The cost of the seminar is $125.00/engineer plus $132.00 for two nights lodging and meals, $95.00 for ladies. At this price you can’t afford to miss it.

Mr. Jack Daly, a professional raconteur from Boston will entertain us at the banquet. Several tours are available for the engineers and the ladies. Don’t miss the education, beautiful facilities, joining your friends and the relaxation.

— Bryant Bourguin, P.E.
Fall Seminar Chairman

1984 NEW ENGLAND HOSPITAL ENGINEERS’ SOCIETY FALL SEMINAR

The 1984 New England Hospital Engineers’ Fall Seminar will be held in Connecticut during October of next year. No mountains, no big city traffic, no smog, but rather the plain old salt air of a picturesque seaside village. Start saving your pennies now for what promises to be an educational, noteworthy and memorable seminar. See you at FALL ’84.

— Thomas Schubbeck

N.E.H.E.S. 25th ANNIVERSARY

Past President Alexander Bender (Retired), has agreed to chair the 25th Anniversary Celebration for N.E.H.E.S. at the Fall Seminar and Annual Meeting in Maine.

Al has moved into a retirement home on Deer Island, Bantam Lake, Morris, Ct. 06763. Telephone (203) 567-0493. Give him a call.

— Albert H. Jones
President

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— Albert H. Jones
President
NEWS FROM THE STATES

Massachusetts
The Massachusetts Hospital Engineers Society in association with Massachusetts Hospital Association held a Life Safety Code Workshop on February 23, 1983 at the Sheraton Tara in Framingham. The Seminar was very well attended with one hundred and eleven people in attendance.

The South Shore Engineers continue to meet monthly with our last meeting dealing with Infrared Thermography and the different applications in a hospital. Such applications as switch gear testing, circuit breaker panels, steam trap loss, and roof leakage problems. The final meeting of the year will be held on Nantucket Island with Don Maxwell of Nantucket Cottage Hospital in charge of plans.

Vermont
On May 4th the V.H.E.S. held its spring seminar at the Howard Johnson’s Conference Center in White River Junction, Vermont. There were 27 members and guests who attended the seminar. The V.H.E.S. constitution allows nursing home maintenance supervisors to participate and join our society as an associate member. There are 45 nursing home facilities in Vermont with a total of 3,111 beds. There are 17 Vermont hospitals with a total of 2,285 beds, plus 2 mental health hospitals with 574 beds and 1 T.B. hospital with 20 beds, which totals 2,879 hospital beds. As chairman of the V.H.E.S., I felt that it was time to make a real effort to invite nursing homes to join our society. We did invite them to participate in this spring seminar. As a result of this effort, 9 nursing home members participated, which in my opinion was a successful meeting.

During the morning session Bob Mackin from the Vermont Fire Prevention Office informed us that effective May 1, 1983 the State of Vermont would be enforcing the 1981 addition of the B.O.C.A. codes in addition to the 1981 N.F.P.A. 101 Life Safety Code. B.O.C.A. codes are considered to be construction codes rather than fire prevention.

We also invited Bob Nichols from the Vermont Agency of Environmental Conservation to speak on the issues of hazardous and infectious waste. This also drew many issues which were discussed from the floor.

During the afternoon session a round table discussion took place. We did discuss the future of nursing homes and hospitals working more closely together as both kinds of facilities share common problems and are under control of the same agencies.

Maine
The Maine Group held our April meeting on April 20, 1983 at the Hillside Restaurant in Ellsworth, Maine. The meeting was attended by eight members. The guest speaker was Dan Canning of Northeast Mechanical Services. He gave an excellent presentation on boilers and boiler problems.

The business portion of the meeting was used to discuss the Fall Seminar at Sebasco.

Connecticut
The Connecticut Engineers’ Society presented a Seminar on “Water Quality In The Hospital Environment” on May 12, 1983. The seminar was held at the Red Bull Inn in Waterbury and was well attended with sixty people in attendance. Several very interesting topics were presented and it was a timely and educational experience for all that attended.

ETHYLENE OXIDE

The following article is reprinted from an A.H.A.

Bulletin:

Several events of importance have occurred that call for your cooperation. These events include:

• Publication of new research, which although not conclusive, seems to indicate that EIO exposure to employees may present even more health risk than previously suspected.

• A proposal by the Occupational Safety and Health Administration (OSHA) of extremely stringent requirements for EIO use that could have a dramatic impact on hospitals.

Actions you may wish to take as a result of these events include: (1) the evaluating your EIO hazard control system, and (2) providing comments on the proposed rulemaking.

