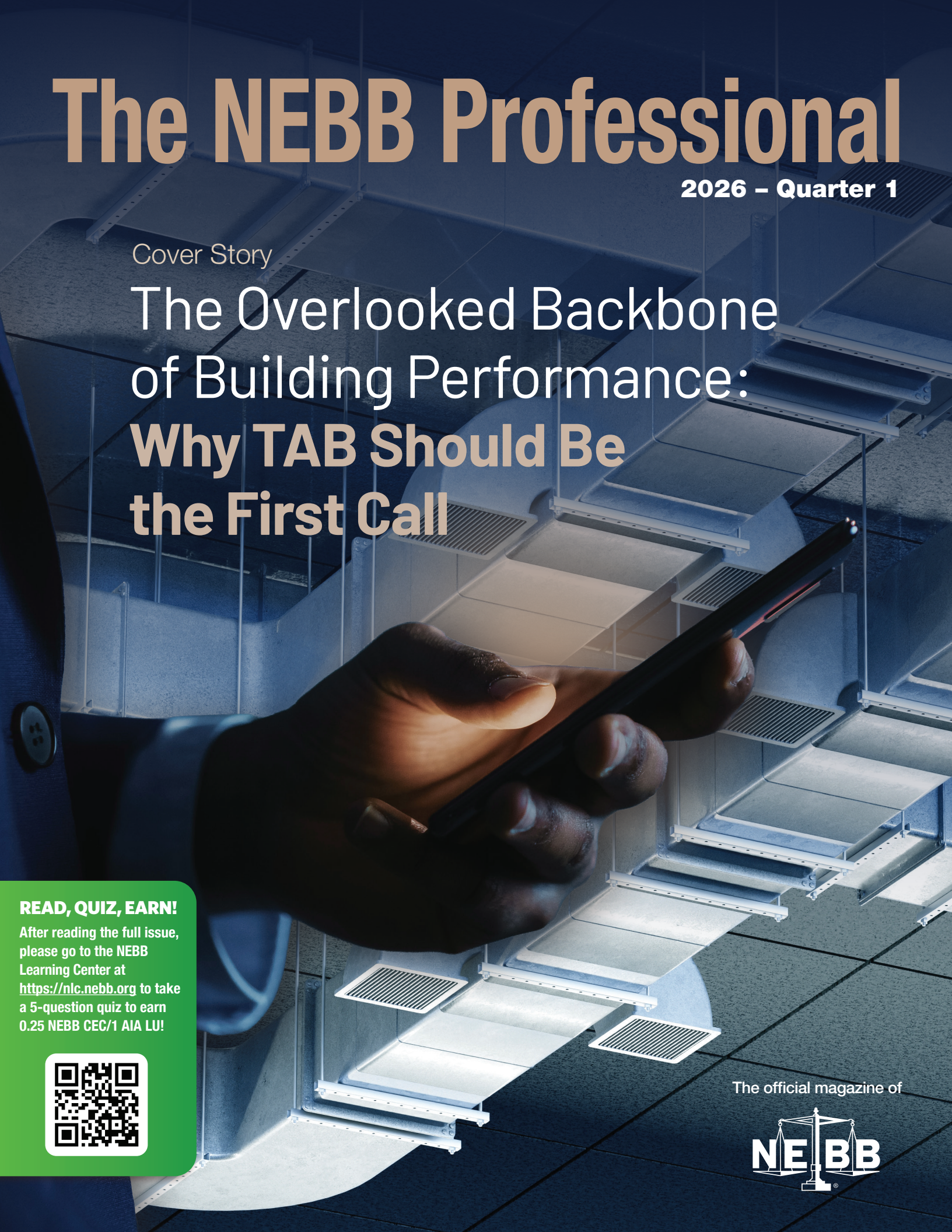
The NEBB Professional

2026 – Quarter 1

Cover Story

The Overlooked Backbone of Building Performance: **Why TAB Should Be the First Call**



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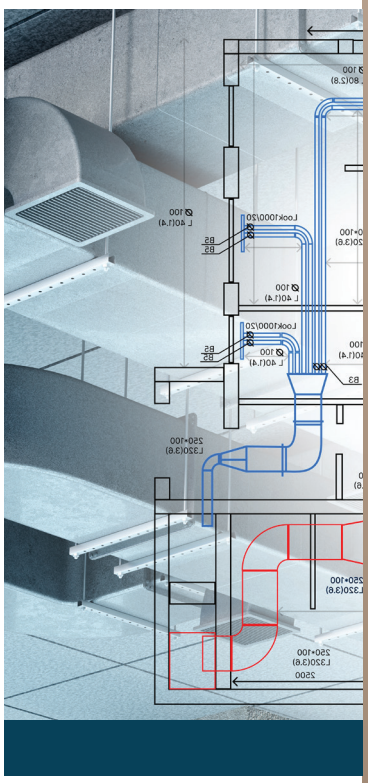
Contents

Quarter 1 – 2026

Features



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President's Message


Rodney Hinton

Hello NEBB Community!

As the old saying goes, "*Time flies when we're having fun with those we trust.*" This raises an important question: what is the value of trust?

I took my TAB practical test back in 1991, I remember sitting face-to-face with Mr. Chester Thomas in Macon, Georgia. I was young and he made a very lasting impression on me by reminding me that my work represents him and so many others, including George Hightower, who was a member of the chapter. If you don't know who George Hightower is, I encourage you to look him up.

Mr. Thomas told me, "*If I must ever investigate your work, it better be repeatable and represent NEBB standards.*" After my test and interview, he looked me in the eye, shook my hand, and said, "I trust you, go do great work".

I have not forgotten the trust these gentlemen placed in me to represent the NEBB brand.

Recently, I was approached by a NEBB TAB CP, Chase Mealor, with a question, "*How do you sleep at night?*" After a brief discussion, he pointed out that my personal signature will be included in every NEBB certified report. My name, and NEBB, appear on every Certified Individual and Firm certificate for 2026.

I am honored, as this is the ultimate form of trust: allowing individuals, many whom I have never met, to use my signature to represent their work.

Each of you represents all who are, have ever been, and hope to "BEE" NEBB certified. It is up to all of us to maintain and exceed NEBB's written standards. This applies to Certified Professionals, Certified Technicians, Certified Firms, and Chapter Boards alike.

We trust you, and ask that you support us, our Board of Directors and NEBB HQ in living out our mission:

"To develop and maintain Procedural Standards, training programs, and certification programs that establish guidelines, requirements, and competency for firms and individuals who provide performance verification and enhancement to the built environment."

As 2026 President, I lead at the discretion of, and represent, a Board of Certified Professionals that is tasked with upholding our By-Laws and Operating Procedures. In doing so, the Board carries a fiduciary responsibility to protect NEBB and to make decisions in the best interest of the organization as a whole. If you haven't reviewed these documents lately, I ask that you do so. They are available for download on the NEBB website.

We are a network of firms, professionals, and technicians who represent NEBB every day, across disciplines, across generations, and across the globe. This network is more than an organizational structure, it's a movement. And its strength depends on each of us.

Each firm is a standard-bearer. Each certified individual is a steward of NEBB's reputation. And each of you, through your work, your mentorship, your commitment, helps move us forward.

In the end our reputation is all that we have, and we will protect the NEBB brand.

I have a belief that "*If you take the fun out of fundamentals all you have left is 'damentals' and that gives me da headache*".

