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Introduction


NEBB Personnel Certifications are designed to recognize individuals who have demonstrated the experience, knowledge, and skills necessary to provide competent testing and tuning of building systems as defined for each discipline. Certified Professionals understand the standards and specifications for work in their discipline, are qualified in the proper methods and procedures for their discipline, and understand how to use properly calibrated equipment to establish, accurately measure, and verify building systems performance. Certified Professionals represent their firms in matters related to their discipline to provide accurate and reliable reporting. Certified Technicians, working with Certified Professionals, provide another quality level of professionalism on the HVAC team.

NEBB Certifications
Certified Professionals (CPs) in the various disciplines represent their firm on a wide variety of building performance matters. NEBB Certificants:
- Develop and plan the work
- Handle report preparation
- Recommend corrective action
- Set the overall safety plan
- Maintain instruments and calibration program,
- Have experience with control strategies, sequences of operation, control systems, equipment and software
- Review, check, and sign the final report.

NEBB Certificants – whether the Certified Professional (CP) or the Certified Technician (CT) - meet a combination of education and/or experience requirements and demonstrate their knowledge within their specific certification by passing the appropriate examination.

NEBB represents professionals who seek to augment their qualifications by seeking certification in any number of NEBB certifications, which include:
1. Building Enclosure Testing Certified Professional (BET CP): Appendix A
2. Building Systems Technical Commissioning Certified Professional (BSC CP): Appendix B
3. Building Systems Commissioning Certified Technician (CxCT): Appendix C
4. Cleanroom Performance Testing Certified Professional (CPT CP): Appendix D
5. Cleanroom Performance Testing Certified Technician (CPT CT): Appendix E
7. Fume Hood Performance Testing Certified Professional (FHT CP): Appendix F
8. Retro-Commissioning of Existing Buildings Certified Professional (RCx-EB CP): Appendix G
9. Sound Measurement Certified Professional (SM CP): Appendix H
10. Sound Measurement Certified Technician (SM CT): Appendix I
11. Testing, Adjusting & Balancing Certified Professional (TAB CP): Appendix J
12. Testing, Adjusting & Balancing Certified Technician (TAB CT): Appendix K
13. Vibration Measurement Certified Professional (VM CP): Appendix L
14. Vibration Measurement Certified Technician (VM CT): Appendix M

NEBB Certification Board
The NEBB Certification Board (CB) independently oversees all NEBB Personnel certification programs and is responsible for essential decisions related to certification standards, policies, and procedures. The CB is committed to the development, delivery and implementation of certification policies and programs that are applied consistently and are fair, impartial, and hold all individuals to the same standard.

NEBB and its Certification Board are committed to ensuring that all certification activities are conducted with impartiality, independent of any undue influence or conflict of interest. NEBB certification programs are developed and administered following “Best Practices” as defined by the International Standard ANSI/ISO/IEC 17042 Conformity assessment – General requirements for bodies operating certification of persons.

Using the NEBB Comprehensive Certification Candidate Handbook
This Certification Candidate Handbook is designed to give the Applicant a broad overview of NEBB’s certification process, combined with specific details pertaining to the various procedures and guidelines within the process of achieving individual certifications.

To obtain the most from the information provided, Applicants are encouraged to read through the entire comprehensive Certification Candidate Handbook first and then reference specific certification Appendices which are located in alphabetical order at the back.

The pathway to NEBB certification is a richly rewarding experience which requires advance planning and sequencing of time. Applicants should begin the application process as soon as possible and allow time for processing of applications, verification of pre-requisite requirements and other details. If at any time during the process an Applicant has questions, they should contact the Certification Department at certification@nebb.org.

The NEBB Certification Board and the NEBB Board of Directors wishes the best to each Applicant who decides to pursue NEBB certification – a continuing standard of excellence within the industry.
Section 1: Certification Overview

What is Certification?
NEBB certification programs are designed to recognize individuals who have demonstrated the experience, knowledge, and skills necessary to provide competent testing and tuning of building systems.

Benefits of Certification
NEBB personnel certification provides contractors building owners, architects, and engineers a reliable basis for acquiring building systems services. Certification promotes proper execution of projects and compliance with NEBB Standards and Procedures and demonstrates technical and practical working knowledge and proficiency.

Eligibility Criteria
Those who apply for any NEBB certification program are considered “Applicants” and must meet the specific pre-requisite requirements of that certification program, be it education and/or professional experience, and submit documentation which verifies eligibility. Applicants meeting all eligibility requirements are granted “Candidate” status. Candidates are required to pass all necessary exams, adhere to a Code of Ethics and Professional Conduct as part of earning certification.

For specific details pertaining to each NEBB certification, please refer to the appropriate Appendix located at the back of this Certification Candidate Handbook.

Education and Training
Education and training within a specific discipline helps to broaden the scope of the Candidate’s knowledge, skills and abilities. However, training provided by NEBB is not a requirement for certification.

NEBB Affiliation
Affiliation with NEBB, or membership in any other organization, is not a requirement for NEBB certification.
Section 2: Steps To Certification

Step 1: How to Apply
Once an Applicant has obtained the required pre-requisite education and training for a specific certification, they may obtain the appropriate Application for Candidacy, by visiting www.nebb.org, or emailing certification@nebb.org.

The first step of the certification process is to complete and submit the Application for Candidacy form which can be obtained online or by emailing certification@nebb.org. Application processing takes time; Applicants are encouraged to start the process as soon as possible.

Step 2: Application Processing – From Applicant to Candidate
Information provided in the Application for Candidacy and supporting documentation will be used to determine the Applicant’s compliance with the established pre-requisite eligibility requirements.

The Application for Candidacy form, all supporting documentation, and a non-refundable application fee must be submitted in accordance with the Application instructions available on the form.

Applicants are required to sign the NEBB Code of Conduct and NEBB Agreement to Arbitrate and acknowledge having read and be bound by NEBB’s current Bylaws, Operational Procedures and Procedural Standards. Applicants can email their completed packet to certification@nebb.org to mail to NEBB c/o Certification Department, 8575 Grovemont Circle, Gaithersburg, MD 20877. Please retain a copy of all submitted materials.

Applicants will receive a confirmation email when the application has been received. After initial review of the application and materials, Applicants will be notified that either their application is:
1. Complete and approved or
2. Incomplete and requires additional information or documentation, or
3. The application fee payment is required for the Application to be considered complete, or
4. Declined due to ineligibility.

Once the Application for Candidacy is approved, Applicants are considered “Candidates” and will receive an email confirmation along with instructions for registering and scheduling their specific exam. The email will include authorization to take the exam along with specific information about the date, time and location of the exam, be it online taken at a Kryterion Test Center or as a paper-based exam at a specific NEBB event.

Confirmations, notifications, examination scheduling instructions and other important notifications will be sent to the email address indicated on the application form.

NEBB reserves the right to verify any information submitted with an application and to request further information or documentation from the Applicant as needed.
Eligibility Appeals
Applicants who have submitted a completed Application for Candidacy and who are notified that they do not meet the eligibility requirements may appeal this decision by sending a written notice of the appeal to the Certification Director at certification@nebb.org within 30 days of the adverse eligibility decision.

Appeals that cannot be resolved to the Applicant’s satisfaction will be forwarded by the Certification Director to the Certification Board for review along with any relevant information from the initial review of the application.

Written notice of the final decision will be sent to the Applicant within 30 days of receipt by the Certification Board. The decision of the Certification Board is final.

Step 3: Study and Prepare
Candidates are encouraged to prepare for their exams through a combination of self-study, attendance at industry training events or participating in study groups that will enhance their area of knowledge and expertise. A wide variety of publications are available at www.nebb.org. More information can be found in Section 3 and in the appropriate certification Appendices located at the back of this Certification Candidate Handbook.

Step 4: Scheduling Exams: Written & Practical
Each NEBB certification requires an exam, be it computer-based or paper-based, and in some cases is combined with a practical written exam or a practical hands-on exam.

1. **Computer-based Written Exams** may be taken at Kryterion test centers located worldwide.
2. **Paper-based Written Exams** are offered at specific NEBB events held throughout the year.
3. **Practical Hands-on Exams** may be taken at a designated test center.
4. **Practical Written Exams** may be scheduled at a national test center OR at a specific NEBB event.

**Computer-based exams** are offered on demand at more than 350 test centers within the United States and more than 700 test centers worldwide. Specific, computer based, exams locations are listed on Kryterion’s website: [http://www.kryteriononline.com](http://www.kryteriononline.com).

**Paper-based exams** are also made available periodically in conjunction with NEBB events, such as specific discipline seminars or the NEBB Annual Conference. Many of NEBB’s certification programs require a **practical exam in addition to a standard written exam**. Practical exams can be administered in two forms:

1. Written Practical or
2. Hands-on Practical

**Written Practical Exams** can be scheduled through NEBB at Kryterion Test Centers or at select locations throughout the U.S. Contact the NEBB office or certification@nebb.org for more information.

**Hands-On Practical Exams** can be scheduled through the Candidate’s local Chapter or through a NEBB Chapter closest in proximity.
Exam Cancellations, Rescheduling & Refunds

**Paper-based Exams:** Cancellation of a paper-based examination must be done directly through the NEBB office prior to the NEBB event. No refunds will be made for examinations at NEBB events cancelled after the NEBB event registration deadline, or failing to appear as instructed.

Requests to withdraw an application or to cancel a paper-based exam must be received in writing no later than 72 hours prior to the scheduled examination at a NEBB event.

**Computer-based online exams:** To reschedule a computer-based exam, Candidates should log into their profile, and reschedule the exam according to the instructions provided. Computer-based exams may be rescheduled by the candidate up to 72 hours before the scheduled exam. Under 72 hours, please call the NEBB office to reschedule. No refunds will be made for cancelled computer based exams.

