During the 2009 NEBB Annual Convention, ASHRAE President Gordon Holness addressed the audience on his presidential theme, *Sustaining Our Future by Rebuilding Our Past*. He gave his presentation at the Opening Session of the NEBB Annual Meeting in Oklahoma City, Oklahoma, where he was presented with a check for $10,000 from our NEBB National President John Stevenson and NEBB National Marketing Chair and NEBB Golf Committee Chairman, Eric Jenison.

NEBB has enjoyed a long-time relationship with ASHRAE, with many NEBB Certified Professionals being members, and at last count, more than a dozen are ASHRAE Fellows. There have been NEBB Certified Professionals on the ASHRAE National Board of Directors for many years including the ASHRAE National President for 1990-1991. NEBB publications are referenced by ASHRAE and are part of the ASHRAE catalog of publications. In 2008, NEBB and ASHRAE jointly adopted a Memorandum of Understanding (MOU) to promote expansion of the relationship to meet mutual goals and the current needs of the HVAC industry. NEBB will continue to support ASHRAE committees and special projects, as well as explore with ASHRAE ways to promote sustainability through commissioning and retro-commissioning.

On a local level, the Northern California/Hawaii NEBB Chapter has arranged a reciprocal agreement with the following ASHRAE Chapters to support each others’ organizations by free participation in local meetings and trade shows, advertisement in newsletters and on Chapters’ websites, exchanging of technical information by way of articles and speakers. The Northern California/Hawaii NEBB Chapter would like to thank and congratulate the Board of Directors of these ASHRAE Chapters for their foresight in recognizing the value of a joint supportive arrangement:

**San Jose ASHRAE Chapter** - Yindy Chow, President  
**Golden Gate ASHRAE Chapter** - Scott Wayland, President  
**N. Nevada ASHRAE Chapter** - Brenna Smith, President  
**San Joaquin ASHRAE Chapter** - Jim Orr, President

In December our Chapter attended a joint ASHRAE meeting of the San Jose and Golden Gate chapter as a table top vendor at the San Mateo Event Center.
ALNOR IS EXCITED TO ANNOUNCE THE NEXT GENERATION OF Analog Balometer® Capture Hoods!

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Our January 20, 2010 Associates Meeting and Re-certification meeting was well attended with over 60 in attendance, 5 table-top vendors participating and a special presentation on the status of NEBB and relevant information affecting us all by the NEBB National Chapter Affairs Committee Chair, Leonard Maiani.

This year’s meeting was held at the Newark Hilton Hotel and all agreed that the venue and lunch was outstanding. Our table top vendors participating in our January 2010 Associates and Re-certification meeting were: Dennis Thompson, Siemens, Dave Day, Mike Mann and John Allan from Ebtron, Scott Stadheim from AirNab and Rick Spears and Mike Ryder from RF MacDonald and Jim Schumacher from TSI, Inc. Thank you to the Education Committee in organizing a superb meeting!

During the Associates meeting, Steve Smith, Technical Chair gave a presentation on report preparation and meeting NEBB minimum standards to our Procedural Guidelines. Starting in 2009 our Chapter made the decision to include report reviews in the re-certification process. Two NEBB certified reports and two non-NEBB certified reports, if available were turned into the Chapter along with their re-certification paperwork. The Technical Committee, along with the following volunteers have spent their time reviewing all reports. Thank you to: Doug Buote, Certified Testing, Romy Gonzalez, Alpha Air Balancing, Greg Bluhm, CSI, Inc., Troy Stenstrom, Therma, Jeff Balvanz, Air Systems, Peter Hirashima, Air Balance Hawaii for volunteering to help out the Technical Committee with this task! Steve noted that we have received 16 Form C-1s and only 1 was approved at first review and 26 reports have been submitted so far with only 6 being approved to date. Although this average is not unique to our Chapter we are taking steps now to bring this average up and to make sure that minimum NEBB standards are being met by all.