Hospital Evaluation
If you have not already done so, you may wish to assess immediately exposure levels at all sites where EIO is used in your hospital. OSHA is proposing a maximum exposure level of 1 part per million (ppm) with a target or “action level” of 0.5 ppm. If your exposure levels are not at or near these levels, you may wish to assess your options and consult your hospital attorney on appropriate notifications to affected employees.

Providing Comments
Your assistance would be most welcome in providing comments to OSHA on the impact of the proposed standard on your hospital.

On April 21, 1983, OSHA published a proposed rule and notice of hearing (see Federal Register, Vol. 48, pages 17284-17319) regarding its existing occupational standard on employee exposure to ethylene oxide (EIO).

OSHA proposes to reduce the current permissible exposure limit (PEL) for EIO from 50 parts per million (ppm) as an 8-hour time-weighted average (TWA) to 1 ppm on the same basis. The proposal includes an “action level” of 0.5 ppm (TWA) as a mechanism for exempting a hospital from the obligation to comply with other proposed requirements such as employee exposure monitoring and medical surveillance. The proposal also deals with methods of exposure control, the use of personal protective equipment, exposure monitoring, worker training, medical surveillance, signs and labeling, regulated areas, emergency procedures, and recordkeeping.

Your review and comment on the proposed rule are vital in bringing to light the true impact of this proposal on hospitals. Comments and notices of intent to appear at the informal rulemaking hearing must be postmarked on or before June 17, 1983. The public hearing is scheduled to begin on July 19, 1983. Comments should be submitted to the Docket Officer, Docket No. H-200, Room S-2612, U.S. Department of Labor, Third and Constitution Avenue, N.W., Washington, DC 20210.

In the Federal Register notice, OSHA has requested responses on a number of specific questions. AHA suggests that your comments specifically address the following questions:

• What is the feasibility of your complying with the proposed standard?

• What monitoring methods and control technology are available to you to meet a short-term limit and what would be the economic burden, if any, of such a limit?

• What are the most suitable methods for determining compliance with EIO PELs of 0.5 and 1 ppm as 8-hour TWA and for ceilings ranging from 5 to 50 ppm for 30 minutes or less? What are the problems associated with such monitoring methods? Do they require special training or experience? Are there serious limitations as to the accuracy or precision of the available sampling techniques?

• Are the proposed medical surveillance provisions appropriate, feasible, available in your hospital, and adequate?

• What length of time is needed for affected hospitals to reduce employee exposure to the proposed PEL through engineering and work practice controls? What economic and technical considerations form the basis for these time frames?

• To what extent is your hospital able to commit resources to obtain state-or-the art monitoring equipment and plans?

• Is it necessary to develop written compliance plans? Should only those employers with a large number of exposed employees (what number) or high exposure conditions in the workplace be required to develop written compliance plans?

• Are there conditions under which respirator use should be permitted in addition to those proposed? Can respirators be used in hospitals to control workplace exposures? Can exposed hospital employees perform their assigned tasks while using a respirator and maintain an appropriate level of quality patient care?

The AHA is currently developing comments on all aspects of the proposed standard and intends to testify at the rulemaking hearing. If you need a copy of the proposed notice or have any questions on it, please contact Clarence W. Daly, 312/280-6160. Please send a copy of your comments to AHA to keep us advised of your particular concerns and for the AHA testimony at the scheduled hearing.

— Harluf V. Olsen
AHA
Group Vice President

SAFETY CORNER

Welding and Contact Lenses —
A retraction has been issued by the I.B.E.W. on the Safety Alert Bulletin for Contact Lenses. The bulletin was issued with good intentions, but later found to be not true.

 Beds-‘Walk Away Down’ —
Hill-Rom Company has issued a bulletin on a potential problem with children and Hospital Beds. During the last sixteen (16) months there have been reports of five accidents involving children and Hospital beds. Three children have died as a result. The incidents occurred when children activated the “Walk Away Down” function while playing outside the beds. Please make your staff aware of the problem and convert the “Walk Away Down” function to a “Continuous Contact Down” function if possible.
LAUNDRY AND WATER TEMPERATURE

— Test Findings —

The following article has been reprinted from the A.S.H.E. Hospital Engineering Bulletin:

Robert Christian, M.D., of Drexel University, Philadelphia, and Martin Blaser, M.D., Chief, Infectious-Disease Division, Veterans Administration (VA) Medical Center, Denver, have independently conducted tests on the effect of bacteria using low-temperature water to wash hospital laundry.