<table>
<thead>
<tr>
<th>Exam type</th>
<th>Reschedule policy</th>
<th>Cancellation policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer-based</td>
<td>Go online, change date, no change fee if &gt; 72 hours, $ fee if &lt; 72 hours.</td>
<td>Cancel online. No refund</td>
</tr>
<tr>
<td>Paper-based</td>
<td>Call NEBB office at least 72 hours before, no change fee</td>
<td>Call NEBB office. No refund</td>
</tr>
<tr>
<td>*Practical or Hands On</td>
<td>Email <a href="mailto:certification@nebb.org">certification@nebb.org</a></td>
<td>Email <a href="mailto:certification@nebb.org">certification@nebb.org</a></td>
</tr>
</tbody>
</table>

**Practical Exams:** In addition to the traditional written exam, select NEBB certifications require what is termed a “practical” exam. These unique and content-specific exams can either be a Practical “Written” Exam, a Practical “Hands-On” Exam or a combination of both. For a more detailed explanation of practical exams, please consult the appropriate Certification Appendices located at the back of this Certification Candidate Handbook.

Exam Fees
A current exam fee schedule may be requested through NEBB by contacting certification@nebb.org.

Step 5: Awarding of Certification
Upon successful completion of all the pre-requisite requirements and passing the certification exam(s), Candidates will receive notification about their new certification status. Sections 6, 7 and 8 cover the final aspects of awarding the certification, such as compliance and re-certification requirements.

Upon receiving formal notice of certification, Candidates are now known as “Certificants” and join the ranks of those who raise the level of professionalism with the HVAC and related fields.

Deadlines for Completion of Personnel Certification
Candidates have three (3) years from their initial exam date to pass all of the certification’s written and/or practical exams. After this time period expires, Candidates must wait one (1) year from the last examination attempt before re-applying for Personnel Certification.
After successful completion of the examination, Candidates have one (1) year to apply for their Personnel Certification and pay all related fees. If Candidates do not apply for Personnel Certification within one (1) year, Candidates will be responsible for paying a Certification Re-application Fee before being awarded Certification.

Section 3: Code of Conduct & Arbitration Agreement

All Applicants agree to the Code of Conduct (Code) and Arbitration Agreement as a condition of their Application for Candidacy which affirms their commitment to uphold the highest standards of personal and professional behavior. Violation of any portion of the Code may result in disciplinary action as outlined in the Disciplinary Policy.

Purpose
The Code of Conduct establishes the basic ethical standards for the professional behavior of certificants. The Code is designed to provide both appropriate ethical practice guidelines and enforceable standards of conduct for all certificants.

Code of Conduct

A. NEBB Certified Individuals shall:

1. When working for a Certified Firm, perform work in accordance with the NEBB Procedural Standards.

2. Perform work in accordance with NEBB Bylaws, and policies.

3. Prepare detailed reports, which are accurate and reliable in accordance with the appropriate NEBB Procedural Standards.

4. Report all equipment and system deficiencies, which prevent them from completing their work and preparing a final report, specifically and expressly noting in any preliminary report that it is preliminary and not final and not sealing any such report.

5. Report and address problems if encountered, and when a problem exists, notify appropriate project personnel by providing input as to the cause of the problem and recommend possible solutions.

6. Perform their services professionally and with respect for the client's property and personnel.

7. Not make misleading, deceptive, or confusing statements regarding their Personnel Certification status.

8. Not falsifying data or reports.
B. Confidentiality
No person who is a local chapter or national official, officer or committee member shall use confidential information gained in that capacity for any purpose other than performing the responsibilities of that person’s position. Use of such information for any other purpose is grounds for suspension or termination of any NEBB certification held by that person.

C. Adherence to Legal Requirements
1. Adhere to all applicable laws, regulations, policies, and ethical standards.
2. Refrain from discrimination in professional activities, including relationships with employees, employers, and other professionals.

D. Adherence to NEBB Policies & Requirements
1. Follow all Personnel Certification program policies, procedures, requirements and rules. This includes the obligation to be aware of and understand the Personnel Certification program policies and requirements.
2. Provide accurate and complete information to NEBB concerning certification and recertification.
3. Keep confidential all NEBB examination information; including preventing unauthorized disclosures of exam information.
4. Cooperate with NEBB and the Certification Board regarding matters related to the Code of Ethics, Code of Conduct and complaint and/or disciplinary investigations.
5. Accept responsibility for maintaining the credential through recertification and continuously uphold the Code of Conduct and Ethics.

E. Professional Performance
1. Recognize the limitations of one’s professional ability (based on education, knowledge, skills, experience, etc.) and provide services only when qualified to do so.
2. Properly use professional titles, degrees and all credentials and provide accurate and truthful information regarding education, experience, qualifications, and the performance of services.
3. Disclose any conflicts of interest or potential conflicts of interest and avoid conduct that could cause a conflict of interest.
NEBB ARBITRATION AGREEMENT

Applicant to become a Certified Professional / Certified Technician shall read and agree to the Arbitration Agreement stated below

Agrees that, if the Applicant Certified Professional / Technician fails to attain certification or, if certified, certification is subsequently suspended or terminated, all claims, controversies or disputes of any kind whatsoever arising from such failure, suspension or termination shall be resolved and settled by arbitration administered by the American Arbitration Association under its Commercial Arbitration Rules, including its Rules for Emergency Measures of Protection (to the extent that such Commercial and Emergency Rules are not amended or superseded by this provision).

The Applicant Certified Professional / Technician further agrees that an interim or final order or judgement on any order or award rendered pursuant to those Rules may be entered in any court having jurisdiction to do so (FOR PURPOSES OF JURISDICTION, THE FIRM CONSENTS TO PERSONAL JURISDICTION AND VENUE IN THE UNITED STATE DISTRICT COURT FOR THE DISTRICT OF MARYLAND OR THE CIRCUIT COURT FOR MONTGOMERY COUNTY MARYLAND). The arbitration shall be conducted and decided by a single arbitrator. The locale of the arbitration shall be in Washington, D.C. or its metropolitan area. Any judicial proceeding that the firm or NEBB institutes, in aid of arbitration or otherwise, shall be instituted in the United States District Court for the District of Maryland or the Circuit Court for Montgomery County, Maryland.

The Applicant Certified Professional / Technician further agrees that all claims, controversies or disputes shall be submitted to arbitration as provided for herein no later than thirty (30) days after the firm has been notified of said failure, suspension or termination (which such notification shall be deemed to have been made as of the date on which it was delivered to the Applicant Certified Professional by certified U.S. mail, email or facsimile transmission).

If the Applicant Certified Professional / Technician does not submit any claim, controversy or dispute that this provision covers to arbitration within said thirty (30) days, the firm hereby acknowledges that is HAS IRREVOBALLY WAIVED, ABANDONED AND RELEASED ANY SUCH CLAIM, and CONTROVERSY OR DISPUTE.

Authorized Signature                                    Print Name/Position                                    Date
Section 4: Exam Preparation

How NEBB Exams Were Developed

NEBB certification exams are designed to assess the knowledge, skills, and abilities required for certification. The Certification Board selects qualified Subject Matter Experts (SMEs) to participate in exam development activities. SMEs are selected based on their demonstrated expertise and participate throughout the exam development process.

Periodic job analysis studies are conducted to identify and validate the knowledge and skills measured by the exam on an ongoing basis. For each certification, a national job analysis study will be conducted periodically to ensure that the exam’s Body of Knowledge specific to each certification remains relevant and current.

Exam questions are reviewed and updated on an ongoing basis and are linked to the each certification’s Body of Knowledge. Questions are developed and reviewed by trained SMEs. Each exam question undergoes multiple rounds of review prior to being used on the exam. The Certification Board oversees a continual process of question writing, review, and evaluation to ensure that exam content remains up-to-date, accurate, and consistent with the content outline.

Studying for the Exams

Each certification exam covers specific content domains within the disciplines’ Bodies of Knowledge. Candidates are encouraged to review these areas listed in the specific Appendices in preparation for their exam.

1. All NEBB written exams consist only of multiple choice questions
2. Exams are designed to test recall skills and the Candidate’s ability to apply knowledge, interpret data, and solve problems.
3. Exams and certification program information documents are offered only in English.
4. Formulas and calculations are done in the Imperial Standard and are not yet available in Metric.

Exam Content Domains

Each NEBB certification exam is designed to be divided into content domains specific to the disciplines’ requirements. Content Domains may include, but are not limited to:

- NEBB Procedural Standards
- Equipment and measuring devices
- Calculations
- Functional and Pre-Functional Testing
- Professional Development
- Fundamental Knowledge and Theory
- Terminology and Definitions
- Program, Quality Control and Compliance
- Analysis, Corrective Action, and Follow-up Phases

For a complete overview of each certification’s content outline, please refer to the specific Appendices located at the back of this Certification Candidate Handbook.
Section 5: Taking the Exams

What to Expect on Exam Day
The NEBB Certification Board is committed to ensuring the exam process is fair and standardized for all Candidates. Strict adherence to all policies and procedures related to exam administration and security are a critical component of this process. Candidates are required to follow all exam site rules at all times.

Taking the Exam
Candidates should arrive at the test site at least 15 minutes prior to their scheduled testing time. Late arrivals will not be admitted.

Identification
1. Candidates are required to present their email authorization notice and two (2) valid forms of identification at the testing site, one being a photo ID.
2. All identification must be valid and must be an original document.
3. Candidates will not be admitted to the examination without proper identification.
4. There will be no refund of the examination fee if Candidate is non-compliant.

Acceptable forms of primary identification (photograph and signature required) include:
• Government-Issued Driver’s License
• Passport or Passport Card
• Permanent Resident Visa
• Military Issued Identification Card

Secondary forms of identification would be:
• Credit Card
• Bank Debit Card
• Employee Identification Card

Unacceptable forms of identification:
• Birth Certificates
• Social Security Cards
• Student and Employee Ids
• Marriage Certificates

Candidates are required to sign a candidate log attesting that they have provided valid identification and agree to keep the contents of the examination confidential.
Exam Locations
There are two options for taking NEBB Written Exams:

• Kryterion Test Centers: Examination locations are available worldwide and are listed at www.kryteriononline.com/Locate-Test-Center.
• NEBB events: Ex: NEBB annual conference and/or NEBB discipline-specific seminars.