At the conclusion of the Associates meeting the Re-certification Meeting was convened. Our first guest speaker was Matt Donahue, P.E., Rolf Jensen Associates, Inc. who presented Smoke Control Commissioning. His one hour presentation on smoke control systems concepts, code requirement, how to utilize the smoke control report and testing program and more can be found on the Chapter website at www.nocalhawaiinebb.org.

Our second speaker, Mark Hydeman, P.E., Taylor Engineering, spoke on Title 24-2008. Mark has been the lead contractor for development of the non-residential HVAC requirements for the past 4 revisions to Title 24 and is on contract for development of Title 24 2011. His expanded presentation of 2008 Title 24 Non-residential HVAC and Acceptance Test Requirements can be found on our Chapter website at www.nocalhawaiinebb.org.

At the conclusion of our meeting we held a raffle drawing. The Education Committee would like to thank Jim Schumacher from TSI, Inc. for donating the Velometer Air Velocity Meter Model AVM440 for our raffle prize. Congratulations Jim Kaufmann for winning this!

See you at our next meeting on Wednesday, June 16, 2010!
Cleanrooms: A Basic Guide  *(This is a two-part series)*

A cleanroom is generally defined as a room that has controlled filtered supply airflow, is positively pressurized to the outside environment, has deliberately selected construction materials and furnishings, and has specifically created standard operating procedures, all to create an environment to control airborne particles within the room in order to meet cleanliness levels as defined by the standard in which the cleanroom is attempting to meet (ISO-14644-1 in most cases). That definition is certainly a mouthful, but what does it mean in a practical sense? This article is a brief primer on cleanrooms to hopefully give you enough information to help you have a good understanding when working in and around cleanrooms.

Firstly, let’s look at the filtered supply airflow component. Cleanrooms need supply air that is filtered through either HEPA or ULPA filters. These filters are designed to remove greater than 99.99% of all particles in the air that is flowing through them. The type and amount of filters used is highly variable and strictly dependent on what level of cleanliness the room is attempting to achieve and the expected particle load that the processes and personnel within the room will generate. Obviously, this component is critical to the proper functioning of the cleanroom, because without filtered supply air, there is nothing to remove/dilute particles brought into or generated within the room.

The next component is the pressurization. This is the second most important component of a cleanroom, because in any room there is going to be gaps between building components where air can flow (e.g. holes around sprinkler heads or process piping, gaps under doors, etc). If the room is not pressurized to the exterior uncontrolled space, then air from that space can easily make its’ way into the cleanroom. Per cubic foot, that air could contain millions of the very particles that the cleanroom is attempting to eliminate. If the cleanroom is not pressurized, it would be like leaving the door propped open on your refrigerator; in other words, not very efficient.

Then there are the deliberately selected construction materials and furnishings. The cleanroom must be constructed and furnished with materials that will not easily shed particles. Items like paper, wood, exposed drywall, and cardboard shed particles easily and should not be used in a cleanroom. The materials and furnishings are somewhat variable as well, depending on the level of cleanliness that is being attempted. For example, paper might be allowed in lower class cleanrooms, but strictly forbidden in higher class rooms.

Lastly there are the specifically created standard operating procedures. These are the procedures developed by the cleanroom user and are designed to minimize the impact that personnel and processes have on the cleanliness of the cleanroom. Personnel are an often overlooked part of the cleanroom, but they can have the greatest impact on cleanliness if they are not wearing the proper gowning (i.e. hairnets, booties, coveralls, etc) or are not carrying out their activities properly (i.e. keeping their movements slow and purposeful, limiting particle generating activities, etc.). These procedures will also let you know what you can and cannot bring into the cleanroom in question and how to properly wipe down anything that does need to be brought in.

