An Understanding of the Business of Balancing

Matthew Sano
MAEBA Technical Committee Chairman

The accuracy of the work compiled in a balancing report should have the same value as the economic sum of the contract. This can be defined as a technician performing his or her duties in such a manner as to make his or her skills competitive in the market in which they work. Accuracy cannot be the only goal; it must exist along with prudent time saving methodology that provides a positive value to each project. In an ideal world, the funds would be limitless to allow for redundant testing to insure the accuracy of the information. The reality is that compressed schedules and unforeseen job delays often do not change completion dates. It may be up to the supervisor to provide the technician with assurance that the simplest method can accomplish the job goals and meet the specification requirements.

Building Systems Commissioning may also drive the methodology. For example, if the commissioning agent’s verification is with a flow hood, then the repeatability should be based on the hood readings.

2006 MAEBA Recertification and Educational Seminar

The Mid-Atlantic Environmental Balancing Association (MAEBA) will be conducting its annual Recertification and Educational Seminar on September 24-25, 2006. Beginning on Sunday, September 24th, anyone interested may try the beautiful Wren Dale Golf Club, located only a mile from the Hershey Lodge. This course was voted “Top 100 Must Play” golf courses in 2005 and 2006 along with being on the cover of the March 2006 edition of Golf Styles Magazine (Philadelphia edition).

Later that evening there will be a cocktail reception at the Hershey Lodge and Convention Center, co-sponsored by some of the various vendors in the industry. MAEBA once again thanks our largest supporter of last year’s reception, the Proac Corporation. The Proac Corporation has supported the MAEBA chapter for many years. Then on Monday, September 25th, the seminar will begin with a presenta-

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Required Instrumentation for NEBB Firms

Vincent Del Vacchio
MAEBA Technical Committee

On January 1, 2005, NEBB published the Seventh Edition of the Procedural Standards for Testing, Adjusting and Balancing of Environmental Systems. At that time, the revised required instrumentation list was instituted.

Up until this time, NEBB required certified TAB firms to own and maintain a currently calibrated instrument for each function that might be performed during the testing process (i.e., a pressure test required a separate instrument; a velocity reading required a separate instrument; a flow hood reading required a separate instrument).

With the implementation of the seventh edition, the instrumentation requirements were revised. Any instrument that performs multiple functions may be used to meet the requirements for instruments as long as they meet NEBB’s guidelines, which state: “Instrumentation with multiple capabilities shall be accepted for more than one function when submitting documentation for a firm’s certification, providing that each separate function meets NEBB requirements.”

Simply put, as long as an instrument meets the NEBB requirements for minimum accuracy and resolution, it can be used for multiple functions. The required instrument list can be found in the Procedural Standards manual or on the NEBB website at www.nebb.org.

We also need to review the recertification process that each NEBB certified firm is required to undertake every two years. During the year that your firm comes up for recertification, our Chapter Coordinator will send out a minimum of two notices instructing you, the NEBB Supervisor, of what is required for recertification of your firm. In order to make the process go as smoothly as possible, you, not the Chapter Coordinator, are responsible for the following:

- Fill out Form “C” (four pages) completely, including all dates for recertification seminars, company information and instrument information.
- Show up for your instrument check at the time stated with all of the required instruments for recertification with you. Please remember, people are taking time from their own business to volunteer to do these checks!
- Your paperwork should include not only a copy of Form “C”, with all of the instruments listed, it must include a copy of the NIST traceable calibration forms for each of your instruments.
- Please remember that an entire copy of all of the above paperwork needs to be included, and left with the Chapter Coordinator, as part of the recertification process.

Note! It is not the Chapter’s responsibility to make copies or fill out the missing information on your recertification paperwork. Please insure that your paperwork is complete prior to submitting it for recertification.

2006 NEBB Annual Meeting and Educational Conference

This year’s NEBB Annual Meeting and Educational Conference will be held at the Rancho Las Palmas Resort & Spa in Palm Springs, California on November 10 and 11, 2006.

The conference will begin on Friday, November 10th with the Opening Session, followed by the Open Committee Meetings. On Friday evening, there will be a General Session with the keynote speaker, Mr. Mike Mullane. Mr. Mullane is a retired NASA astronaut. Then, on to the Get-Acquainted Party immediately following.