The specific testing location for a Candidate’s exam will be included in the confirmation email from certification@nebb.org with the subject line “Test Schedule for Test Taker (your name).” If scheduled at a NEBB event, the exam location will be part of your registration information.

What to Bring to the Exam?
Each certification exam has separate and specific guidelines on what can be brought into the test center. Please review the specific certification Appendices for exact details concerning what is allowed in the test center and was is not.

What is Provided by the Kryterion Test Center?
The Kryterion Test Center will provide three pieces of scratch paper and two pencils to use while in the test session. The Proctor will initial each page of the scratch paper given, record the number of pages given in the Kryterion Test Taker Tracking Log, and collect and shred the pages immediately after the test session is completed.

Other testing aids as required for specific exams are listed in the Appendices.

Candidate Comments on the Exam
Candidates have the opportunity to give feedback on the exam, during the exam. Comments can be related to a specific item or equation, the administration of the exam, or the test site conditions. Comments can be made either on the paper-based exam booklet or in the box provided by each question on the online exam.

Candidates will not receive specific responses to their comments; however, all comments are reviewed by NEBB.

Special Accommodations
NEBB will provide reasonable and appropriate accommodations in accordance with the Americans with Disabilities Act (ADA) for individuals with documented disabilities who request and demonstrate the need for accommodation.

Special accommodations may be requested by submitting the accommodations form found at the end of this Handbook. Accommodations must be requested at least seven days in advance. Reasonable examination accommodations will be made at no extra charge to individuals with documented disabilities.

If an accommodation request is denied, the applicant may appeal the decision by submitting a written statement to the NEBB Certification Director explaining the reasons for the request. The appeal will be reviewed by the Certification Board within 30 days of receipt. The decision of the Certification Board is final.
Cheating
Individuals suspected of cheating will be subject to the disciplinary policies and procedures. Any incidents of suspected cheating, violation of any NEBB policies, disturbances, attempts to remove test materials or notes from the testing room, or other exam-related irregularities will be reported immediately. All reported incidents will be investigated.

Exam irregularities may result in termination of a candidate’s participation in the examination administration or invalidation of exam scores. NEBB reserves the right to investigate any incident of suspected misconduct or irregularity.

Copyright Information
All proprietary rights to NEBB certification exams, including copyright, are held by NEBB. To protect the validity of the exams, Candidates must adhere to strict guidelines regarding proper conduct in handling these copyrighted proprietary materials. The law strictly prohibits any attempt to reproduce all or part of any NEBB exam. Such attempts may include, but are not limited to:

1. Removing materials from the testing room
2. Aiding others by any means in reconstructing any portion of the exam
3. Posting content on any discussion forum
4. Selling, distributing, receiving, or having unauthorized possession of any portion of the exam or practice exams.

Alleged copyright violations will be investigated and, if warranted, prosecuted to the fullest extent of the law.

Before being allowed to start the exam, Candidates will be required to agree to this statement:

“NON-DISCLOSURE AGREEMENT: By taking this exam, you agree to the conditions stated in the following non-disclosure agreement. If you do not accept these conditions, your exam will be terminated. All content contained in this exam is owned and copyrighted by NEBB. Any reproduction, copying, or discussion of this exam is expressly prohibited. Violation of this non-disclosure agreement will result in Disciplinary Action, which may include but is not limited to suspension or decertification, in accordance with NEBB Operational Procedures, and/or legal action by NEBB.”
Section 6: After the Exams

Exam Results
1. Exam results for passing Candidates will include Pass or Fail status only.
2. Computer-based exams: results are communicated directly to Candidates immediately following the exam.
3. Paper-based exams: results are provided directly and only to the Candidate and may take up to two weeks for receipt of exam results.
4. Score reporting may be delayed in the case of implementation of new exams, such as beta-testing. In those cases, score reports will be sent to candidates via email 4-6 weeks following the examination.
5. For some exams, Candidates may be provided with diagnostic information for each of the examination content domains.
   a. The diagnostic information is intended to identify areas of relative strength and weakness in the exam content areas.
   b. This information is provided to assist candidates in identifying areas of study in preparation for re-taking the exam.

Understanding Your Scores
A criterion-referenced standard setting process is used to establish the passing point for each exam. This means that each Candidate’s performance on the exam is measured against a predetermined standard. Candidates are not graded on a curve and do not complete against each other or against a quota.

This passing point (or cut score) is established using a panel of Subject Matter Experts who carefully review each exam question to determine the basic level of knowledge, skill or abilities expected. The passing point for the exam is established to identify individuals with an acceptable level of knowledge and skill.

Retesting
Candidates who are unsuccessful on an exam must wait a minimum of ninety (90) days from the date of their initial exam to schedule their retake. To retake the examination, Candidates:
   1. Must still be eligible under current application requirements
   2. Must pay all examination fees
   3. Candidates may take the examination a maximum of ten times as long as they continue to meet the published eligibility criteria.
After ten (10) unsuccessful attempts, the Candidate’s application must be updated, resubmitted and approved by NEBB Certification Manager.

Exam Appeals
An appeal on an exam may be filed based on:
   1. Examination procedures that fail to comply with the Certification Board’s established policies, or
2. Alleged testing conditions severe enough to cause a major and significant disruption of the examination process.

3. Appeals must be made in writing to the Certification Director within 30 days of the date on the individual’s score results.

4. Appeals not resolved by the Certification Director to the candidate’s satisfaction will be forwarded to the Certification Board for review along with any other relevant information.

5. Written notice of the final decision will be sent to the applicant within 30 days of the review. The Certification Board decision is final.

Awarding the Certification
Candidates who pass their specific exam will automatically receive an email from NEBB’s Certification Department with the appropriate Application for Certification and further instructions.

To facilitate a quick turnaround, Candidates are to complete and email the completed Application for Certification with fees as soon as possible to certification@nebb.org

Upon receipt of the completed Application for Certification and payment of certificate fees, Candidate will be mailed his/her official certificate for his/her specific certification.

As a courtesy, a scanned copy of the Candidate’s official certification certificate will be emailed to the email address on file.

Candidates may not claim certification until receipt of certificate.

Section 7: Compliance

Compliance
In order to maintain and enhance the credibility of NEBB’s Personnel Certification program, the Certification Board has adopted the following procedures to allow individuals to bring complaints concerning the conduct of individuals who are Certificants or Candidates for Personnel Certification to the Certification Board.

In the event an individual violates the Code of Conduct, Personnel Certification rules, or Personnel Certification program policies, the Certification Board may reprimand or suspend the individual or may revoke Personnel Certification.

The grounds for sanctions under these procedures may include, but are not necessarily limited to:

2. Violation of established Personnel Certification policies, rules and requirements.
3. Conviction of a felony or other crime of moral turpitude under federal or state law.
4. Gross negligence, willful misconduct, or other unethical conduct in the performance of services for which the individual has achieved Personnel Certification from NEBB.

5. Fraud or misrepresentation in an initial Personnel Certification application or Recertification application.

Information regarding the complaint process will be available to the public without request via the NEBB web site and/or other published documents.

Actions taken under this policy do not constitute enforcement of the law, although referral to appropriate federal, state, or local government agencies may be made about the conduct of the Candidate or Certificant in appropriate situations. Individuals initially bringing complaints are not entitled to any relief or damages by virtue of this process, although they will receive notice of the actions taken.

**Complaints**

Complaints may be submitted by any individual or entity. Complaints should be reported to the Certification Director in writing and must include the name of the person submitting the complaint, the name of the person the complaint is regarding along with other relevant identifying information, a detailed description of factual allegations supporting the charges, and any relevant supporting documentation. Information submitted during the complaint and investigation process is considered confidential and will be handled in accordance with the Certification Board’s confidentiality policy.

A preliminary review to determine if the complaint is valid and actionable will be conducted within 30 calendar days of receipt of the complaint.

If a submission is deemed to be a valid and actionable complaint, written notice is provided to the individual whose conduct has been called into question. The individual whose conduct is at issue shall also be given the opportunity to respond to the complaint. NEBB shall ensure that the individual submitting the complaint receives notice that the complaint is being reviewed by the Certification Board.

**Complaint Review**

For each complaint deemed valid and actionable, the Certification Board will authorize an investigation into its specific facts or circumstances to whatever extent is necessary in order to clarify, expand, or corroborate the information provided by the submitter.

The complaint is referred to the Compliance Chairman who then forms a Review Committee to investigate and make an appropriate determination with respect to each such valid and actionable complaint.

All investigations and deliberations of the Review Committee and the Certification Board are conducted in confidence, with all written communications sealed and marked "Personal and Confidential," and they are conducted objectively, without any indication of prejudgment.
Determination of Violation

Upon completion of an investigation, the Review Committee recommends whether the Certification Board should make a determination that there has been a violation of NEBB Certification Board policies and rules.

The Certification Board will review the recommendation of the Review Committee based upon the record of the investigation. Further action will be taken based on the outcome of the recommendations.

Sanctions

Any of the following sanctions may be imposed by the Certification Board upon a Candidate/Certificant whom the Certification Board has determined to have violated the policies and rules of its Personnel Certification program(s); the sanction applied must reasonably relate to the nature and severity of the violation, focusing on reformation of the conduct of the member and deterrence of similar conduct by others:

1. Written reprimand to the Candidate/Certificant;
2. Suspension of the Certificant for a designated period; or
3. Suspension of the Candidate’s application eligibility for a designated period; or
4. Termination of the Certificants Personnel Certification; or
5. Termination of the Candidate’s application eligibility for a designated period.

Certificants who have been terminated shall have their Personnel Certification revoked and shall not be considered for Personnel Certification in the future. If Personnel Certification is revoked, any and all certificates or other materials requested by the Certification Board must be returned promptly to the Certification Board.

Appeal

Within thirty (30) days from receipt of notice of a determination of the Certification Board that a Candidate/Certificant violated the Personnel Certification program policies and/or rules, the affected Candidate/Certificant may submit to the Chairman of the Certification Board in writing a request for an appeal. Any Candidate/Certificant receiving such adverse decision will receive a copy of the Appeal Policy along with notification of the appeal period.