ISO-14644-1 is the most widely used standard for defining a cleanrooms’ level of cleanliness. The scale ranges from Class-1, which is the cleanest, to Class-9, which is the least clean. It is based on a variety of particle sizes or multiple particle sizes in a given volume, but the most common is 0.5µm (~100 times smaller than a human hair). For anyone familiar with the old superseded FS209E standard, the ISO standard is similar and the units are in metric.

Just a quick word about testing cleanrooms; in order to insure that the cleanroom is functioning properly, the filters should be tested at least annually and the airborne particle concentration should be tested at least quarterly, but preferably monthly. This testing should be performed by a qualified testing agency, as the potential for damage to the cleanroom, its’ operations, the clients’ products, and misinterpretation of the results is high.

In conclusion, you can see that a cleanroom that lacks or is deficient in any one of the four major components will not truly be clean and the test results will undoubtedly show that. So, you must take great care when working in and around cleanrooms and you must be familiar with the clients’ procedures, otherwise you risk contaminating the cleanroom. *(Part Two of this 2 part series will be in the April newsletter.)*

*By Greg Bluhm, Vice-President of CSI, Inc., Santa Clara, CA*
HELP SUPPORT N. NV ASHRAE CHAPTER!

August 26, 27 and 28, 2009 N. NV ASHRAE Chapter will be hosting our annual Chapter Regional Conference (CRC.) At the Peppermill Hotel and Casino. This conference allows the western chapters to get together to share their ideas and chapter information. This conference is a great way to get your business name out there!!

We’re requesting monetary donations to help with the expense of this conference.

We’re asking donations of $500 or more. Platinum donations of $1,500, you will receive 2 dinner tickets to the awards dinner on Friday night where you will receive recognition for your donation!

Donations can be made to
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PO Box 21195
Reno, NV 89515

Questions? Contact Jace Cook: jcook@gobluesteam.com 775-353-0253; Candice George: candice@pettyengineering.com 775-359-5777; Brenna Smith: brenna@bcsnv.com 775-826-8998; or Brandon Etchemendy: Brandon@aspenreno.com 775-826-6061
No Fee Required For Conformance Certification Certificates

NEBB firms may now apply and receive Conformance Certification Certificates without any charges. In addition, the application form is now streamlined and is available on the website (www.nebb.org) under “Building Resources,” “Quality Assurance”. Also, a Conformance Certification Certificate is available for any project, whether called for in the specifications or not. However, it must be applied for if required by specifications. Questions may be directed to Elana@nebb.org.

Publication Price Increase To Be Implemented

Effective February 1, 2010, the prices of selected NEBB publications will be increased. This will be the first general increase in publication prices implemented by NEBB in more than six years. It comes at a time when the cost of printing NEBB publications has continued to rise making the price increases necessary. The new prices will be shown on the website on-line order form, as well, you can confirm prices with Elana@nebb.org.

Cleanroom Procedural Standards Are Now Available

The third edition of NEBB Procedural Standards for Certified Testing of Cleanrooms has been released and is available as a download or for purchase. To download a copy for the Procedural Standard, please go to www.nebb.org.

Northern California/Hawaii Chapter Board Decides To Lower Technician Exam Fees

The Northern California/Hawaii Board of Directors decided to lower the exam fees for Technicians trying to attain their NEBB Technician Certification.

Effective January 2, 2012, all NEBB certified projects shall be manned on-site, at minimum, by either a NEBB Certified Professional or a NEBB Certified Technician to provide project supervision. The Firm may use any combination of on-site manpower, including multiple non-certified technicians, under the supervision of the designated NEBB Certified Professional or NEBB Certified Technician. The NEBB Certified Professional is responsible for: supervision of technicians working on their projects, including NEBB Certified Technicians designated to meet these requirements stated above.

With this in mind, NOW is the time to start certifying your technicians! Contact the Chapter to see about testing.