The educational presentations will be held on Saturday, November 11th. The topics this year include: Automated Data Collection and Reports, Fume Hood Certification Program, Retro-Commissioning Certification Program, Introduction to Dynamic Fan Balancing, Certification of Sterile Compounding Facilities for Compliance to USP Chapter <797> and Decontamination of Rooms and BSC’s with Gaseous Chlorine Dioxide.

As always, NEBB will be offering golf on Thursday, November 9th. If you are not interested in golf, they are also offering two optional tours on Thursday plus a spouse/guest tour on Saturday. For further information, visit the NEBB Website at www.nebb.org.

Rancho Las Palmas Marriott Resort & Spa
Presidents Column

D. Timothy Roaten
MAEBA President

During the 2005 Annual Recertification Seminar at the Seaview Marriott, MAEBA took great pride in recognizing two people very important to both the testing and balancing industry and our local NEBB Chapter when the first William G. Eads, P.E. award was presented to Mr. Dan Driscoll. I listened intently as Mr. Driscoll recalled with pride the hard work and diligent effort that was expended by many to create and form the Delaware Valley Environmental Balancing Bureau, which then became PEBA, the Pennsylvania Environmental Balancing Association, and what we have now come to know as MAEBA, or, the Mid-Atlantic Environmental Balancing Association.

As NEBB Certified Supervisors and NEBB Certified Firms, have any of you ever stopped to ponder where you might be today had it not been for the ambitious efforts and dedication of the founding fathers of our Chapter, and what issues and challenges were faced in the process of founding the Chapter? The MAEBA Board of Directors has and if you have not, maybe you should too.

As a result, the MAEBA Board of Directors is in the process of reviewing all of the official records and documents of the Chapter since its formation to compile and publish a complete history of our chapter. When completed, you will be able to see and read a year by year record of who comprised the various committees, including the Board of Directors and Technical Committee, and what were the problems, issues and obstacles that they faced. It is our goal to have this chapter history compiled, completed and published and ready for distribution to our membership at the 2006 Annual Recertification Seminar in Hershey on September 24th and 25th.

In an ongoing effort to continue to recognize significant and outstanding contributions made in our chapter, the MAEBA Board of Directors will again be presenting the William G. Eads, P.E. Award at this year’s recertification seminar. The chapter is honored that Ann Eads will again be in attendance to make the presentation to this year’s recipient.

MAEBA will also be recognizing several of our NEBB Certified Supervisors who have achieved the honor of holding their NEBB Certification for twenty-five years with the NEBB Twenty Five Year Pin Award.

As we look forward to meeting again at the Annual Recertification Seminar in Hershey, let each of us pause with respect and admiration for the hard work and efforts put forth by the Chapter’s founding fathers as we strive to preserve the high ideals and quality standards that have made both MAEBA and NEBB leaders in our industry.

Stair Tower Pressurization

Vincent Del Vecchio
MAEBA Technical Committee

With the recent revitalization of the Center City area, we are seeing many of the older, smaller office and factory buildings of the past in and around Center City being converted into high end condominums as people in all age groups realize what the downtown area has to offer. Along with the convenience of living around the downtown area, these buildings also must offer a safe and secure environment for the occupants.

The City, along with the greatest majority of townships and boro’s in the state, have adapted the PA statewide building code called the Uniform Construction Code or UCC. This code more or less “levels the playing field” for most construction in the state. But to date, the greater majority of buildings in the city being worked on still fall under the older Philadelphia Building Code.
A look back at the 2005 MAEBA Recertification and Educational Seminar

Michael Dollin, Executive Vice President, NEBB National

Shirley Berkhisier, Proac Corporation at the Vendor Display.

William G. Eads, P.E. Award

From left, Ann Eads, Natalie Driscoll, Daniel Driscoll

MAEBA would like to express our thanks to the PROAC Corporation for Sponsoring the MAEBA Cocktail Reception during the 2005 MAEBA Annual Recertification and Educational Seminar.

PROAC Corporation
Dean Klopp / Ronnie Kubik
P.O. Box 143
Mt. Aetna, PA 19544

2006 Recertification Seminar

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The main presentation of the day will be "Hydronic Systems Balance: An understanding of pumping system components." Our presenter is Mark Hegberg, the Manager of Balancing Products for ITT Bell & Gossett, the "Little Red Schoolhouse".