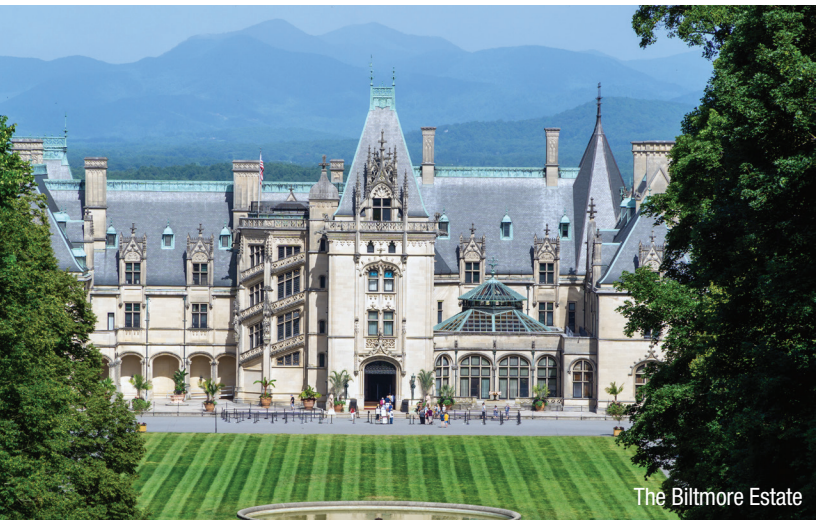
So, let's have some fun at the Annual Conference together!

As you have previously read, I am using the honeybee as a symbol for the 2026 Annual Conference, to be held in Asheville, North Carolina, on October 22-24, 2026. The honeybee is special due to its role as the world's primary pollinators, essential for producing 80% of flowering plants and sustaining ecosystems.

This is very similar to us in the work that we do, we validate (or "pollinate"), leaving our mark on facilities around the world. In short, we make an impact everywhere we go!

My goal is for this year's Annual Conference is to create a true homecoming event, one that welcomes those who have served, those who continue to serve, those who have never attended and those who may not have attended in some time.

As part of the experience, Asheville is home to America's largest single-family residence: the Biltmore Estate. With 178,926 square feet of floor space (including approximately 135,280 square feet of living space), this 250-room French Renaissance chateau was built by George Washington Vanderbilt II between 1889 and 1895. It includes 35 bedrooms, 43 bathrooms, and 65 fireplaces and sits on 8,000 acres.


The Biltmore Estate

If you are bringing a guest, we encourage you to share this opportunity with them. As part of creating a true homecoming experience, we are curating a thoughtful guest program, including a planned excursion to the Biltmore Estate, offering a chance to enjoy one of the country's most remarkable historic properties.

Our two-day technical seminar program will place a focused emphasis on hydronic balancing—an area of growing importance as more systems are designed with hydronics at their core. Much like the honeybee's role in sustaining and strengthening its environment, these sessions are designed to reinforce the fundamentals while advancing the knowledge and capabilities that allow each of you to continue making a meaningful impact in the built environment.

I chose Asheville due to the destruction that occurred on September 27, 2024, by Hurricane Helene. The storm produced 75 mph winds and severe flooding, resulting in 108 deaths and approximately $59.6 billion in damage across western North Carolina.

This community has demonstrated resilience in the face of significant hardship. As an organization, we have an opportunity to give back to an area in need.

I encourage you to support this effort by attending the NEBB 2026 Annual Conference.

You have my word; it will be worth your time!

Conference registration is expected to open in June, and we encourage you to be on the lookout for additional details. Should you have any questions, as always, please contact NEBB HQ or Tiffany Meyers, NEBB EVP.

***BEE** great representing NEBB!*

B - Believe in NEBB Values, Mission and Vision
E - Educate to NEBB Standards
E - Empower others to represent NEBB

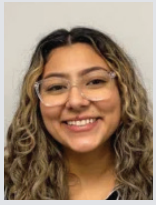
Rodney

CONTRIBUTORS

Rob Barrett is the founder of Specialized Air & Hydronic Balancing, a NEBB Certified Firm. He began his career in the HVAC&R industry in 1993, specializing in refrigeration service and installation before transitioning into Testing, Adjusting, and Balancing (TAB) in 2001. In 2007, Rob established his own firm, bringing a hands-on, detail-oriented approach to every project. He has been a NEBB Certified Professional for 15 years and is known for his commitment to accuracy, integrity, and advancing best practices in critical environment ventilation systems.

Mike Kelly is a NEBB Past President and Project Manager for Air Filtration Management. He is a NEBB Certified FHT and CPT Professional with over 40 years of experience in testing fume hoods, cleanrooms, biosafety cabinets, and HEPA filtered equipment.

John Fisher, Cx CP is a commissioning, startup, and NEBB-certified TAB technician in the Nashville, Tennessee area. He holds an AAS in Electrical Engineering and has experience with commercial, industrial, and healthcare HVAC and hydronic systems, with a focus on startup, troubleshooting, and performance verification.



Keiry Salgado is the Scheduling and Candidacy Coordinator for NEBB, in charge of reviewing candidate applications and scheduling exams.

Samantha Hawa, is the Exam Development and LMS Manager for NEBB and one of her primary roles is to manage NLC, the online learning platform. She has over 20 years of experience in managing various online training and education programs.

Jeff Schools is the Past President of NEBB and currently works with the NEBB Headquarters team, NEBB committee chairs, and Compliance members as NEBB Technical Director.

EVP Update

By Tiffany J. Meyers, NEBB Executive Vice President

One Standard, One Process. Strengthening NEBB Certification for the Entire Industry

Administrative updates to the firm application process reinforce consistency while reaffirming that NEBB certification remains open to qualified firms across the entire industry.

For decades, NEBB certification has served as the industry reference standard for building systems performance. That reputation has been built through the technical expertise of our certified firms, the dedication of our volunteers, and the strength of our Chapter network.

As Albert Einstein once observed, "*The measure of intelligence is the ability to change.*" As NEBB continues to grow and our certifications expand across disciplines and markets, it is important that the administrative processes supporting those programs evolve as well. Strengthening how certification applications are administered helps ensure that NEBB continues to operate under one consistent standard and process across the organization.

Recently, the NEBB Board of Directors approved an administrative update that supports this goal. Over the coming months, the administrative intake of all firm certification applications will transition from the Chapters to NEBB HQ, with full implementation scheduled for July 1, 2026.

This update applies specifically to the administrative intake and documentation review portion of the certification process. The objective is to strengthen consistency, transparency, and governance alignment across the organization while continuing to rely on the technical expertise and engagement of NEBB Chapters.

A Certification Program Open to the Entire Industry

NEBB certification is designed to serve the entire building systems industry. NEBB is an independent, nonprofit certification organization, and participation in NEBB programs is not affiliated with or limited by union or non-union status.

Firms and individuals who meet the published eligibility requirements may apply for certification regardless of labor affiliation, company structure, or geographic location. NEBB certification is based on demonstrated technical competency, documented experience, and adherence to established procedural standards.

This open and objective approach has helped make the NEBB brand widely recognized as a trusted indicator of professional capabilities across the building systems industry.

Why Centralizing Application Intake Matters

As NEBB's certification programs continue to expand in scope and recognition, ensuring that administrative processes are applied consistently across the organization becomes increasingly important.

Centralizing firm application intake at NEBB HQ allows eligibility requirements and documentation standards to be applied uniformly and objectively. Standardized procedures improve documentation review, applicant communication, record retention, and overall process transparency.

The updated structure also strengthens the separation between administrative eligibility review and technical evaluation, an approach widely recognized as a best practice among professional certification organizations.

These improvements help protect the integrity of the certification process while supporting the continued growth and credibility of the NEBB brand.