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For at least the past decade, the topic of “branding” has dominated marketing discussions to the point that the concept has numerous definitions and explanations. This proliferation has not necessarily increased the credibility of branding as a marketing function, but instead seems to have created confusion regarding the actual value that brand identity provides—if the value can even be measured. The majority of business people would likely agree that branding is important, and developing a “brand identity” for their organization should be part of their long-range planning. However, organizations operating in today’s economy are under tremendous pressure from stakeholders to focus on current financial results.

Because of this, the challenge has been to measure the financial benefits of branding to an organization from both short- and long-term perspectives. How does brand identity contribute to the financial health of an organization? And, if it does not contribute, does branding hold any value at all or is it just a good topic for the latest marketing guru book?

This article will provide you with insight into six financial benefits that a strong brand identity contributes to an organization, and will explain how brand differentiation and brand relevance can be valuable tools for increasing an organization’s operating margin.

What is brand identity anyway? Before addressing its financial benefits, here is a brief definition of brand identity. An organization’s brand identity represents how the company wants to be perceived in the market, what the company stands for, and most importantly, implies a promise to the company’s customers.

The value of a strong brand based on the research presented in his book, Building Strong Brands, Dr. David Aaker cites a number of financial and non-financial benefits to building a strong brand.1 AVS sifted through these benefits and discovered that six of them have direct impact on an organization’s financial performance. Each of these benefits can be measured and they are interdependent and build on each other.

Research also showed that achieving the six benefits is a linear process. Achieving Benefit 1 will assist the organization in reaching Benefit 2, and so forth. In addition (and probably the most powerful benefit of all), when an organization has achieved all six financial benefits, it loops back to the first and repeats the process like a continuum. This is a powerful process, because as an organization repeats its journey through the continuum, the brand gets stronger and stronger. Each pass through the continuum produces more financial benefit to the organization. AVS calls this brand identity building process the Brand Continuum.

Here are the six financial benefits to a strong brand identity:

**Benefit 1**: Brand identity commands a price-premium. Why is someone willing to pay thousands of dollars more for a Lexus than for a Toyota? They are virtually the same product with the exception of some additional options and accessories. “You can also buy exotic cars from Jaguar, Volvo, and Range Rover. And every one of them is made by Ford—and you shouldn’t be surprised to discover that they even share parts.”

The value proposition is wrapped around the brand. The Lexus, Jaguar, Volvo, and Range Rover brands are worth more in the minds of consumers regardless of whether the product actually functions better.

**Benefit 2**: A price premium creates the perception of quality. This follows the age-old axiom of “you get what you pay for.” If a Lexus costs more than a comparable product, it must be because the Lexus provides better quality. Right? Not necessarily. There are plenty of lower-cost, high-quality vehicles available, yet people still pay more for what they perceive to be a better or higher-quality brand. So the axiom lives on.

**Benefit 3**: Perceived quality has been shown to positively affect customer usage. Consumers tend to select brands they perceive to be quality brands. This also connects to repeat buying or brand loyalty. Consumers tend to continue buying brands that reward them with a good experience versus repeating the evaluation process time after time.

**Benefit 4**: According to Dr. Aaker’s research, perceived quality is the single most-important contributor to a company’s return on investment (ROI), having more impact than market share, R&D, or marketing expenditures. Brand identity perceives quality that contributes to profitability in part by enhancing prices and market share.
At the January 20, 2010 Associates Meeting, Randy Silva, Northern California/Hawaii NEBB’s Chapter President presented a Certificate of Appreciation to outgoing Board Member, Bill Jeffrey for his years of hard work and devotion to promoting the NEBB Chapter. Bill Jeffrey, a Building Systems Commissioning Certified Professional with DPR Construction, Inc. has been on the Board of Directors as the Education Chair from 2008-2009. He and his committee members have been instrumental in raising the quality of our Chapter’s Re-certification meetings. Vendor participation, raffle prizes and new venues have all been introduced during his term. Bill has also started the process in bringing the Associates Meeting and Re-certification Meeting back to a one day meeting which will start in 2011. Although retiring from the NEBB Chapter Board and reducing his working hours for DPR Construction, Inc., Bill will continue to volunteer his time by being a committee member on the Marketing committee and the Education committee for 2010.