A full copy of NEBB’s Appeal Policy is available by emailing certification@nebb.org.
Section 8: Maintaining Certification

Maintaining Certification
The Certification Board recognizes the importance of ongoing professional development and education for all certificants. The recertification requirement is designed to ensure that certificants maintain their knowledge, keep up to date with evolving technology and best practices, stay informed of practice developments, broaden their perspective of the profession, and reinforcing learning.

Due to the pace at which information changes in the industry, certificants are required to renew their certification every two years.

Recertification Requirements
Certified individuals, whether Professionals or Technicians, are required to attain a certain number of continuing education hours within their two-year certification cycle. Continuing education assures the public and related professionals that NEBB Certificants adhere to the highest standards of ongoing professional development.

Certified Professionals, within their two-year recertification cycle, are required to complete twelve (12) hours of continuing education.

Certified Technicians, within their two-year recertification cycle, are required to complete six (6) hours of continuing education.

The CxPP (Commissioning Process Professional) has different CEC requirements to be maintained within a two-year cycle. Please refer to the specific CxPP Candidate Handbook available online at www.nebb.org.

Continuing education requirements may change periodically. The most updated CEC requirements are posted online at www.nebb.org. Certified individuals are responsible for managing and maintaining their CEC requirements and submitting them on a timely basis.

Recertification Process
Certification renewal is the responsibility of each Certificant and Certificant’s are required to:

• Submit a completed Application for Recertification with appropriate CEC information attached. The application is available online at www.nebb.org
• Pay all fees

NEBB will send a reminder notice to each Certified Individual’s Email address(s) on file with NEBB.

1. If re-certification fees are not paid by January 1 of each year, NEBB will send a second notice to each Individual’s email address(s) and will try to contact the individual at the phone number(s) on file with NEBB.
2. If the re-certification fee remains unpaid on March 31st of each year, NEBB will suspend the individual’s certification and send a third notice of payment due to the individual’s contact points. NEBB is not responsible for reminder notices that fail to reach Certificants.
3. NEBB recommends each Individual provide a primary and secondary email and phone number.

4. Failure to successfully pay the fees within 90 days after March 31st will result in forfeiture of the individual’s Personnel Certification status as described in section 5 below.

Continuing Education Credits (CECs)

1. Certificates showing successful completion of each continuing education activity must be submitted with the application for Recertification.

2. Certificants are responsible for retaining appropriate records and documentation as evidence of completing continuing education activities.

3. Certificants are responsible for submitting appropriate records and documentation as evidence of completing continuing education activities.

4. Recertification applications will not be accepted from individuals whose certification has been revoked or is in a state of suspension.

Continuing Education Requirements

All continuing education activities are subject to review and approval by the Certification Board. Credit is only granted after an activity has been completed and documented. Continuing education hours may be earned at:

NEBB events, including but not limited to:

1. The NEBB Annual Conference
2. Any NEBB Chapter sponsored Recertification or continuing education seminar
3. Any NEBB discipline education seminar
4. Any courses/training/events approved by the NEBB Certification Director
5. Other continuing education pre-approved by the NEBB Certification Board

Non-NEBB Events:
Proof of attendance should be submitted along with the title, course length (hours), description of the scope or content of the course, and certificate of completion or other proof of attendance. The Certification Board will retain the right to review all recertification CE materials and NEBB or industry seminars and provide the final decision on acceptance of the materials and/or seminars for CE’s for recertification.

Chapters with members located outside of the continental United States may submit a request on behalf of their members to the Executive Vice President for approval of continuing education hours for any other industry education seminar or training. The Executive Vice President shall consult with the appropriate technical committee for the continuing education hours being requested, based upon the discipline(s) for which the Certified Professional is seeking alternative education. In all cases of approved alternative education, a successful completion certificate shall be submitted with the application for Recertification. The Certification Director will make the determination as to approval or denial of Continuing Education from Non-NEBB resources that are not already on the Pre-approved list on the NEBB Website.
Fees and Deadlines
Information regarding fees and submission deadlines is available through the NEBB Certification Staff at certification@nebb.org.

Certification Expiration and Failure to Recertify
Failure to successfully recertify by the published deadline will result in forfeiture of the individual’s certification status. If certification has been expired for 90 days or less, an individual may reinstate their certification by meeting all of the recertification requirements, submitting a complete recertification application, and paying the recertification fee. If certification has been expired for more than 90 days, an individual must reapply for certification, meet all eligibility requirements in effect at the time of re-application, and pass the exam.

Recertification Appeals
Certificants who have submitted a completed recertification application and who are notified that they do not meet the recertification requirements may appeal this decision by sending a written notice of the appeal to the Certification Director within 45 days of the date of the adverse decision.

Any appeals that are not resolved to the satisfaction of the certificant by the Certification Director will be up to the Certification Board for review, along with any relevant information from the review of the recertification application. Written notice of the final decision will be sent to the certificant within 30 days of the review. The decision of the Certification Board is final.

Written notice of the final decision will be sent to the Certificant within 30 days of the review. The decision of the Certification Board will be final.

Section 9: Certification Board Policies

Statement of Impartiality
NEBB and the Certification Board adhere to principles of fairness and due process, and endorse the principles of equal opportunity.

NEBB and the Certification Board do not discriminate against any applicant/candidate for certification on the basis of race, color, creed, age, gender, national origin, religion, disability, marital status, parental status, ancestry, sexual orientation, military discharge status or source of income, or any other status protected by law. All candidates for certification will be judged solely on the criteria determined by the NEBB Certification Board.

Confidentiality
Information about applicants/candidates/certificants and their application status and their examination results are considered confidential and may not be disclosed, divulged, or made accessible. Exam Pass or Fail notices and/or other confidential information will be released only to the individual candidate unless a signed release is provided, or as required by law. When required by law to release confidential information, NEBB will notify the affected individual to the extent permitted by law. Personal information submitted by applicants/candidates/certificants with an
application or recertification application is considered confidential. Personal information retained within the candidate/certificant database will be kept confidential.

**Confidentiality Agreements**

Applicants for personnel certification will be required to read and acknowledge a confidentiality statement as part of the Application for Candidacy process. (See Section 2 and specific Appendices.)

**Use of Certification Mark / Stamp**

After receiving notification of achieving the Candidate’s specific certification, the credential granted may be used only as long as the individual’s certification remains valid and in good standing. Individuals may not use the credential(s) until they have received specific written notification that they have successfully completed all requirements, including passing the required exam. Certificants must comply with all recertification requirements to maintain use of the credential.

The use and/or display of the certifications’ acronyms or designation names, except as permitted by this policy, is prohibited. Individuals who fail to maintain certification/recertify or whose certification is suspended or revoked must immediately discontinue use of the certification mark(s) and are prohibited from stating or implying that they hold the certification.

**Acceptable Use**

Individuals who have earned a NEBB certification credential may identify themselves as:

- **NEBB [Discipline] Certified Professional**, or “[DISCIPLINE ACRONYM]”
- **NEBB [Discipline] Certified Technician**, or “[DISCIPLINE ACRONYM]”

The name and acronym listed above may only be used in connection with a certified individual and not with a firm, facility, department, or other group. Specific certification titles are located in the appropriate Appendices located in the back of this Candidate Handbook.

NEBB Certified Professionals (CPs) do NOT have a right to receive a NEBB stamp. NEBB CPs who are not affiliated with a NEBB Certified Firm are NOT authorized to stamp reports or make claims regarding performing work in compliance with NEBB Procedural Standards. Work performed by NEBB CPs who are not affiliated with a NEBB Certified Firm is not covered by the NEBB Quality Assurance Program.

The name and acronym may be used only as long as the certification is valid and in good standing. Certification is a non-transferable, revocable, limited, non-exclusive license to use the certification designation and is subject to compliance with the policies and procedures of the Certification Board. Certified individuals may not make misleading, deceptive, or confusing statements regarding their certification status.
Section 10: Forms

Special Accommodations Request Form

If you have a disability covered by the Americans with Disabilities Act (ADA), please complete this form and the Documentation of Disability-Related Needs Form. The information you provide, and any documentation regarding your disability and special accommodation, will be treated with strict confidentiality and will not be shared with any source other than NEBB’s test administration vendors, without your express written permission.

Please submit the request and documentation forms to:

Certification Director
NEBB
8575 Grovemont Circle
Gaithersburg, MD 20877
P: (301) 977-3698
certification@nebb.org

APPLICANT INFORMATION

First Name: ______________________________ MI: ____ Last Name: ____________________

Address: ______________________________________________________________________

City: _______________________________________ State: ___________ Zip Code: ___________

Phone: ________________________________ Email: __________________________________

SPECIAL ACCOMMODATIONS

Please provide (check all that apply)

○ Accessible testing site ○ Screen Magnifier (Large Font)
○ Separate testing room ○ Reader Required for Learning Disability
○ Extended testing time ○ Reader Required for Visual Disability
○ Other special accommodation: ____________________________________________________

Comments: ___________________________________________________________________

______________________________________________________________________________

Applicant’s Signature: ___________________________ Date: ______________________
Documentation of Disability-Related Needs Form

Candidates for the certification examination who have a learning, psychological, or other disability that requires accommodation during testing must provide a written disability report prepared by an appropriately qualified, licensed health care professional (e.g. physician, nurse practitioner, psychologist, psychiatrist). The information you provide, and any documentation regarding your disability and special accommodation request, will be treated with strict confidentiality.