Initial results of the VA’s year-long study showed that low temperature water killed as many bacteria as high temperature water for most laundry with an average number of bacteria. Dr. Blaser concluded that for highly infectious laundry, high temperature water must be used. Dr. Blaser’s group studied linens with certain types of bacteria over a time period, and developed what he considers an accurate method for counting bacteria in laundry. With that established, the group’s next task was to see how much contamination the average hospital laundry had.

The next step involved laundering similarly contaminated linen in low temperature water without any laundry chemicals. The group then went on to test the effects of drying on this same contaminated linen washed in low-temperature water only. The group discovered that the drying process further eliminated bacteria.

The next segment of the study was to add standard laundry chemicals to this low temperature washing procedure. The group discovered that adding bleach killed even more bacteria. Dr. Blaser’s group then compared low-temperature washing with chemicals and drying. Dr. Blaser said: “at the end of the drying process, we found that the low-temperature fabrics were as free of bacteria as those washed in high-temperature water.” He did note that neither sample was entirely free from bacteria, but the remaining bacteria were not the kind that usually cause human disease.

Dr. Blaser’s preliminary conclusion is “that low-temperature laundering is as effective as high-temperature laundering in removing pathogenic bacteria from hospital linen.” However, he did point out that these are just the initial results of his study. He hoped to finish the laboratory work by the end of March, with a complete report to follow.

Dr. Christian’s study was sponsored by Diversey-Wyandotte Corp., which also supplied the laundering chemicals for Dr. Blaser’s study. Barbara Barnes, Industrial Research Chemist, Diversey-Wyandotte, said the results of Dr. Christian’s study read, in part, “The effectiveness of bacterial density reduction at low temperature was augmented by increased concentrations of bleach. Successful low temperature washing, such as that shown here, may save both energy and money for hospitals.”

The conclusion of Dr. Christian’s study confirmed the initial results of the weight of these findings, more people may go to their infection-control committees, and ask to try some low temperature washing. But I think it’s still up to authorities such as the JCAH and the Centers for Disease Control to make a comment on these results.

Portions of this article were excerpted from Laundry Notes, February and April 1983, Issues.

CODE INTERPRETATIONS

Have you recently been inspected and received an interpretation on a code or regulation? Do you have a particular code or regulation that is confusing or ambiguous that you would like interpreted? The New England Hospital Engineers’ Society would be glad to publish interpretations you have received so that other members can benefit from the information, or to research and contact the regulating agency for an official interpretation for you.

The society provides a broad range of abilities and knowledge of the society’s many purposes is to provide information and education to its members. If you have information or need information, please contact the Newsletter editor.

REGULATION INTERPRETATION

— Hazardous Physical Waste-Disposal —

A member Hospital recently asked the following question of the Massachusetts Department of Public Health, Division of Health Care Quality, 80 Boylston Street in Boston . . . "Under Section 130.35: Hazardous Physical Waste Disposal, the regulations state that 'Sharp wastes, such as broken glass, scalpels, blades, and hypodermic needles, shall be segregated from other wastes and aggregated in rigid containers immediately after use. After use, all needles shall also be rendered unusable. The rigid containers of sharp wastes shall either be incinerated, on site or off site, or disposed of in a sanitary landfill approved by DEQ.' Is it the intent of the Department of Public Health that all needles be rendered unusable immediately after use or will it be satisfactory that these needles be collected in a rigid container and rendered unusable by incineration at the hospital? The reason we were seeking this clarification is that we are currently evaluating several different methods of needle and syringe disposal, which will provide a higher degree of safety for our employees than the system we are currently using. If we were to be allowed to take the needles and dispose of them by placing them in rigid puncture proof containers and having said containers incinerated, this would provide the highest degree of infection control and employee safety.”

In response, the Department of Public Health stated: ‘. . . We are in accord that your plan is acceptable since placement of the needles in a rigid puncture proof container, prior to incineration, fulfills the intent of the regulation which requires that: ‘. . . all needles shall also be rendered unusable.’ For security purposes, be sure that the containers are sealed.’ . . .

— John J. Crowley

PROPOSED BY-LAW CHANGE

In accordance with the by-laws, Section 15-1, all proposed amendments must be presented at the annual Meeting for approval by a two-thirds vote. This can only be done after the amendment has been submitted to the president, in writing, signed by ten members and copies distributed to all members at least thirty (30) days prior to the meeting.

This makes four proposed changes that will be voted on at the annual meeting — see February Newsletter for changes to Section 6-1 and 7-1.

Mr. Ralph M. Henry has proposed to change the By-Laws of the New England Hospital Engineers’ Society. The changes and reasons for the requested changes are noted below.

ARTICLE 4-3

Eligibility and Membership be amended to permit Institutional Memberships, in addition to the three (3) personal memberships — Active, Associate, and Honorary; presently available . . .