Thank you Bill for your dedication to NEBB and our local Chapter!
Who Moved My Cheese?

Are you familiar with the book *Who Moved My Cheese* by Spencer Johnson, M.D.? I was re-listening to the audio tape the other day and it struck me as how timeless this piece really is. In fact, the theme dates back thousands of years ago to the Jews who had become slaves in Egypt. Pharaoh and his overseers were harsh and cruel in the treatment of their slaves. After four hundred years of captivity a leader emerged out of the reeds. Moses led his people out of Egypt and wandered through the desert for forty years. During the journey, the Lord used a cloud to signal Moses that it was time to move. When the cloud moved, Moses and the Jews moved.

Are you paying attention to your cloud? Him and Haw, the main characters in *Who Moved My Cheese*, recognized that their cheese had moved but they did not know what to do about it. Both mice went hungry. Him finally figured it out and found the moved cheese. Haw never did.

Someone keeps moving my cheese. Although I am not a big fan of change, I recognize that change is inevitable. If I want to survive, I must be ready to read and react to change. Maybe some of you are seeing change in your business climate. Perhaps you have noticed your margins eroding, diminishing competency of a qualified labor pool, or markets collapsing because of poor workmanship by your competitors. I’ll bet you even have some Engineers that won’t let a NEBB firm bid their project. Guess what, your cheese has moved. Do you keep going back to the same place hoping that a morsel of cheese awaits you? Or are you like Him, you aren’t sure where the cheese is but you are willing to search for it. Three thousand five hundred years ago, Moses did not know where he was going, but he knew to follow the cloud. God was leading Moses and His people to the Promised Land.

In business, there are several simple facts that most people lose over time. We forget our mission and what made us successful. The industry expects you to be the expert in your field. None of us has cornered the market in intelligence but I hope that you are good at what you do. Ask yourself this question, “Who do you work for?” Most people answer “my boss, myself, or my company.” This is precisely why your cheese has moved. Instead of complaining about what you don’t have, why don’t you focus on what you want to get? You work for your customer! Without the customer, you have nothing. People buy from people.

The next time someone asks you if you want some cheese with that whine, take note. Your cloud (or cheese) has probably moved.

Submitted by Stephen Archer, NEBB National Marketing Committee Member

New Operational Procedures Language Approved

At the November 1, 2009 meeting, the NEBB Board approved new language to be inserted in the next edition of the Operational Procedures. The adopted language covers: Electronic Stamps and Signatures. “With regard to affixing a NEBB stamp and signature to a hard copy of submission of an electronic file/document, the requirements are:

- **Hard Copy** - A wet seal/stamp issued by NEBB shall be used with an original signature. A signature stamp may not be used. The signature and date shall not obscure the Certified Professional’s name or firm number in the seal/stamp.

- **Electronic File/Document** - An electronic version of the NEBB issued seal/stamp (digital representation) shall be applied to the certification page, along with an electronic version of the Certified Professional’s signature. This allows the Certified Professional to affix a computer-generated seal/stamp and an electronic signature to a document.