LICENSED HEALTHCARE PROVIDER DOCUMENTATION

I have known ______________________________________ since ____/____/___________

Test applicant

in my capacity as a ______________________________________________________________

Professional Title

SPECIAL ACCOMMODATIONS

Given the nature of the test to be taken by the above-named candidate, it is my opinion that he/she should be accommodated by providing the following special arrangements:

Check all that apply:

○ Accessible testing site  ○ Screen Magnifier (Large Font)
○ Separate testing room  ○ Reader Required for Learning Disability
○ Extended testing time  ○ Reader Required for Visual Disability
○ Other special accommodation: _______________________________________________

Signature: ___________________________  Date: ___________________________

Title: ______________________________________  License _________________________

(if applicable)
Addendum 1: Kryterion Test Centers

NEBB Certification Process

1. **Application for Candidacy**
   - To obtain an Application for Candidacy for a specific NEBB certification, email [certification@nebb.org](mailto:certification@nebb.org).
   - Applicants will be emailed the Application for Candidacy and instructions; please read thoroughly.
   - Email your completed Application for Candidacy and related documents to [certification@nebb.org](mailto:certification@nebb.org) along with the application fee.
     - To pay by credit card (Visa/Master Card), call the NEBB office at 301-977-3698.
     - To pay by check, send check with the completed paperwork to: NEBB Certification Department, 8575 Grovemont Circle, Gaithersburg, MD 20877.

2. **Application for Candidacy Review**
   - Submitted Applications for Candidacy and related documents are reviewed for compliance with pre-requisite qualifications per the specific certification and NEBB certification requirements.
   - The approved Applicant is now termed a “Candidate” and will receive email instructions to schedule the appropriate examination.
   - If not approved, Applicant will receive an email describing the areas not meeting requirements.
     - Applicant may correct and resubmit Application for Candidacy and related documents.
3. **Create A Profile on Kryterion**
   - Candidates will be emailed specific instructions on how to set up an account on Kryterion.
   - Go to [www.webassessor.com/nebb](http://www.webassessor.com/nebb)
   - Kryterion will only allow a unique email address.
   - Use a personal and unique email address. **Pass or Fail notices will be sent to this email address.**

4. **Scheduling the Exam**
   - Go to [www.webassessor.com/nebb](http://www.webassessor.com/nebb) and follow the instructions for examination registration.
   - Log-in to your profile, pick a Kryterion Test Center, and schedule a date and time for the exam.
   - Have payment method ready ahead of time so it is available during scheduling.
   - Candidate will receive confirmation emails from **Kryterion including an email with a test code which is required at the Kryterion Test Center the day of the exam.**

5. **Taking the Exam**
   - Thoroughly read the instructions provided by Kryterion.
   - Report to the Test Center on the date and time specified (be there 15 minutes ahead of time).
   - Bring the **email with the test code, two forms of the required proper identification and any required publications, calculator, and tools (if required).**
   - If there is a problem at the Kryterion Test Center, contact NEBB at 301-591-0483.

6. **Pass or Fail Status**
   Candidates will receive a pass or fail notice on the computer monitor immediately upon completion of the exam. Additionally, the Candidate will receive an email confirmation to the email address listed on the account.
   - **Passing Candidates:** See below, “Application for Certification.”
   - **Failing Candidates:** There is a 90-day waiting period from the date of the Candidate’s original exam; after that date, reschedule through the Candidate’s account as before.
   - **There will be an additional test fee required.**

7. **Application for Certification**
   - **Passing Candidates:** Candidates who pass their specific exam will automatically receive an email from NEBB’s Certification Department with the appropriate Application for Certification and further instructions.
   - Complete and email the completed Application for Certification with fees to [certification@nebb.org](mailto:certification@nebb.org).
   - **Certification fees:**
i. To pay by credit card (Visa/Master Card), call the NEBB office at 301-977-3698.

ii. If paying by check, send check with the completed paperwork to: NEBB Certification Department, 8575 Grovemont Circle, Gaithersburg, MD 20877.

8. **Awarding of Certification**
   - Upon receipt of the completed Application for Certification and payment of certificate fees, Candidate will be mailed his/her official certificate for his/her specific certification.
   - As a courtesy, a scanned copy of the Candidate’s official certification certificate will be emailed to the email address on file.
   - Candidate may not claim certification until receive of certificate.
Addendum 2: Paper-Based Testing

NEBB Certification Process

1. Application for Candidacy
   - To obtain an Application for Candidacy for a specific NEBB certification, email certification@nebb.org.
   - Applicants will be emailed the Application for Candidacy and instructions; please read thoroughly.
   - Email your completed Application for Candidacy and related documents to certification@nebb.org along with the application fee.
     - To pay by credit card (Visa/Master Card), call the NEBB office at 301-977-3698.
     - To pay by check, send check with the completed paperwork to: NEBB Certification Department, 8575 Grovemont Circle, Gaithersburg, MD 20877.

2. Application for Candidacy Review
   - Submitted Applications for Candidacy and related documents are reviewed for compliance with pre-requisite qualifications per the specific certification and NEBB certification requirements.
   - If approved, the Applicant is now termed a “Candidate” and will receive an email with instructions to schedule the appropriate examination.
   - If not approved, Applicant will receive an email describing the areas not meeting requirements.
     - Applicant may correct and resubmit Application for Candidacy and related documents.
3. **Create A Profile on Kryterion**
   - Candidates will be emailed specific instructions on how to set up an account on Kryterion.
   - Go to [www.webassessor.com/nebb](http://www.webassessor.com/nebb)
   - Kryterion will only allow a unique email address.
   - Use a personal and unique email address. **Pass or Fail notices will be sent to this email address.**

4. **Scheduling a Paper-Based Exam**
   - Candidates have two location options for taking a certification exam: 1.) NEBB Annual Conference on Exam Day or 2.) at the conclusion of NEBB Training Seminars
   - Exams are separate events with separate fees from the Annual Conference or Training Seminar
   - Applications for Candidacy must be approved prior to scheduling a paper-based exam.
   - To schedule a paper-based exam, email certification@nebb.org.
   - Payment is required at the time of scheduling.
     - To pay by credit card (Visa/Master Card), call the NEBB office at 301-977-3698.
     - To pay by check, send check with the completed paperwork to: NEBB Certification Department, 8575 Grovemont Circle, Gaithersburg, MD 20877.
   - A confirmation email (which is required the day of the exam) will be sent to the Candidate with details regarding the specific exam.

5. **Taking the Exam**
   - Report to the Exam Location on the date and time specified (be there 15 minutes ahead of time).
   - Bring the email with the test information, two forms of the required proper identification and any required publications, calculator, and tools (if required).
   - If there is a problem at the NEBB exam location, call NEBB at 301-591-0483.

6. **Pass or Fail Status**
   - Candidates will receive a pass or fail notice by email within two (2) weeks of the exam.
     b. Failing Candidates: There is a 90-day waiting period from the date of the Candidate’s original exam; after that date, reschedule through the Candidate’s account as before.
     c. There will be an additional test fee required.

7. **Application for Certification**
   a. Passing Candidates: Candidates who pass their specific exam will automatically receive an email from NEBB’s Certification Department with the appropriate Application for Certification and further instructions.
b. Complete and email the completed Application for Certification with fees to certification@nebb.org.

c. Certification fees:
   i. To pay by credit card (Visa/Master Card), call the NEBB office at 301-977-3698.
   ii. If paying by check, send check with the completed paperwork to: NEBB Certification Department, 8575 Grovemont Circle, Gaithersburg, MD 20877.

8. Awarding of Certification
   • Upon receipt of the completed Application for Certification and payment of certificate fees, Candidate will be mailed his/her official certificate for his/her specific certification.
   • As a courtesy, a scanned copy of the Candidate’s official certification certificate will be emailed to the email address on file.
   • Candidate may not claim certification until receive of certificate.
Appendix A

Building Enclosure Testing Certified Professional: BET CP

*The BET CP is the lead professional in providing a quantitative and qualitative analysis of the amount of leakage occurring within a building’s air barrier enclosure with the building, under a specified pressure when using either blower door equipment or the building’s existing mechanical systems.*

Building Enclosure Testing (BET)

Individuals certified in Building Enclosure Testing (BET) represent their firm on building enclosure testing matters. BET Certified Professionals: develop and plan the work; handle report preparation; recommend corrective action; set the overall safety plan; maintain instruments and calibration program; have experience with control strategies, sequences of operation, control systems, equipment and software; and review, check, and sign the final report.

BET CPs meet a combination of education and/or experience requirements and demonstrate their knowledge of Building Enclosure Testing by meeting specific pre-requisite requirements, studying, passing the BET exam and maintaining their certification with continuing education.

**BET CP Eligibility Criteria**

Those accepted in the BET Certification program must meet the following education and professional experience requirements and pass the BET Written and Written Practical certification exams. All conditions must be met in any **one** of the following categories:

<table>
<thead>
<tr>
<th>Category A</th>
<th>Category B</th>
<th>Category C</th>
<th>Category D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold a Bachelor of Science Degree in Engineering</td>
<td>Hold an Associate’s Degree in Engineering Technology</td>
<td>Have at least four years of experience in Building Enclosure Testing</td>
<td>Attended training session directly related to Building Enclosure Testing</td>
</tr>
<tr>
<td>AND</td>
<td>AND</td>
<td>AND</td>
<td>AND</td>
</tr>
<tr>
<td>Have at least two years supervisory experience in Building Enclosure Testing</td>
<td>Have at least four years supervisory experience in Building Enclosure Testing</td>
<td>Have at least two years supervisory experience in Building Enclosure Testing</td>
<td>Have at least six years of experience in Building Enclosure Testing with at least four of those years in a supervisory position</td>
</tr>
</tbody>
</table>

**BET CP Application for Candidacy**

Please visit [www.nebb.org](http://www.nebb.org) to download a copy of the BET CP Application for Candidacy which contains specific information pertaining to the full application process, or email certification@nebb.org. Review of application and related documents may take up to two weeks.

Applicants who meet the eligibility criteria and are accepted into the certification program are referred to as “Candidates.”
Studying for the Exam
Candidates should have a working knowledge of the following and are encouraged to study and review these items in preparation for the exam:

a. ASTM Standards: ASTM E 779, ASTM E 1827 and ASTM E 1186  
b. NEBB Procedural Standards for Building Enclosure Testing  
c. USACE Air Leakage Test Protocol for Building Envelopes, 2013  
d. NEBB Procedural Standard for Testing, Adjusting and Balancing of Environmental Systems  
e. Thermal Imaging and camera operation  
f. Various testing methods and procedures currently specified and their correct application.  
g. Basic operation of the blower door equipment, software, respective applications and features

Recommended Readings
Candidates are encouraged to purchase and use the following reference material for their at-home studying in preparation for the exam.