A Phased Transition

To ensure clarity for applicants and Chapters, NEBB is implementing a structured transition timeline.

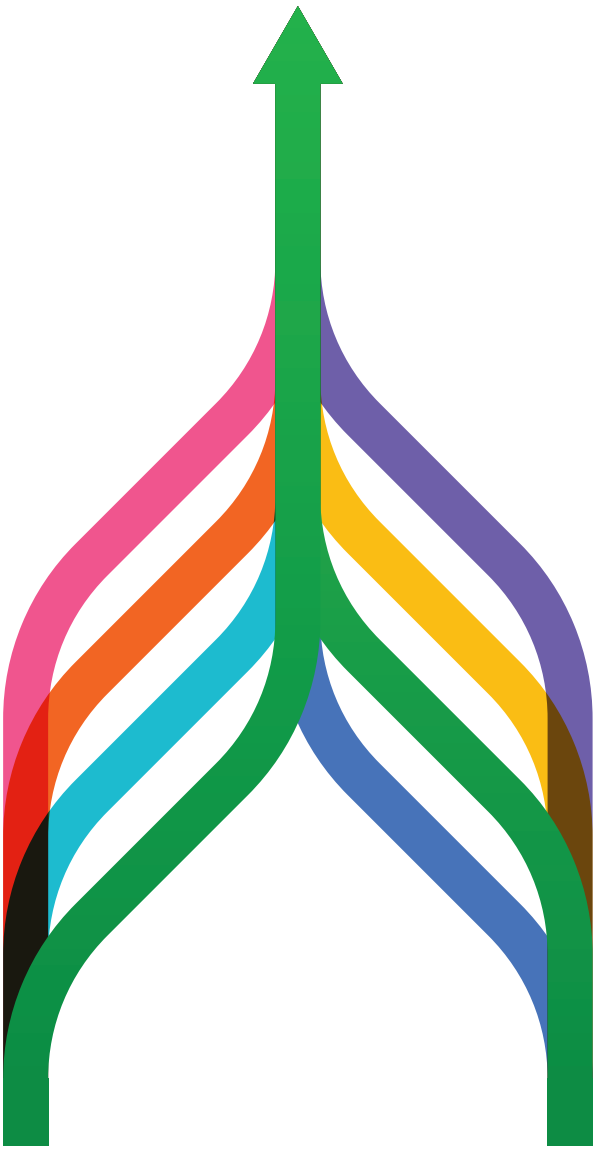
Applications formally submitted to a Chapter prior to May 1, 2026, will continue under the Chapter review process and must be finalized by June 30, 2026. Applications not formally submitted by that date will be directed to NEBB Headquarters for processing.

Beginning July 1, 2026, NEBB HQ will serve as the sole administrative intake authority for firm certification applications.

This phased approach provides a clear transition timeline while ensuring that applicants already in process are treated fairly.

Moving Forward Together

NEBB's strength has always come from collaboration, between NEBB HQ, Chapters volunteers, and the firms that proudly hold NEBB certification.



This administrative update represents the next step in ensuring that NEBB's certification programs continue to operate with the consistency, transparency, and credibility expected of a national industry reference organization.

By strengthening administrative infrastructure while preserving the technical leadership of our Chapters, NEBB is positioning itself for continued growth and enhanced industry confidence in the NEBB mark.

Together, we will continue advancing NEBB's mission, strengthening the consistency of our certification programs, and supporting the building systems professionals who rely on the NEBB brand every day. ●

The Overlooked Backbone of Building Performance: **Why TAB Should Be the First Call**

By Rob Barrett,
NEBB Certified Professional

Introduction

In the world of commercial buildings, every stakeholder has a different priority — and a different definition of what "working properly" means. HVAC service technicians zero in on equipment performance. Property managers balance tenant satisfaction with operational costs. Tenants care about comfort and the ability to run their business without disruption. But there is one discipline with a holistic view that ties all of these priorities together: Testing, Adjusting, and Balancing (TAB).

TAB professionals ensure that the building, as a living system, is functioning the way it was designed. When a building struggles — whether through comfort complaints, rising energy bills, air quality concerns, or pressure issues — the root cause often lies not in a single piece of equipment, but in the relationship between all the components. That's where a NEBB-certified TAB firm becomes invaluable.

This article explores how different building stakeholders approach HVAC issues, why these perspectives can be incomplete when taken alone, and how professional TAB work bridges the gap. We'll also discuss why property managers should make a certified TAB firm one of their first calls when a building begins showing signs of distress.

Four Stakeholders, Four Perspectives

HVAC Service Technicians: Focused on Equipment

HVAC service technicians are trained to troubleshoot equipment: fans, motors, coils, controls, and compressors. Their job is to make sure each device runs as intended. If a VAV box actuator fails or an AHU belt slips, they're the ones who find and fix it.

But equipment in good condition doesn't guarantee a good building. A perfectly operating air handler can still serve an imbalanced distribution system. A fan-powered terminal unit may

run flawlessly while still delivering incorrect airflow due to upstream issues. Service techs excel at fixing components — but buildings are more than the sum of their parts.

Property Managers: Focused on Cost, Operations, and Tenant Happiness

Property managers juggle budgets, energy expenses, tenant expectations, preventative maintenance, and the smooth operation of the building. When the phone rings, it's usually because a tenant is hot, cold, or frustrated.

Their view is broad but not always deep into HVAC system performance. They rely on service contractors to diagnose issues quickly and cost effectively. When costs rise or complaints repeat, they often assume new equipment or repairs are needed — when in reality, the system may simply need to be balanced and optimized.

Tenants: Focused on Comfort and Productivity

Tenants want one thing: a space that is comfortable, stable, and conducive to their business. Hot/cold spots, stuffy conference rooms, negative pressure at entry doors, or whistling vents disrupt both comfort and productivity.

Tenants rarely care why the system isn't working — only that it gets fixed. But solving their discomfort often requires system-level insight beyond equipment service.

TAB Professionals: Focused on Total Building Performance

TAB is the discipline that views the building as a single, interconnected organism. A certified TAB professional evaluates:

- Airflow delivery
- System balance
- Pressure relationships
- Outside air intake
- Exhaust system performance
- Filtration effectiveness
- Equipment coordination
- Control sequences

Where service techs see components, TAB sees interactions. Where tenants feel symptoms, TAB finds root causes. And where property managers see rising costs, TAB identifies inefficiencies.

The Building as a System

Buildings breathe. Air moves through them in patterns dictated by design, equipment, and real world usage. When these patterns break down, the building begins to fail — quietly at first, then loudly and expensively.

Why Equipment Focused Approaches Sometimes Miss the Problem

A building can have:

- A brand new air handler
- Replaced actuators and dampers
- Clean filters
- Well serviced VAV boxes

...and STILL suffer from negative pressure, poor ventilation, or uneven temperatures.

This is because the underlying issue is not equipment condition — it's airflow management.

A TAB professional looks at the entire distribution network, from the rooftop unit to the last diffuser. They evaluate whether the equipment, the duct system, and the control strategy are working together to meet the design intent.

Air Quality: The Invisible Priority

While tenants notice temperature, air quality issues are often invisible until they become severe. Poor ventilation can lead to:

- High CO_2 levels
- Stale or humid air
- Odor migration
- Increased illness and absenteeism

TAB verifies that outside air systems are functioning, ventilation rates meet code, and mixed-air strategies are performing correctly — something equipment checks alone cannot confirm.