Note: Certified Professional’s shall take reasonable steps to ensure the security of their physical (wet) or electronic seal/stamp and electronic signature. For electronic seals/stamps and electronic signatures, Certified Professionals must have reasonable security measures in place to protect these files. Such measures may include using Adobe Acrobat Portable Document Format (PDF) with its various security features.
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Morris Konnoff, P.E., is a registered Professional Mechanical Engineer with the State of California and is the Engineering Manager, Tech Consultant, Service Engineer and NEBB Certified Professional for Carrier Commercial Service. Morris has 38 years experience in the design and installation of heating, ventilation, air conditioning, refrigeration systems, environmental designs of all types of specialized HVACR systems which include computer rooms, server areas, communication, transmission, specialized environmental test facilities, design and installation of clean rooms and cleaning of air pollutants. Morris has over 35 years of testing, adjusting and balancing of environmental system air and Hydronic balancing and testing and measuring and testing of sound and vibration in environmental systems. He has been involved with specialized systems as well as standard systems, computerized load calculations, consulting, energy management and control design, both commercial and industrial. Morris graduated from Cal Poly, San Luis Obispo, with a Bachelor Degree in Environmental Engineering, HVACR with additional complete studies in Air Pollution Control and Water Pollution Control. He is a member of ASHRAE and has been NEBB certified since 1983 in Air and Hydronic System Balancing and certified Sound and Vibration Testing since 1987. Morris is Past President of the Local Chapter for Northern California/Hawaii NEBB 2002 and 2003 and Past National Board of Directors for NEBB National from 1990 to 1994 and was technical chairman multiple times. He has taught classes for the UA at Local 342 for over seventeen years, teaching Start Test and Balance and other classes.

Morris originally worked for Comm Air since 1972 until the firm was bought out by Carrier in 2005. Currently the San Leandro location has between 3000-4000 repeat clients. Therefore, they rarely need to bid on jobs unless contacted by a referral. Since most jobs are design/build, Morris balances his own projects. He pre-tests before redesigning the system. His in-house clients required certification since the balancing on projects was also done in-house. This tends to eliminate any questions on the balancing job. Morris also does Indoor Quality Testing and is the only person at Carrier to do this. A typical year will find him with 4-8 large projects and up to 20 small jobs.

Some projects of note that Morris Konnoff and Carrier Commercial System completed, was the San Francisco Airport plate and frame, completed in Fall of 2009. A 2,000 ton plate and frame heat exchanger is connected on the existing cooling towers, this water is used to cool the existing chilled water system to reduce energy costs. It provided an energy savings of 27% in place of using one of the chillers when it was operational.

Why NEBB? “Our NEBB certification keeps us up-to-date through the on-going training provided by NEBB. It let’s our clients know that we are on top of our knowledge for balancing and gives them confidence in our work.”
2010 NEBB Annual Conference

Hyatt Regency Coconut Resort & Spa
Bonita Springs, Florida

November 4-6
CALENDAR OF EVENTS

SEMINARS:

Fume Hood Seminar
March 9 - 12, 2010, Labconco

National Written Exam for Certified Professional
March 20, 2010, 8:00 a.m.—4:00 p.m.
San Leandro JATC

BSC Basic

Cleanroom Technician

Local Chapter Associates & Re-certification Meeting

National Annual Meeting

April 5 - 9, 2010, NEBB TEC

June 16, 2010, 10:30 a.m.—3:30 p.m.
Location TBA

November 4 - 6, 2010,
New 2010 Slate of Officers

Voted in at our January 20, 2010 Associates Meeting is our new 2010-2011 Board of Directors:

- **Randy Silva**, President, *ICOM Mechanical*
- **Curtis Worley**, Vice President/Treasurer, *T.A.B.C.O., Inc.*
- **Steve Conn**, Education Chair, *Air Systems, Inc.*
- **Vic Congi**, Marketing Chair, *Carter Air Balance*
- **Dan Moore**, Past President, *Pyramid Balancing*

January 20, 2010 Re-Certification Meeting
The Northern California/Hawaii Chapter would like to thank the following people for volunteering to help on Chapter Committees for this year. This Chapter could not run without the help of our members and we want to highlight these individuals for taking their time to participate!

2010 Marketing Committee:
- Bill Jeffrey, DPR Construction, Inc.
- Sargon Ishaya, Pragmatic PE
- Dan Moore, Pyramid Balancing
- Troy Stenstrom, Therma
- Greg Bluhm, CSI, Inc.
- Romy Gonzalez, Alpha Air Balancing

If you are interested in volunteering for one of these committees please contact the local chapter at akearns@nocalhawaiinebb.org. Thank you.