- *ASTM Standards: ASTM E 779, ASTM E 1827 and ASTM E 1186
- NEBB Procedural Standard for Testing, Adjusting and Balancing of Environmental Systems  
- NEBB Procedural Standards for Building Enclosure Testing (available at www.nebb.org)  
- *USACE Air Leakage Test Protocol for Building Envelopes, 2013

*The ASTM Standards can be purchased directly from ASTM (American Society of Testing Methods). The USACE Protocol is a free download PDF that can be obtained by searching the name of the document and downloading for the Corp of Engineers website.

Suggested Training
Those pursuing this specific certification should consider attending a specialized seminar on this discipline. The BET CP seminar is intended to augment the Candidate’s ongoing study of the discipline which will help them comprehend and assess the knowledge, skills and abilities necessary for this certification. For complete details, visit www.nebb.org.

BET CP Exam Details
The BET CP certification process includes a two-exam process: the BET CP Written Exam and the BET CP Practical Exam. These two exams can be taken in any order.

BET CP Written Paper-Based Exam Details:
1. Is an “open book” exam.  
2. Consists of 100 multiple choice questions.  
3. Takes up to three (3) hours to complete.

BET CP Practical Written Paper-Based Exam Details
1. Is an “open book” exam.  
2. Consists of 30 questions.  
3. Takes up to three (3) hours to complete.

If taking either of the BET CP Written or Practical Written Exams at a NEBB-sponsored event, the Candidate is allowed to bring in and use their lap-top; however, no internet connection will be allowed.
BET CP Written Kryterion Online Exam Details:
1. Is an “open book” exam.
2. Consists of 100 multiple choice questions.
3. Takes up to three (3) hours to complete.
4. If taking this exam at a Kryterion test site, the Candidate is not allowed to bring in or use their laptop.

BET CP Practical Written Kryterion Online Exam Details
1. Is an “open book” exam.
2. Consists of 30 questions.
3. Takes up to three (3) hours to complete.
4. If taking this exam at a Kryterion test site, the Candidate is not allowed to bring in or use their laptop.

For Both Written and Online Exams
1. All questions are designed to test recall skills and the candidate’s ability to apply knowledge, interpret data, and solve problems.
2. Exams and certification program information documents are developed based on practice in the United States and are offered only in English.
3. Calculations and formulas are in the Imperial Standard and not available in Metric.
4. The Candidate is allowed to bring in and use the following:
   1. Writing instruments to include pencils, mechanical pencils, pens, and erasers
   2. Reference books, indexes, printed and/or hand-written reference notes.
   3. A non-programmable calculator with limitations to the following models only:
      i. Casio FX-115 series models or Texas Instruments TI-30X and TI-36X series models.

2. For the Online Exam:
   1. The Kryterion Proctor will provide:
      i. Three pieces of scratch paper and two pencils to use while in the test session
      ii. Proctor will initial each page of the scratch paper given, record the number of pages given in the Kryterion Test Taker Tracking Log.
      iii. Proctor will collect and shred the pages after the exam is completed.
   2. All items provided by the Test Center will be collected and shredded upon completion of the examination.
      i. These items may not be removed from the Test Center by the Applicant.

Scheduling the BET CP Exam
- The BET CP exams are offered on demand at more than 350 test centers within the United States and more than 700 test centers worldwide.
- Specific examination locations are listed at http://www.kryteriononline.com/Locate-Test-Center.
- Upon arrival to the Kryterion Test Center, make sure to have your authorization letter and two valid forms of identification.
- The exam is also made available at various NEBB events, such as the NEBB Annual Conference or specific discipline seminars.
Deadlines for Completion of Personnel Certification

- Candidates have three (3) years from their initial exam date to pass all of the certification’s written and/or practical exams.
  - After this time period expires, Candidates must wait one (1) year from the last examination attempt before re-applying for Personnel Certification.

- After successful completion of the examination, Candidates have one (1) year to apply for their Personnel Certification and pay all related fees.
  - If Candidates do not apply for Personnel Certification within one (1) year, Candidates will be responsible for paying a Certification Re-application Fee before being awarded Certification.

Achieving BET CP Certification & Requirements

- Candidates will receive specific written notification upon successfully completing all the certification prerequisite requirements, including passing the required exams.
- Upon passing the exam, NEBB will contact the Candidate to complete the final stage of achieving the certification, which is to complete the Application for Certification and pay all related fees.
- Processing of final certification may take 30 days from receipt of form and payment.
- Candidates may not use the credential(s) until they have received their official BET CP Certificate and Certificant number.
- After receiving notification of achieving the Building Enclosure Testing Certified Professional (BET CP) certification, the credential granted may be used only as long as the individual’s certification remains valid and in good standing.
- Certificants must comply with all recertification requirements to maintain use of the credential.
- The use and/or display of the BET CP acronyms or designation names, except as permitted by the policy, is prohibited. Individuals who fail to maintain certification/recertify or whose certification is suspended or revoked must immediately discontinue use of the certification mark(s) and are prohibited from stating or implying that they hold the certification.

Acceptable Use

Certificants who have earned the BET CP certification may identify themselves as:

- *NEBB Building Enclosure Testing Certified Professional or “BET CP.”*

The name and acronym listed above may only be used in connection with a certified individual and not with a firm, facility, department, or other group.
Appendix B

Building Systems Commissioning Certified Professional: BSC CP

A BSC Certified Professional is capable of creating and managing the technical commissioning process, assessing and evaluating building systems for the performance of technical commissioning.

The BSC CP acts as an Owner’s advocate to manage the commissioning process for new building systems. Qualified to manage the commissioning process, they create all commissioning documents required to implement the process and coordinate those activities with the owner, designers and contractors involved. The BSC CP supervises all system commissioning testing and pursues correction of all found issues until full resolution to the owner’s satisfaction. They provide a commissioning report that documents the process, and creates system manuals which assist the owner with future operations of the facility.

BSC CPs meet a combination of education and/or experience requirements and demonstrate their knowledge of Building Systems Technical Commissioning with specific pre-requisite requirements, self-directed studying, passing the BSC exam, and maintaining certification with continuing education.

Eligibility Criteria
Those accepted into the BSC Certification program must meet the following education categories and professional experience requirements in one of the following categories and must pass both the BSC Procedural Standards and Technical certification examinations.

<table>
<thead>
<tr>
<th>Category A</th>
<th>Category B</th>
<th>Category C</th>
<th>Category D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold a Bachelor of Science Degree in Engineering from an accredited college or university</td>
<td>Hold an Associate’s Degree in Engineering Technology from an accredited institution</td>
<td>Have at least four years of experience in performing building systems design, building systems installation, BSC, systems testing, systems operations or TAB</td>
<td>Have a minimum of four years of building systems design, operations, or installation related experience (which could include accredited apprenticeship)</td>
</tr>
<tr>
<td>AND</td>
<td>AND</td>
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<td>AND</td>
</tr>
<tr>
<td>Have at least two years of supervisory experience in building system design, building system installation, building system commissioning, building systems testing, systems operations or TAB</td>
<td>Have at least four years of experience in performing building systems design, building systems installation, BSC, systems testing, systems operations or TAB</td>
<td>Have at least two years of supervisory experience in building systems design, building systems installation, BSC, systems testing, systems operations or TAB</td>
<td>Have a minimum of two years of experience in performing building systems design, building systems installation, building systems commissioning, systems testing, systems operations, or TAB</td>
</tr>
<tr>
<td>AND</td>
<td>AND</td>
<td>AND</td>
<td>AND</td>
</tr>
<tr>
<td>Have two years of supervisory experience in building systems design, building systems installation, building systems commissioning, building systems testing, systems operations, or TAB</td>
<td>Have at least four years of supervisory experience in building systems design, building systems installation, BSC, systems testing, systems operations or TAB</td>
<td></td>
<td>Have, in addition, a minimum of four years of supervisory experience in; building systems design, building systems installation, BSC, systems testing, systems operations, or TAB</td>
</tr>
</tbody>
</table>

Six years total  
Eight years total  
Ten years total
BSC CP Application for Candidacy
Please visit www.nebb.org to download a copy of the BSC CP Application for Candidacy which contains specific information pertaining to the full application process, or email certification@nebb.org. Review of application and related documents may take up to two weeks.

Applicants who meet the eligibility criteria and are accepted into the certification program are referred to as “Candidates.”

Studying for the Exam
Applicants who are accepted as Candidates and approved to sit for the exam should have a working knowledge of the following Content Domains and are encouraged to study and review these items in preparation for the exam:

**BSC Procedural Standards**
- Quality Conformance
- Responsibilities
- Standards for Instrumentation
- Standards for Reports
- Technical Commissioning Process
- Technical Commissioning: HVAC Systems
- Technical Commissioning: Building Envelope
- Commissioning: Electrical Systems
- Commissioning: Special Electrical Systems
- Commissioning: Plumbing Systems
- Commissioning: Fire Projection Systems
- Acronyms
- Definitions
- Instrumentation

**BSC Technical**
- Fundamental Knowledge
- Design Phase Commissioning
- OPR Definition and Development
- BOD Review
- Design Review: DPC
- Construction Phase Commissioning
- Submittal review
- Pre-functional Tests
- HVAC & Controls Installation Verification Tests
- Static Tests
- HVAC Equipment Startup Tests
- Testing, Adjusting, & Balancing Report Verification
- Functional Performance Tests
- Final Commissioning Report
- Post Occupancy Phase Commissioning
- Post Occupancy Performance Verification Testing
- Update Final Report

Basic Control Principles: Components, Systems, Networks
- Control System Technology
- Types of Control systems
- Control Action PID
- Tuning Control loops
- Control Devices
- HVAC Sequences
- Standard HVAC System Operating Characteristics
- Understanding Standard Control Sequences
- Understanding Basic Control Programming Characteristics
- Interaction between Mechanical Systems
- Creating Truth Tables / Points List
- Understanding Points Lists
- Understanding Reset Sequences & Interactions
- Create Sequence Diagrams of System Reaction
- Writing Functional Test System Plans
- Troubleshooting Control Sequences
- Commissioning of Control Systems
- Control System: OPR & BOD
- Control System Design Review
- Control System Submittal Review
- Control System Installation Review
- Point-to-Point Verification
- Graphic Verification
- System Integration
- Functional Performance Testing
- Trend Development
- Reading Trends
- Troubleshooting Controls
- Operator Training
- Verification of system performance and optimization
Recommended Readings

BSC CP Candidates are encouraged to prepare for the BSC CP exam by acquiring and doing at-home study using the following source material. To obtain, please visit www.nebb.org or call 301-977-3698.