Building Pressure: The Silent Trouble Maker

Improper building pressurization causes a long list of issues:

- Hard to open doors
- Drafts
- Humidity problems
- Infiltration of dust or odors
- Mold risk
- Excessive energy consumption

A service technician can adjust components that influence pressure, but only a TAB professional tests and balances the building to maintain proper pressure relationships.

How TAB Identifies Root Causes

TAB professionals use instruments and procedures defined by NEBB standards to pinpoint problems such as:

- Underperforming exhaust fans
- Excessive relief airflow
- Blocked or improperly set outside air dampers
- Incorrect duct static pressures
- Equipment operating outside design parameters
- Imbalanced zones causing domino effect discomfort

These findings often reveal that what looked like an equipment problem was actually a system imbalance.

Why Property Managers Should Call a NEBB Certified TAB Firm First

When building issues arise, property managers can save time, money, and frustration by calling a NEBB-certified TAB firm early in the process. Here's why.

1. TAB Prevents Unnecessary Repairs and Costly Guesswork

A building out of balance can mimic equipment failure. Before investing in major repairs, TAB confirms whether the equipment is truly the problem or if the solution is an airflow adjustment.

2. TAB Reduces Energy Costs

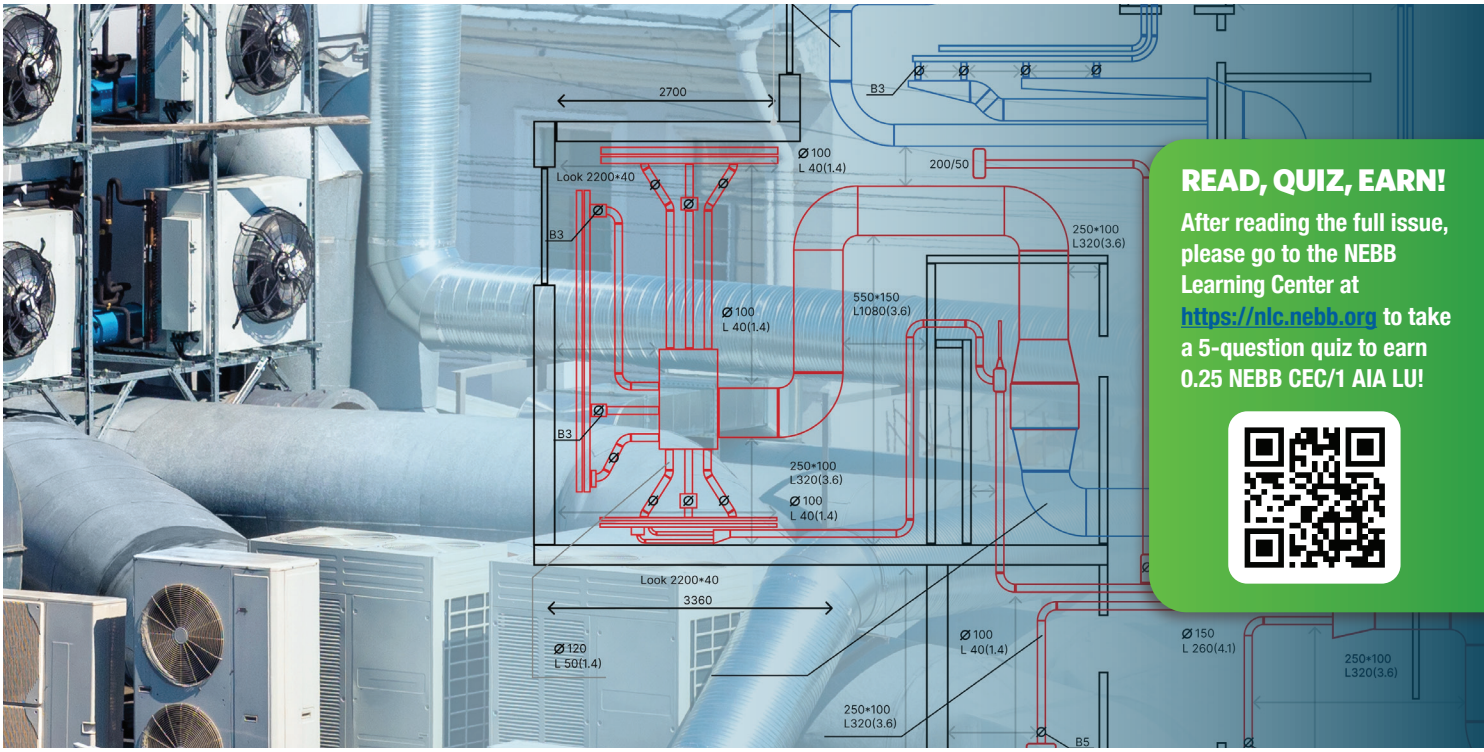
Balanced systems operate efficiently. Over ventilating, leaking ducts, improper outside air settings, or excessive static pressure all drive up utility bills. TAB identifies these inefficiencies and restores optimal operation.

3. TAB Improves Tenant Comfort — and Tenant Retention

Comfort complaints often stem from airflow issues, not equipment failures. A properly balanced building delivers consistent temperatures and stable ventilation, reducing call backs and dissatisfied tenants.

4. TAB Enhances Indoor Air Quality and Safety

NEBB standards ensure that ventilation, filtration, and pressurization are verified and documented. This protects tenants' health and reduces liability for building owners.



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5. TAB Supports Compliance and Documentation

NEBB-certified firms provide verifiable testing procedures, calibrated instruments, and formal reports. These documents help property managers:

- Demonstrate compliance with codes and standards
- Provide proof of proper system performance
- Build a history for long-term facility planning

6. TAB Offers a Holistic, Manufacturer Neutral Perspective

Because TAB focuses on system performance, not on selling equipment or service contracts, findings are unbiased. Property managers get clear, actionable information based on design intent and real performance.

Additional Technical Insights and System-Level Findings

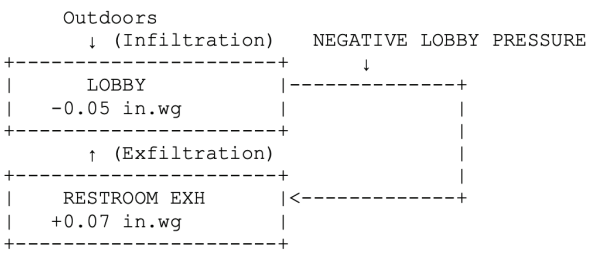
Deeper Look: Why Systems Fail Despite "Working" Equipment

Even when equipment appears to operate within manufacturer specifications, hidden imbalances can create systemic issues. In recent NEBB field studies, approximately 42% of comfort complaints were ultimately traced back to airflow imbalances rather than mechanical failures. Further analysis showed:

- **28%** of buildings had incorrect outside air damper positions.
- **34%** had VAV boxes operating outside of their design CFM ranges.
- **19%** showed fan-powered terminal units with ECM motors delivering significantly different airflow than published charts suggested.

These findings reinforce that equipment functionality alone does not ensure building performance.

Diagram: Typical Pressure Relationship Breakdown



What this illustrates: When lobby pressure goes negative, doors become difficult to open, humidity is pulled inward, and conditioned air is lost — increasing energy usage and decreasing comfort.

Diagram: Imbalanced VAV Distribution Scenario

```
AHU Supply: 20,000 CFM

 VAV1: 3,500 CFM  (OK)
 VAV2: 4,200 CFM  (HIGH)
 VAV3: 2,900 CFM  (LOW)
 VAV4: 3,000 CFM  (LOW)
 VAV5: 5,600 CFM  (VERY HIGH)

TOTAL: 19,200 CFM delivered vs. 20,000 CFM
expected
```

System effect: Even though the AHU is performing at design airflow, the building experiences hot and cold spots, excessive static in some branches, and low flow in others. A service tech may see "AHU airflow OK," but a TAB professional sees a distribution failure.