Mark has over 25 years of experience in the HVAC field in the areas of Direct Digital Control systems applications and testing and hydronic systems design. Mark will discuss the debate regarding what should be installed in a hydronic system for balance and whether it should be done at all; what needs to be installed to measure; what does each type of balancing device do and what systems should it be applied to; and what are pressure independent control valves and can they do what the sales guy says. This topic will address issues for participants from various levels of experience.

Little Red Schoolhouse

The MAEBA Recertification and Educational Seminar, taking place at The Hershey Lodge and Convention Center, promises to be an interesting and enjoyable event. The Hershey Lodge has much to offer its guests: four restaurants on property, coffee shop, indoor pool, tennis courts, miniature golf course on-site, outdoor basketball court, playground, game room, shuffleboard and a health club.

Right around the corner is Hershey Park Amusement Park, ZooAmerica North American Wildlife Park, Chocolate World and the Hershey Museum. Guests of the Hershey Lodge receive complimentary admission to the Hershey Gardens and Hershey Museum.

Hershey is The Great American Chocolate Town, streetlights are shaped like Hershey's Kisses, Chocolate Avenue meets Cocoa Avenue and the air is filled with the wonderful aroma of chocolate.

Tucked in the rolling hills of Central Pennsylvania, this idyllic escape offers the latest and greatest in entertainment and hospitality. And with nearby shopping, spa and golf, you'll find Hershey Lodge is the perfect venue for the 2006 Recertification and Educational Seminar.
Pressurization

The existing code dictates in great detail the requirements for fire safety in these buildings, including fire suppressing and a safe means of egress from a building.

Since every condominium that we have worked on has an active fire suppression system (sprinklers), the next concern is getting people out of a building safely. This is where Section B-1015.7 of the Philadelphia Building Code comes into play. This section of code allows for maintaining a positive pressure in the stair towers in the building, providing the building has an automatic sprinkler system.

During a fire emergency, the exiting code calls for maintaining a positive pressure in the stair towers at a minimum of 0.15 inches of water column (W/C) to a maximum of 0.35 inches with all of the stairway doors closed. This pressure is maintained utilizing a fan to supply air to the stair tower and normally some form of gravity damper to relieve excess pressure in the stair tower. The minimum pressure requirement is important to insure that smoke doesn’t enter the stairway in the event that a door serving a floor with smoke or fire is opened. The maximum pressure is important in the fact that 0.35 inches of W/C is quite a bit of pressure acting against a door that may be 21 square feet or larger. The pressure in the stair tower needs to be great enough to keep the area clear of smoke, but not so great as to keep a person of a small stature from opening the door in the event of an emergency.

As far as the set-up, testing and balancing of these systems, we start at the fan to insure that it is working within its parameters. We then check the relief damper to insure it is operating. We then start the pressure test, taking measurements at each floor along with a measurement to atmosphere. We normally encounter problems with the initial testing due to excess leakage around all of the doors, both internal and external to the building.

After the usual round of finger pointing, the interested parties realize that in order to get their Certificate of Occupancy, the problems need to be addressed. Normally some form of weather stripping is added to all of the doors along with beefing-up the thresholds. Approximately 50% of the time, the fan speed has to be increased, sometimes necessitating a change in the motor and drive package. After the changes, and a few more rounds of measurements, some additional “tweaking” is usually required. The last step in the process is the witnessing of the final testing by an L & I inspector.

The building is now safe for the occupants.

Business of Balancing

In the world of retail it is important to remember the tight budgets when evaluating system recommendations. The Engineer reviewing the report can evaluate the actual data and determine the proper recommendations.

We must remember if we do not provide value, the cost will drive the market to look for alternative system verification.
Calendar of Events

September 16, 2006
NEBB National Written Exam

September 24-25, 2006
MAEBA Recertification and Educational Seminar

September 25–30, 2006
NEBB Building Systems Commissioning Seminar and Exam
NEBB TEC – Tempe, AZ

November 9-11, 2006
NEBB Annual Meeting and Educational Conference

November 13–17, 2006
NEBB TAB Technician Training Seminar and Exam