ARTICLE 15-1

Amendments, be revised to permit future amendments to be voted on by written ballot, those ballots to be tabulated at the annual meeting.

Institutional Membership

A solicitation has been presented to change the By-Laws of the Hospital Engineering Society to permit institutional memberships in addition to the three (3) forms of personal membership. Why? N.E.H.E.S. is presently represented in fewer than 200 of the 450 New England Hospitals, and with the trend toward diminishing personal memberships, something must be done to offset the reduced income to the society and to improve and strengthen communications with the regional Hospital Engineering Industry. Institutional memberships as proposed, would be non-voting to preclude adverse voting trends by institutions using contractual engineering services, but would provide and improve communication media through which N.E.H.E.S. could provide information relating to seminars and code changes. The potential income to the society could provide the financial base for an improved newsletter.

Written Ballot on By-Laws Changes

The By-Laws of the Society provide for a written ballot on every aspect of voting except changes in the by-laws themselves, these changes are voted on by handshow or acclamation at the Annual meeting. It is proposed that future By-Law changes be voted on by written ballot, circulated to the entire membership in the Fall Seminar brochure package, ballots could then be mailed to the secretary or hand carried to the Annual Meeting and tabulated there, thus affording the voting privilege to those unable to attend.

IN MEMORIAM

CHARLES K. SPAULDING

It is with deep regret that I inform members of the New England Hospital Engineers Society of the death of Charles K. Spaulding, retired Assistant Director of Engineering and Maintenance of the New England Deaconess Hospital, on February 24, 1983, in Palm Harbor, Florida.

Charlie was employed at Deaconess since 1946; he was an active member of the New England Hospital Engineers’ Society, and the American Society for Hospital Engineering, for many years. He was also a committee member of the National Fire Protection Association, assisting in the formulation of life safety codes that were reasonable and practical for Hospitals.

He leaves his wife, Marjorie, of 511 Magnolia Avenue, Palm Harbor, Florida 33563.

— C.H. Keating
MEMBERSHIP

It should be of interest to our members that several things are happening these days involving membership and the recruitment of new applicants to our organization.

First, and foremost, is the colorful brochure accompanying this Newsletter. This pamphlet describes the what, why, where and how of NEHES. It has been long overdue but is now a fact. The brochure is the result of a culmination of efforts by members of the Board spurned on by yours truly. I expect that it will serve as a reminder for our present members and as a stimulus for potential candidates. Your State Representative has more if you know of someone to whom one should be sent.

The consensus of opinions at our recent Board meeting was that although a very satisfactory percentage of our members regularly attend our spring and fall seminars, (one third at the latest spring session) many other hospital engineers are not getting the word and benefits of our efforts. The best way of reaching our colleagues is by bringing them into the organization. Don’t mis-understand the intent. Our Society is not interested in increasing the rolls for the sake of numbers. Our organization, as the brochure repeats, is made up of active members. We’re looking for more hospital engineers who are sincerely interested in helping and benefiting from our group. Read the brochure carefully. If other hospital engineers come to mind, get the word to them. You’ll be doing them a favor and promoting your own profession at the same time.

The final item of interest along the lines of membership is the decision to distribute to the members on a regular basis a current list of NEHES members. Realizing that the best way to consult with other members is to know they are and where they’re located. should be put in the mail soon.

— Jack Berger, Membership

WELCOME ABOARD

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Chief Engineer
Henry Heywood Memorial
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Gardner, MA 01440

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Dir. of Engineering
Lawrence & Memorial Hospitals
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1983 NFPA FALL MEETING

The 1983 NFPA fall meeting will be held in Orlando, Florida at the Hyatt Orlando Hotel. The major document of interest to Health Care members will be the formal presentation of NFPA99, the Health Care Facilities Code.

NEW ENGLAND HOSPITAL ENGINEERS’ COMMITTEES

ASHE LIAISON
James Lawson
Putnam Memorial Hospital
Vermont

CONSTITUTION AND BY-LAWS
Warren E. Marble
Danbury Hospital
Connecticut

MEMBERSHIP
Jack Berger
University Hospital
Massachusetts

NEHE LIAISON
Ralph Pelosi
Whidden Memorial Hospital
Massachusetts

NFPA LIAISON
James H. Bernard
University of Vermont
Vermont

RESEARCH
Edward Boyer
Chariton Memorial Hospital
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STEEERING
Donald Kohler
Bridgeport Hospital
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FALL SEMINAR CHAIRMAN
Bryant Bourgoin
Mid Maine Medical Center
Maine