More Technical Detail: Key TAB Diagnostic Measurements

A certified TAB professional performs measurements that equipment-focused technicians often do not include in standard service visits:

- **Pitot tube traverses** to determine true system airflow at AHU discharge.
- **Space pressurization tests** using micromanometers to confirm room-to-room and building-to-outdoor pressure relationships.
- **Ventilation verification** including outside air intake measurement and comparative CO_2 testing.
- **Fan curve plotting** to ensure equipment is operating on the intended performance curve.
- **Terminal device verification** (diffuser throws, NC ratings, actual vs. indicated CFM).
- **ECM motor profile testing** to validate airflow vs. programmed speed.

These procedures provide a full picture of how the building breathes and whether performance aligns with design intent.

Mini Case Study: The Cost of Skipping TAB

A 10-story office building experienced persistent hot/cold complaints. Service contractors replaced:

- 17 actuators
- 3 VAV controllers
- 1 return fan VFD
- Multiple thermostats

Cost to owner: **$38,000**, with no improvement.

A NEBB-certified TAB firm was finally called. Findings included:

- AHU supplying **15% more outside air** than design.
- Return fan tracking improperly, causing **negative building pressure**.
- Five VAV boxes with incorrect minimum flow settings.
- Three VAV's with incorrect K Factors.

Two days of TAB work resolved the issues.

Savings vs. continued guesswork: **Over $30,000.**

Conclusion

Every stakeholder plays a critical role in building performance — the HVAC technician ensures equipment health, the property manager ensures operational efficiency, and the tenant depends on comfort and reliability. But the TAB professional is the bridge that brings all those priorities together.

When a building struggles, calling a NEBB-certified TAB firm first is not just a good idea — it's the most efficient and cost effective path to restoring comfort, performance, and peace of mind. TAB doesn't just fix buildings; it protects investments, improves tenant satisfaction, and ensures the entire HVAC system delivers on its design promise.

By understanding the building as a system — not just a collection of machines — TAB remains the foundation of long-term building health.

2025 NEBB Annual Conference Recap

By Mike Kelly

After 18 months of planning, the 2025 Annual Conference in Memphis was finally here and I personally feel it was a great success. That success was due to the great team that worked on all the details, large and small, as our Annual Conference continues to be the premier event bringing people in our industry together to network, collaborate, learn and enjoy themselves. Our host hotel was the historic Peabody Hotel and it was filled with charm, elegance, gracious hospitality and rich history.

NEBB's 27th Annual Golf Tournament was held at the Colonial Country Club, which hosted over 30 PGA Tour Events. Lunch and the award ceremony were held in the afternoon.

At the opening session, I had the honor of presenting Mr. William Bailey with the George B. Hightower Distinguished Service Award. It is the highest honor NEBB can bestow on an individual and it was established to honor individuals who have served NEBB with distinction, given their time & talents, and proven their dedication to the organization and the industry's future through their exemplary service. We then heard from our keynote speaker Jim Craig, the goaltender of the 1980 USA Men's Olympic Gold Medal winning hockey team. Jim's message brought us inside the winning locker room and got us ready to win and not just compete. His real-life experiences helped drive the point that leadership isn't about individual success, it's that we all need to take responsibility for the betterment of our team.

All attendees and guests were invited to Elvis Presley's Graceland Museum for our Get-Acquainted Reception where we finished the evening with food, drinks and making connections (new and old). The venue was amazing as we were immersed in everything Elvis such as his automobile collection, movie memorabilia, stage wear, Elvis in the Army, gold and platinum records. I saw quite a few people leaving with bags filled with their purchases from the gift shop.

The following two days were packed with technical sessions, networking luncheons and visiting with the exhibitors. We had two panel discussions; one was with our committee chairs discussing how AI and Technology Affect the Future of NEBB and the other was Collaboration Between Leading Industry Organizations with the leadership of NEBB, ASHRAE and IFMA. Our technical sessions covered topics in all our disciplines and had great interaction between our speakers and attendees. We also had our Town Hall meeting where we heard updates from NEBB Executive Vice President Tiffany Meyers and all our committee chairs. We ended the Town Hall with the famous Jeff Schools Trivia Contest to win NEBB swag.

During our technical sessions, our guests went on a tour to see the sights and sounds of Memphis. It was a busy day as they went to Sun Studios, Rock 'n Soul Museum, Stax Studio, Lorraine Motel and Beale Street. Their day was capped off with lunch and mimosa's.

The conference ended with our Closing Session where my term as President came to an end and I was excited to introduce Rodney Hinton as NEBB's next President where he spoke about his theme for the upcoming year which is "Remaining Resilient During Changing Times".

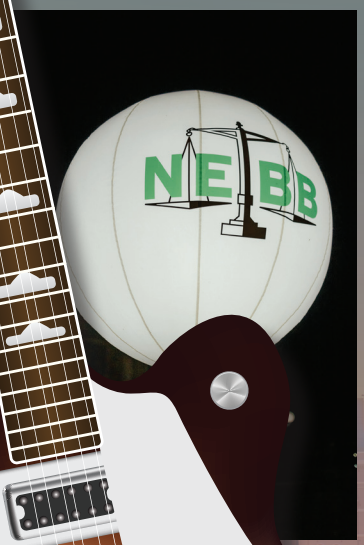
Thank you again to all attendees and everyone on the team that worked on the planning.