- **NEBB Procedural Standards for Retro-Commissioning of Existing Buildings, 1st Edition – March 2009**
- **NEBB Procedural Standards for Testing, Adjusting & Balancing of Environmental Systems, 8th Ed. 2015**

Suggested Training

Those pursuing this specific certification should consider attending a specialized seminar on this discipline. The BSC CP seminar is intended to augment the Candidate’s ongoing study of the discipline which will help them comprehend and assess the knowledge, skills and abilities necessary for this certification. For complete details, visit www.nebb.org.

BSC CP Exam Details

Achieving the BSC CP certification requires the passing of two exams: the BSC CP Procedural Standards Exam and the BSC CP Technical Exam. Exams can be taken in any order.

**BSC CP Procedural Standards Exam**

1. **Exam Details if taken online through Kryterion**
   b. Can take up to two (2) hours to complete.
   c. Consists of 80 multiple choice questions.
   d. Utilizes the Split Screen technology in order the Candidate to view and scroll and search through NEBB’s *NEBB Procedural Standards for Whole Building Systems Technical Commissioning of New Construction, 2014, Fourth Edition*
   e. The exam software will allow the Candidate to view the exam on the left and the Procedural Standard on the right side of the computer screen.
   f. All questions are designed to test recall skills and the candidate’s ability to apply knowledge, interpret data, and solve problems.
   g. Exams and certification program information documents are developed based on practice in the United States and are offered only in English.
   h. Calculations and formulas are in the Imperial Standard and not available in Metric.

2. **The Candidate is allowed to bring in and use the following:**
   a. Writing instruments to include pencils, mechanical pencils, pens, and erasers.
   b. No other study material or aids are permitted.

3. **The Kryterion Center Proctor will provide:**
   a. Three pieces of scratch paper and two pencils to use while in the test session
   i. The Proctor will initial each page of the scratch paper given, record the number of pages given in the Kryterion Test Taker Tracking Log.
ii. The Proctor will collect and shred the pages immediately after the test session is completed.

4. **Exam Details if taking as a paper-based exam**
   a. **Same rules and guidelines apply as under Point 1**, except that Candidate may bring a clean, unmarked copy of the NEBB *BSC Procedural Standards for Whole Building Systems Technical Commissioning of New Construction, 2014, Fourth Edition* to reference during the exam.

### BSC CP Technical Exam

1. **Exam Details**
   b. Can take up to four (4) hours to complete.
   c. Consists of 100 multiple choice questions.
   d. All questions are designed to test recall skills and the candidate’s ability to apply knowledge, interpret data, and solve problems.
   e. Exams and certification program information documents are developed based on practice in the United States and are offered only in English.
   f. Calculations and formulas are in the Imperial Standard and not available in Metric.
   g. A 12-page Sequence of Operations and Formula/Psychrometric Charts Document will be loaded on the Kryterion computer using split screen technology where the Candidate can view the document for reference during the course of the exam.
      i. The 12-page document will display on the right side of the screen during the course of the exam, the exam questions will be displayed on the left.
      ii. In the middle of the screen is a red bar that is movable for the Candidate.

2. **The Candidate is allowed to bring in and use the following:**
   a. Any reference books, indexes, printed and/or hand-written reference notes.
   b. A non-programmable calculator with limitations to the following models only:
      i. Casio FX-115 series models or Texas Instruments TI-30X and TI-36X series models.
   c. Pencils, mechanical pencils, pens, and erasers.
   d. No other study material or aids are permitted.

3. **The Kryterion Center Proctor will:**
   a. Provide three pieces of scratch paper and two pencils to use while in the test session
      i. The Proctor will initial each page of the scratch paper given, record the number of pages given in the Kryterion Test Taker Tracking Log.
      ii. The Proctor will collect and shred the pages immediately after the test session is completed.
   b. Items provided by the Test Center will be collected and shredded upon exam completion.
      i. These items may not be removed from the Test Center by the Applicant.
Scheduling the BSC CP Exam

- BSC CP exams are offered on demand at over 350 Kryterion test centers within the United States and more than 700 test centers worldwide.
- Specific examination locations are listed at [http://www.kryteriononline.com/Locate-Test-Center](http://www.kryteriononline.com/Locate-Test-Center).
- Reminder: Upon arrival to the Kryterion Test Center, make sure to have your authorization letter and two valid forms of identification.
- The paper-based exam is made available at various NEBB events, seminars or NEBB Annual Conference.

Deadlines for Completion of Personnel Certification

- Candidates have three (3) years from their initial exam date to pass all of the certification’s written and/or practical exams.
  - After this time period expires, Candidates must wait one (1) year from the last examination attempt before re-applying for Personnel Certification.

- After successful completion of the examination, Candidates have one (1) year to apply for their Personnel Certification and pay all related fees.
  - If Candidates do not apply for Personnel Certification within one (1) year, Candidates will be responsible for paying a Certification Re-application Fee before being awarded Certification.

Achieving BSC CP Certification & Requirements

- Candidates will receive specific written notification upon successfully completing all the certification pre-requisite requirements, including passing the required exams.
- Upon passing the exam, NEBB will contact the Candidate to complete the final stage of achieving the certification, which is to complete the Application for Certification and pay all related fees.
- Processing of final certification may take 30 days from receipt of form and payment.
- Candidates may not use the credential(s) until they have received their official BSC CP Certificate and Certificant number.
- After receiving notification of achieving the Building Systems Technical Commissioning Certified Professional (BSC CP) certification, the credential granted may be used only as long as the individual’s certification remains valid and in good standing.
- Certificants must comply with all recertification requirements to maintain use of the credential.
- The use and/or display of the BSC CP acronyms or designation names, except as permitted by the policy, is prohibited. Individuals who fail to maintain certification/recertify or whose certification is suspended or revoked must immediately discontinue use of the certification mark(s) and are prohibited from stating or implying that they hold the certification.
Acceptable Use
Certificants who have earned the BSC CP certification may identify themselves as:

- *NEBB Building Systems Technical Commissioning Certified Professional*, or “BSC CP.”

The name and acronym listed above may only be used in connection with a certified individual and not with a firm, facility, department, or other group.
Appendix C

Building Systems Commissioning Certified Technician (CxCT)

A Commissioning Certified Technician (CxCT) is a professional who is capable of assessing, testing and evaluating building systems for the performance of technical commissioning.

Individuals certified as Technicians in Building Systems Commissioning (BSC) work under the guidance of BSC Certified Professionals, representing their firm on building commissioning matters. BSC CxCT Certificants: have a fundamental knowledge of building systems commissioning; perform Pre-functional and Functional tests; are adept and skilled at air and water system troubleshooting; handle report preparation; are part of the team deciding upon corrective action; adhere to the overall safety plan; maintain instruments and calibration program; and are experienced in evaluating HVAC and control systems, understanding testing, balancing control systems.

BSC Commissioning Certified Technicians meet a combination of education and/or experience requirements and demonstrate their knowledge of Building Systems Technical Commissioning by meeting specific prerequisite requirements, self-directed study, passing the CxCT exam and maintaining their certification with continuing education.

Eligibility Criteria
Those accepted into the BSC CxCT Certification program must meet the following education categories and professional experience requirements in one of the following categories (requirements cannot be conducted concurrently) and must pass the BSC CxCT exam.

<table>
<thead>
<tr>
<th>Category A</th>
<th>Category B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have four (4) years or more experience in:</td>
<td>Have at least two (2) years or more of:</td>
</tr>
<tr>
<td>• Building Systems Design</td>
<td>• Building Systems Commissioning Field Test experience</td>
</tr>
<tr>
<td>• Building Systems Installation</td>
<td>Plus high school diploma or equivalent</td>
</tr>
<tr>
<td>• Building Systems Commissioning</td>
<td></td>
</tr>
<tr>
<td>• Building Systems Testing &amp; Operations</td>
<td></td>
</tr>
<tr>
<td>• Testing, Adjusting, Balancing (TAB) work</td>
<td></td>
</tr>
<tr>
<td>Plus high school diploma or equivalent</td>
<td></td>
</tr>
</tbody>
</table>

CxCT Application for Candidacy

Please visit www.nebb.org to download a copy of the BSC CxCT Application for Candidacy which contains specific information pertaining to the full application process, or email certification@nebb.org. Review of application and related documents may take up to two weeks.

Applicants who meet the eligibility criteria and are accepted into the certification program are referred to as “Candidates.”
Studying for the Exam

Applicants who are accepted as Candidates and approved to sit for the exam should have a working knowledge of the following Content Domains and are encouraged to study and review these items in preparation for the exam:

- **Fundamental Knowledge**
  - Working knowledge for field TAB Verification
  - Application of Basic HVAC functions
  - Understanding of HVAC control systems
  - Understand use of commissioning measurement instruments
  - Jobsite safety and PPE
  - Application of Professional Conduct
  - Working knowledge of Procedural Standards

- **Pre-Functional Tests**
  - Understanding of how to utilize PFT check sheets
  - Perform installation of Pre-Functional tests
  - Perform HVAC control system Point-to-Point tests
  - Perform Sensor Calibration
  - Perform lighting control Point-to-Point tests
  - Perform plumbing system tests
  - Understand how to witness Duct Air Leakage (DALT)
  - Witness TAB verification testing of air and water under the direction of a CP

- **Functional Tests**
  - Perform or observe HVAC control system functional tests under the direction of a CP
  - Deploy and collect data loggers and set up trends
  - Understand the correct order of commissioning and testing
  - Record documentation of tests
  - Understand trend reviews

- **System Troubleshooting**
  - Understand process
  - Ability to test Airside / Troubleshooting
  - Ability to test Water / Troubleshooting
  - Ability to test Control System / Troubleshooting

- **Retro-Commissioning**
  - Operate a DDC control system to stroke valves, dampers, override set-points and calibrate sensors
  - Perform quick fixes
  - Evaluate HVAC systems and equipment types
  - Evaluate Control systems and equipment types
  - Evaluate Lighting control systems and equipment types
  - Test and record TAB readings for: duct traverse, static pressure profiles and as found readings for voltage, current, temperature, pressures, flows, etc.
  - Create assessment report from measurement records.
Recommended Readings
Approved BSC CxCT Candidates are encouraged to prepare for the BSC CxCT exam by acquiring and studying the following source material. To obtain, please visit www.nebb.org or call 301-977-3698.