The 2025 NEBB Annual















Conference in Pictures







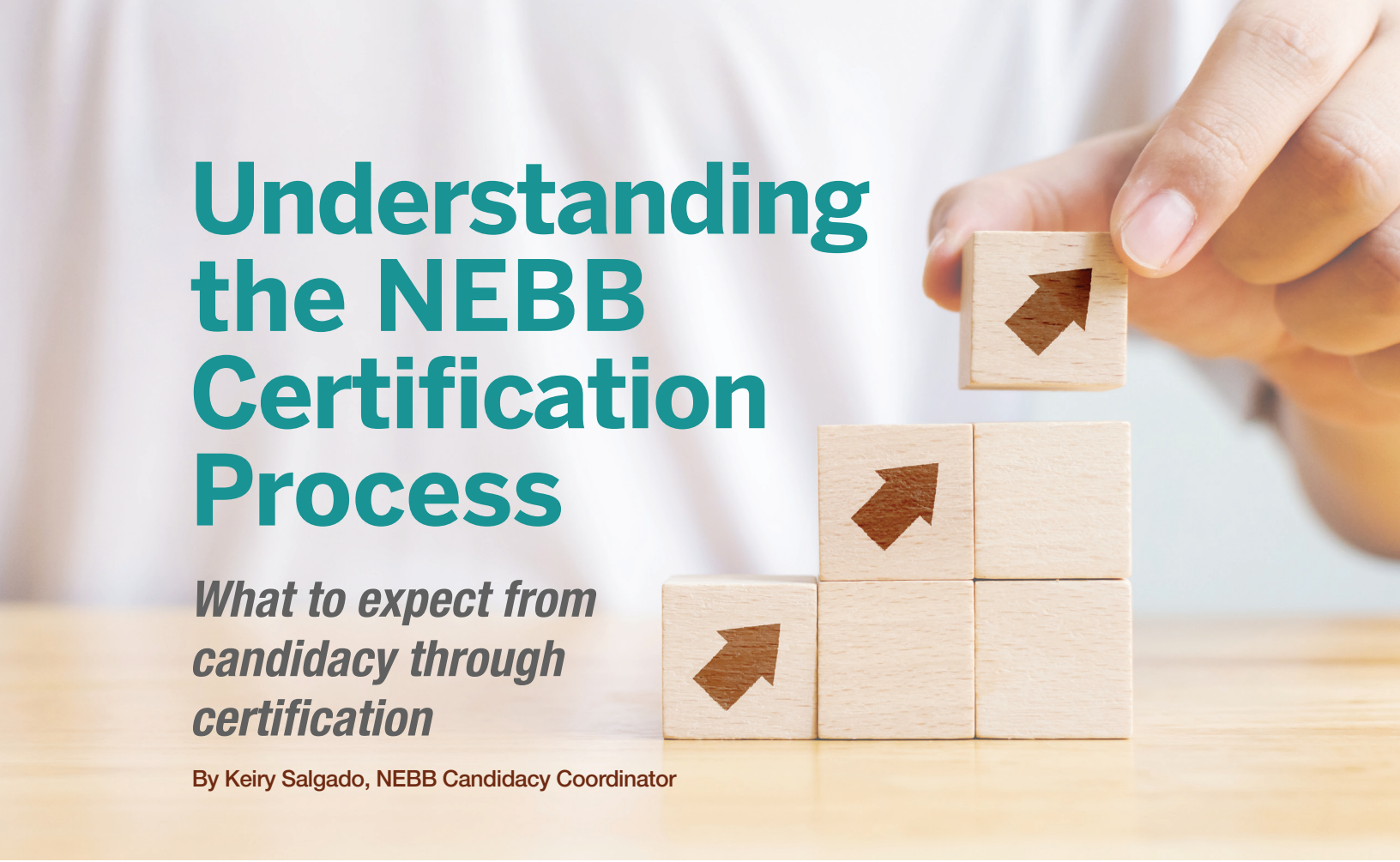










Understanding the NEBB Certification Process

What to expect from candidacy through certification

By Keiry Salgado, NEBB Candidacy Coordinator

Pursuing NEBB certification is a meaningful step in demonstrating professional competency, technical knowledge, and industry experience. While the process is structured, understanding each phase in advance can help candidates prepare complete submissions, avoid delays, and move efficiently from candidacy through certification.

The NEBB certification process progresses through three primary stages: candidacy application, examination, and certification application. Each stage plays a critical role in validating a candidate's qualifications and readiness to represent the NEBB standard in the field.

01 Candidacy Application: Building the Foundation

The certification process begins with the submission of a candidacy application along with all required supporting documentation. This initial step establishes whether a candidate meets the baseline qualifications necessary to move forward.

Applicants must provide documentation demonstrating relevant education aligned with the certification category, as well as a current resume outlining their professional background.

Training documentation may include completion of NEBB home study programs, hands-on training, seminars, or approved alternative training courses. Additional documentation from trade schools, technical colleges, apprenticeships, and other industry-related training may also be submitted for review.

Equally important is the experience section of the application. Candidates must clearly demonstrate sufficient and relevant work history aligned with the discipline under which they are applying. Incomplete or unclear documentation may result in the application being deferred until additional information is provided.

Candidacy applications are reviewed in the order they are received. Once the review is complete, candidates are notified of their status and invoiced by email.

"Clear understanding of the certification process allows candidates to move forward with confidence and efficiency."

02 Examination: Demonstrating Competency

Candidates who are approved for candidacy may proceed to the examination phase. To begin, candidates must request an exam invoice and specify the appropriate format (Imperial or Metric, where applicable).

Once payment is received, candidates are pre-registered in the SMT/Prometric testing system. Following pre-registration, candidates may schedule their exam at a convenient SMT/Prometric testing center.

Examinations are computer-based and scored upon completion. Candidates receive an immediate pass/fail result at the testing center, with official confirmation subsequently provided by NEBB Headquarters.

03 Certification Application: Completing the Process

Candidates who successfully complete all required examinations—and any applicable practical components—advance to the final stage: the certification application.

NEBB Headquarters issues the certification application, which must be completed and submitted for review. As with prior stages, applications are reviewed in the order received. Upon completion of the review, candidates are invoiced and notified by email, marking the completion of the certification process.

Tips for Candidates

- **Submit complete documentation upfront to avoid delays in candidacy review**
- **Ensure experience is clearly aligned with the discipline you are applying for**
- **Keep training records organized and readily accessible**
- **Respond promptly to requests from NEBB HQ for additional information**
- **Plan ahead for exam scheduling, especially when selecting testing locations**
- **Verify all requirements are met before submitting your certification application**

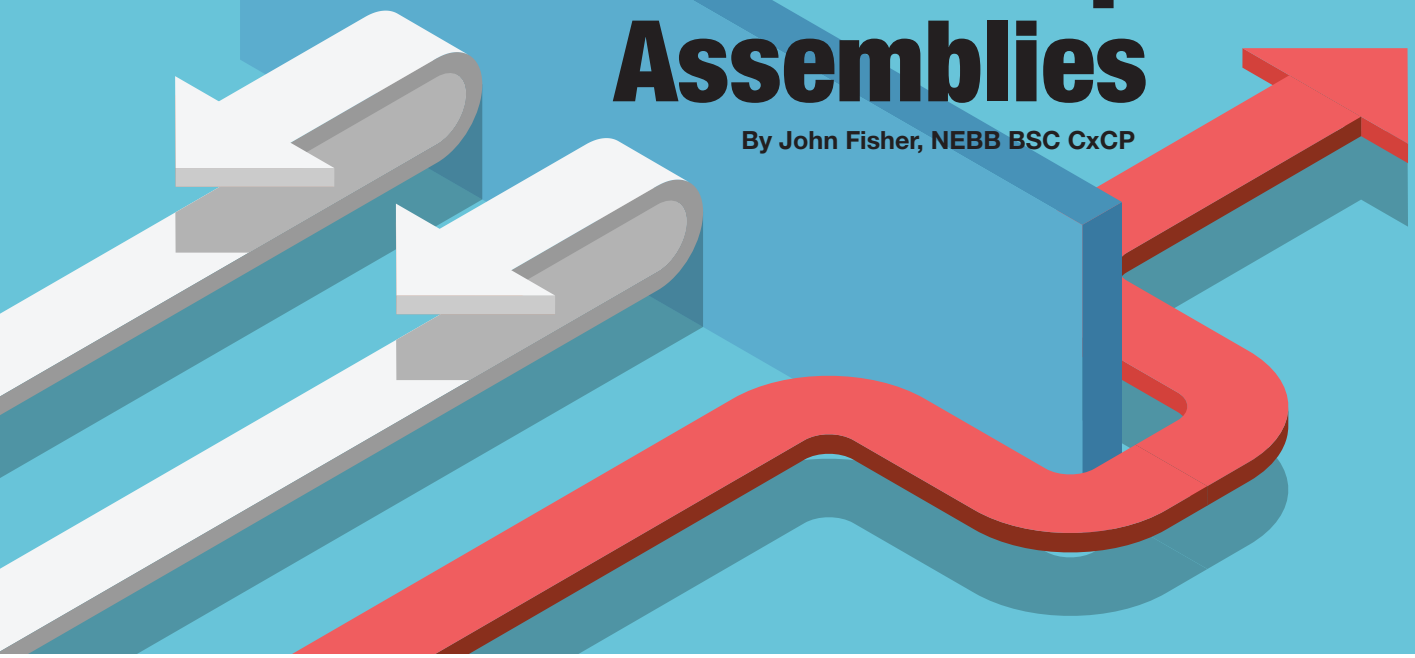
A Process Designed for Success

The NEBB certification process is designed to ensure that every certified individual has demonstrated the education, training, and experience required to uphold NEBB standards. By understanding each stage and submitting complete, well-documented applications, candidates can move through the process efficiently and position themselves for success. ●

WAR STORIES

The Troubled Pump Assemblies

By John Fisher, NEBB BSC CxCP



While working at a new chiller plant at a local hospital near Nashville, Tennessee, I was assisting with the startup of two vertical inline centrifugal pumps piped in parallel to the Condenser system of a Variable Primary system. We planned to utilize these pumps to flush the Condenser piping system. Temporary bypasses were installed for the cooling towers and chillers so that the flush chemical would not circulate into these devices. Both pumps were required for the flush to accommodate the 4-5 FPS velocity requirement for the open loop piping system, as spelled out in the specifications. Each pump was designed for 75' Head at 3,200 GPM. The required flow was 6,400 GPM to obtain 5 FPS on the 24" piping system.

Prior to startup, all tag data for the VFDs and pumps were confirmed to match the submittal data. The suction diffusers were opened to confirm that the strainers could be removed for maintenance access, and to verify that a startup screen was installed from the factory. The orientation of the check valves was verified, and the isolation valves were confirmed to be open to allow a path of flow for each pump. The line voltage supplying the drive was confirmed, and all wiring connections were tightened. The system was filled with water, and all air was vented out of the system. The standing static pressure was 100 PSI for this 17-story building. The initial startup was performed with the main system cooling tower bypass fully open.

After the settings were entered into the drive and rotation for each pump was verified, we ran into an issue during the initial full load test. The 100 HP motors were rated for 113 full load amps at 460 volts, but the drives for both pumps were locking out on an overcurrent fault around 26 hertz. At that frequency, we should not have been near full load amps, so we knew something was wrong beyond normal system conditions.

Normally, I would suspect that the motors could be field wired for low voltage rather than high voltage, but these were single voltage rated motors. The motors were wound specifically for 460 volts from the factory, and there were only three wires to connect in the field. Nevertheless, we double-checked all the field

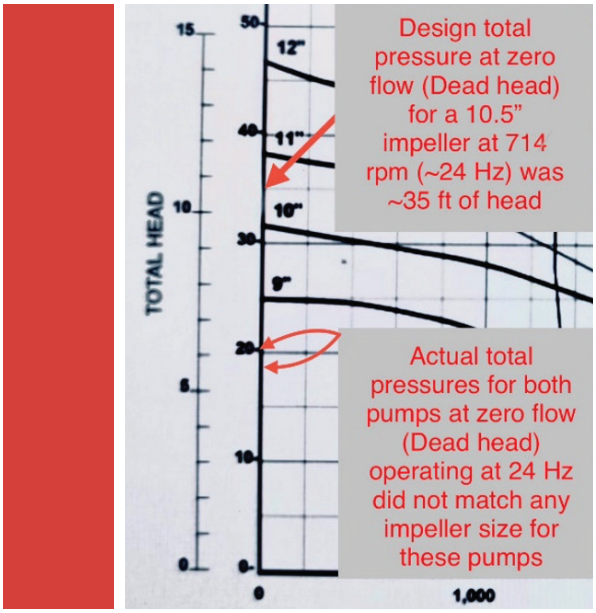
wiring connections, verified drive settings, and double-checked pump rotation.

My initial thought was that the impeller could be improperly set and rubbing against the inside housing, but both pump shafts could be easily turned by hand with the pump off. While running at 24 hertz, the pumps were cavitating, and the amperage was 96 amps. We also had a field installed ultrasonic flow device on the piping, and it was reading approximately 1,100 GPM at 24 hertz while we were having these issues.

There was no head pressure on the system because we were still going through the main cooling tower bypass. To confirm that the cavitation was not occurring due to the pump operating off of the design curve, I closed back on the bypass to add head to the pumps, but both pumps continued to cavitate and over amp.

At this point, if the pump and motor had been smaller, I would have just pulled the pump to check the impeller. But the impeller and motor together weighed around 1,500 pounds. So, I decided it would be best to get a rough estimation of the impeller size by getting an RPM pump curve from the manufacturer and performing a deadhead test at the highest RPM I was able to run the pumps at.

Based on the manufacturer's curves, at approximately 24 hertz the total head of these pumps should have been around 35 ft for a 10.5-inch impeller. The first pump had a total head of 20 ft at deadhead (238 ft discharge / 218 ft suction), while the second pump was only at 18 ft (220 ft discharge / 202 ft suction). The smallest impeller available for these pumps should have had at least 25 ft of total head at no flow. The low deadhead head confirmed the issue was internal to the pump, not the system.



After pulling the pump, I found that both impellers had been installed from the factory upside down. We went ahead and checked the chill water pumps that were sent out at the same time and found that those impellers were also installed upside down. To ensure that our flush continued as scheduled, all four impellers were sent to our machine shop to be removed from the shaft, flipped, and pressed back on. The manufacturer covered the expenses for the labor involved with testing and correcting this issue.

Once the impellers were reinstalled, the ultrasonic flow device read well above design flow with one pump running. With both pumps at 60 Hz, I was able to achieve a velocity of 8 ft per second (10,237 GPM) for the flush, well above the requirement.

In summary, we can always learn from testing systems and using that information to make informed, cost-effective decisions about what direction needs to be taken to correct issues we find in the field. This system was not performing, but by reviewing the actual field operating data and comparing it to the manufacturer's data, we were able to determine the cause of the problem and maintain the construction schedule. ●

The NEBB TOOLBOX

NEBB Branch Offices

Maintaining consistency and compliance as firms expand across locations

By Jeff Schools

As NEBB Certified Firms continue to grow and expand their presence, it is essential that this growth is supported by consistent application of NEBB standards and operational requirements. Maintaining this consistency ensures that the integrity, credibility, and value of NEBB certification remain strong across all locations. Understanding the requirements for branch offices is a key part of sustaining that standard.

"Every office represents the NEBB standard—and every project reinforces its reputation."

As we all know, NEBB Firms can certify work anywhere in the world, provided that the Certified Report is generated from a NEBB Certified office. As a Firm grows and expands into additional geographic areas, it may be necessary to open an office in another location. If you find yourself in this situation, the requirements for Certified Firms with multiple offices are outlined in the NEBB Operational Procedures.

For each NEBB discipline in which an office is publicly represented or promoted as providing NEBB services, the Designated Certified Professional (DCP) shall be a full-time, management-level employee of the Firm, located at and primarily working from the Firm address listed with NEBB. NEBB defines full-time employment as a minimum average of thirty (30) hours per work week. The DCP is responsible for ensuring that the NEBB Certified Firm, as well as all NEBB

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Certified Professionals and Technicians within the office they serve, perform services in accordance with all NEBB Procedural Standards and comply with these Operational Procedures.

The same Professional certified in more than one (1) discipline may satisfy this requirement for each discipline in which the Professional is certified.

Each branch office must comply with the instrumentation requirements set forth in the applicable Procedural Standards for each discipline in which the office is publicly represented or promoted as providing NEBB services.

Each office must affiliate with the NEBB Chapter having jurisdiction in the geographic area in which the office is located, including payment of Chapter and NEBB annual dues.

Additional offices are not required to be in business for one (1) year and are not required to submit letters of endorsement in order to become certified; however, they must be registered to do business in the state in which they are located.

Additional offices must have the same corporate ownership structure and the same legal corporate name as the first certified office of the Firm. Firms located outside the United States and its territories must provide equivalent proof of ownership.

Certified Firms found to be holding out or promoting an additional office without complying with the letter and spirit of these requirements will be subject to Administrative or Disciplinary Actions by NEBB, including decertification.

When expanding your NEBB footprint, please refer to the latest version of the NEBB Operational Procedures (19th Edition – Effective July 1, 2022), specifically Section 2.5, *Requirements for Firms with Multiple Offices*, for detailed guidance. ●

NEBB's Learning Center (NLC): Your Central Resource for Knowledge and CECs

By Samantha Hawa, NEBB Online Training Coordinator

The **NEBB Learning Center (NLC)** continues to expand as a valuable resource for professionals looking to strengthen their knowledge and maintain their certifications. The platform now offers **56 courses spanning every NEBB discipline**, giving members convenient access to training designed to support professional growth while earning **NEBB Continuing Education Credits (CECs).**

An added benefit of the NLC is the opportunity to earn **American Institute of Architects (AIA) Learning Units (LUs)** alongside NEBB CECs. Through NEBB's partnership with the American Institute of Architects, **20 courses currently qualify for AIA LUs,** allowing participants to meet multiple continuing education requirements through a single platform.

If you were unable to attend the **2025 NEBB Annual Conference in Memphis,** you can still take advantage of several of the educational sessions that were presented. **Four conference sessions are now available in the NLC,** giving members the opportunity to access this content and earn both NEBB CECs and AIA Learning Units.

The NLC includes a mix of **complimentary learning resources as well as premium courses available for a modest fee,** making it easy for members to find training that fits their needs. Below are several courses that have been added over the past few months.

Recently Added Courses

FHT Airflow Velocity Testing Requirements – Part 1 & Part 2 (1 CEC)

This course reviews the tools and techniques used to conduct successful face velocity testing and explains the differences in testing procedures for **constant air volume (CAV)** and **variable air volume (VAV)** fume hoods.

FHT Fume Hood Types – Part 1 & Part 2 (1.5 CECs)

This course covers the fundamentals of fume hood types and configurations, providing a better understanding of how these systems operate and what needs to be considered when performing proper testing.

FHT Laboratory & Cleanroom Protocol and Safety

Participants will learn about the standard procedures and safety measures required when entering laboratory environments containing fume hoods. The course also reviews how safety policies and procedures are implemented and outlines the responsibilities of those working in laboratory settings.

FHT NEBB Certified Report (0.5 CEC)

This course reviews the requirements for producing a **NEBB Certified Report for Fume Hood Performance Testing,** including documentation expectations and reporting standards.

FHT Review of Testing Requirements (0.5 CEC)

This course outlines the requirements needed to ensure system readiness prior to conducting fume hood testing. It also reviews **test setup modes** and highlights key differences between **ASHRAE 110-2016** and **ANSI Z9.5.**

FHT Tracer Gas Containment Testing Requirements (1 CEC)

This course discusses the tools and techniques used to conduct successful tracer gas containment testing and explains proper procedures for documenting and reporting results.

To create or access your NLC account, please visit:https://nlc.nebb.org.

If you have any questions about the NEBB Learning Center or available courses, please feel free to reach out.

Chapter News

MAEBA Chapter

Trish Casey, Chapter Coordinator

2026 in Philadelphia, part of the MAEBA Chapter, is going to be a huge year! The Lincoln Financial Field is hosting six FIFA World Cup games in June and the celebration of the country's 250th birthday is on July 4th. Do not forget the MLB All-Star Game will be here too! These events should keep our firms busy this year.

This year MAEBA will be holding their Annual Recertification Seminar September 27-28, 2026, at Live Casino and Resort in Philadelphia, PA. The Recertification Seminar will begin on Sunday evening, September 27th with a dinner reception.

On Monday, September 28th, the seminar will begin after breakfast with a safety presentation followed by a national update from NEBB. Some of the topics being presented at the seminar will be Antec Controls, Safety Presentation, plus more to come.

Suppliers won't want to miss the extended lunch with Vendor Displays! This is a great opportunity for attend-

Live Casino and Resort in Philadelphia, PA

ees to meet the vendors and learn about the latest and greatest equipment and software the vendors have to offer. Notices will go out in early summer.

Florida EBB Chapter

Terry Wichlenski, Chapter Coordinator

Florida EBB (FEBB) has announced our 45th Recertification Sessions and Vendor Expo for May 14 - 15, 2026 at the Omni Champions Gate Orlando. NEBB President, Rodney Hinton will be providing us with the NEBB Update and doing a great session too. We will also be in our fourth year of having a second track for our Certified and Non-certified Technicians. Come join us in 2026!

Omni Orlando Resort at Champions Gate

We are working on our schedule for the NEBB TAB Practical Exam Dates and place them on our website as well as NEBB's website shortly.

For more information, please contact the Florida EBB Chapter Coordinator, Terry Wichlenski at 727-240-4254 or febbchapter@nebb.org.

Keep in mind, if there are at least two candidates interested in other dates please have them reach out to Terry as we do try to accommodate the candidates when possible.

Bonneville EBB Chapter

Shelley Lester, Chapter Coordinator

Bonneville EBB will hold their annual meeting and recertification seminar in Salt Lake City, Utah Friday, April 10, 2026. Registration is now open and CPs and CTs from all chapters are invited to attend. We are excited to have NEBB TAB Committee Chairman and Board of Director Don Pittser joining us to provide NEBB updates. Joe Stagg of IHS will offer 4 hours of education on hydronics including live demonstrations in IHS's hydronics lab and members of Utah ASHRAE will join for lunch and a 1-hour informative round table where contractors, engineers, commissioners, and balancers can openly share ideas on what practices best contribute to the overall success of a seamless project from design to finish.

To register contact Shelley Lester at bonnevillechapter@nebb.org. ●

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2026 NEBB TECHNICAL SEMINAR SCHEDULE

APRIL
Building Systems Commissioning (CxCT)
April 13 - 15, 2026
NEBB TEC, Gaithersburg, MD

MAY
Fume Hood Performance Testing (FHT)
May 11 - 12, 2026
NEBB TEC, Gaithersburg, MD

Testing, Adjusting, and Balancing (TAB CP)
May 28 - 31,2026
NEBB TEC, Gaithersburg, MD

JUNE
Building Systems Commissioning (CxCP)
June 15 - 17, 2026
NEBB TEC, Gaithersburg, MD

AUGUST
Retro-Commissioning for Buildings (RCx)
August 17 - 20, 2026
NEBB TEC, Gaithersburg, MD

Cleanroom Performance Testing (CPT)
August 24 - 26, 2026
NEBB TEC, Gaithersburg, MD

SEPTEMBER
Testing, Adjusting, and Balancing (TAB)
September 17 - 20, 2026
IMI Training Center, Irving, TX

Sound and Vibration Measurement (SV)
September 21 - 24, 2026
NEBB TEC, Gaithersburg, MD

Building Enclosure Testing (BET)
September 28 - 30, 2026
NEBB TEC, Gaithersburg, MD

OCTOBER
Testing, Adjusting, and Balancing (TAB CT)
Oct 19 - 21,2026
Renaissance, Asheville, NC

If you are interested in attending a seminar, follow these simple steps:

1. Go to www.nebb.org click on events and select your seminar.
2. Download the brochure and register through the Certelligence Portal.
3. Questions? Please contact us!