Suggested Training
Those pursuing the BSC CxCT may consider obtaining training in this discipline. The NEBB-ASHRAE Commissioning Testing Technician Online Training can augment the Candidate’s ongoing study of the discipline which will help them comprehend and assess the knowledge, skills and abilities necessary for this certification. For an outline of the training visit: http://www.nebb.org/assets/1/7/ASHRAE-NEBB_Technical_Training_E-learning_Courses_DETAILED_OVERVIEW-FINAL-5.11.16.pdf. For complete details, call NEBB at 301-977-3698.

BSC CxCT Exam Details

BSC CxCT Exam
1. Is an “open book” exam.
2. Can take up to three (3) hours to complete.
3. Consists of 100 multiple choice questions.
4. Calculations and formulas are in the Imperial Standard and not available in Metric.
5. Exams and certification program information documents are developed based on practice in the United States and are offered only in English.
6. All questions are designed to test recall skills and the candidate’s ability to apply knowledge, interpret data, and solve problems.

The Candidate is allowed to bring in and use the following:
1. Writing instruments to include pencils, mechanical pencils, pens, and erasers
2. Calculator: non-programmable with limitations to the following models only: Casio FX-115 series models or Texas Instruments TI-30x and TI-36X series models.
3. Reference material that may be brought into the exam:
   i. Procedural Standards for Retro-Commissioning of Existing Buildings
   ii. Procedural Standards for Whole Building Systems Technical Commissioning for New Construction
   v. All publications must be a clean copy, with no writing, highlighting or tabbed pages.
      1. The Proctor will check the publications before you begin the exam and after you complete the exam to ensure the copies are clean both going in and leaving.
      vi. Aside from the above material, no other study material or aids are permitted.
The Kryterion Center Proctor will provide Candidate with:
- Three pieces of scratch paper and two pencils to use while in the exam session
  - The Proctor will initial each page of the scratch paper given, record the number of pages given in the Kryterion Test Taker Tracking Log, and collect and shred the pages immediately after the test session is completed.
- NEBB Formula Chart and Psychometric Chart
  - These will be given to the Candidate upon being seated at the workstation.

Scheduling the BSC CxCT Exam
- The CxCT exams are offered on demand at more than 350 Kryterion test centers within the United States and more than 700 test centers worldwide.
- Specific examination locations are listed at [http://www.kryteriononline.com/Locate-Test-Center](http://www.kryteriononline.com/Locate-Test-Center).
- Reminder: Upon arrival to the Kryterion Test Center, make sure to have your authorization letter and two valid forms of identification.
- The paper-based exam is also made available at various NEBB events, such as seminars or the NEBB Annual Conference.

Deadlines for Completion of Personnel Certification
- Candidates have three (3) years from their initial exam date to pass all of the certification’s written and/or practical exams.
  - After this time period expires, Candidates must wait one (1) year from the last examination attempt before re-applying for Personnel Certification.
- After successful completion of the examination, Candidates have one (1) year to apply for their Personnel Certification and pay all related fees.
  - If Candidates do not apply for Personnel Certification within one (1) year, Candidates will be responsible for paying a Certification Re-application Fee before being awarded Certification.

Achieving BSC CxCT Certification & Requirements
- Candidates will receive specific written notification upon successfully completing all the certification pre-requisite requirements, including passing the required exams.
- Upon passing the exam, NEBB will contact the Candidate to complete the final stage of achieving the certification, which is to complete the Application for Certification and pay all related fees.
- Processing of final certification may take 30 days from receipt of form and payment.
- Candidates may not use the credential(s) until they have received their official BSC CxCT Certificate and Certificant number.
- After receiving notification of achieving the Commissioning Certified Technician (CxCT) certification, the credential granted may be used only as long as the individual’s certification remains valid and in good standing.
- Certificants must comply with all recertification requirements to maintain use of the credential.
- The use and/or display of the CxCT acronyms or designation names, except as permitted by the policy, is prohibited. Individuals who fail to maintain certification/recertify or whose certification is suspended or revoked must immediately discontinue use of the certification mark(s) and are prohibited from stating or implying that they hold the certification.
Acceptable Use

Certificants who have earned the CxCT certification may identify themselves as:

- NEBB Building Systems Commissioning Certified Technician, or “BSC CxCT.”

The name and acronym listed above may only be used in connection with a certified individual and not with a firm, facility, department, or other group.
Appendix D

Cleanroom Performance Testing Certified Professional: CPT CP

The CPT Certified Professional certification program recognizes individuals who have demonstrated the experience, knowledge, and skills necessary to provide competent testing of Cleanroom systems.

Cleanroom Performance Testing: CPT CP

Individuals certified in Cleanroom Performance Testing (CPT) work in management positions and represent their firm on cleanroom performance testing matters. CPT CP Certificants: develop and plan the work; handle report preparation; recommend corrective action; set the overall safety plan; maintain cleanroom testing procedures, instruments and calibration programs; have experience with control strategies, sequences of operation, control systems, equipment and software; and review, check, and sign the final report.

CPT Certified Professionals meet a combination of education and/or experience requirements and demonstrate their knowledge of Cleanroom Performance Testing by meeting specific pre-requisite requirements, self-directed study, passing the CPT exam and maintaining their certification with continuing education.

Eligibility Criteria

Those accepted into the CPT Certification program must meet the following education categories and professional experience requirements in one of the following categories and must pass the CPT CP Written Exam and the CPT CP Report Preparation Exam.

<table>
<thead>
<tr>
<th>Category A</th>
<th>Category B</th>
<th>Category C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold a Bachelor of Science Degree in Engineering</td>
<td>Have a High School Diploma (or equivalent)</td>
<td>Have a High School Diploma (or equivalent)</td>
</tr>
<tr>
<td>AND</td>
<td>AND</td>
<td>AND</td>
</tr>
<tr>
<td>Have at least five (5) years of combined Engineering education and experience in Cleanroom Performance Testing with a minimum of one (1) year actual Cleanroom Performance Testing.</td>
<td>Have three (3) years of experience in Cleanroom Performance Testing</td>
<td>Have two (2) years of experience as a NEBB CPT Technician performing at least 1000 hours per year of Cleanroom Performance Testing</td>
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</tbody>
</table>

CPT CP Application for Candidacy

Please visit [www.nebb.org](http://www.nebb.org) to download a copy of the CPT CP Application for Candidacy which contains specific information pertaining to the full application process, or email certification@nebb.org. Review of application and related documents may take up to two weeks. Applicants who meet the eligibility criteria and are accepted into the certification program are referred to as “Candidates.”
Studying for the Exam
Applicants who are accepted as Candidates and are approved to sit for the exam should have a working knowledge of the following CPT Content Domains and are encouraged to study and review these items in preparation for the exam:

- Good knowledge of cleanroom test procedures
- Math skills including:
  - Square and square roots
  - Percentages and equations
  - Unit Conversions
- Knowledge of Particle counter operational limits
- Knowledge and experience working with Photometers used for Leak Testing
- Knowledge and experience working with Particle Counters used for Leak Testing
- Working knowledge of Laskin nozzle generators
- Working knowledge of PSL generators
- Knowledge and application of Air volume and velocity instrumentation
- Understanding of the NEBB Procedural Standard for Certified Testing of Cleanrooms
- Working knowledge of critical guides, standards and codes for Cleanroom testing
- Experienced in Report writing and related calculations

Recommended Readings
Candidates are encouraged to purchased and use the following reference material for their at-home studying in preparation for the exam. Publications can be purchased online at www.nebb.org.

- NEBB Procedural Standard for Certified Testing of Cleanrooms
- Cleanroom Performance Testing Home Study Course
- CPT Seminar Presentation Handouts and Notes
- IEST RP 034
- IEST RP 006
- ISO 14644-1
- ISO 14644-2
- ISO 14644-3
- Aseptic Processing Guidance (FDA)
- EU Guideline Annex 1
- PICS Guideline I

CPT CP Exam Details
Those pursuing their CPT CP Exam are required to take and pass two exams: the CPT CP General Knowledge Written Exam and the CPT CP Report Review Exam.

CPT CP General Knowledge Written Exam
1. Is an “open book” exam.
2. Consists of 50 multiple choice questions.
3. Can take up to two (2) hours to complete.
4. Exams and certification program information documents are developed based on practice in the United States and are offered only in English.
5. Calculations and formulas are in the Imperial Standard with Metric equivalents.
6. All questions are designed to test recall skills and the Candidate’s ability to apply knowledge, interpret data, and solve problems.

CPT CP Report Completion Exam: (NOT Available at Kryterion Center)
1. Is considered the “Practical Exam” portion of the CPT certification process.
2. Candidate is given Raw Field Data, the Standard Operating Procedure (SOP) used for testing and blank report pages to complete. The results calculated from the Cleanroom Performance Testing are also compared to the acceptance criteria and failures require explanations. The execution of the tests are also evaluated against the provided SOP.
3. Can take up to five (5) hours to complete.
4. The Report Review Exam must be arranged through NEBB to be given by a NEBB paper-based Exam Proctor.
5. Exams and certification program information documents are developed based on practice in the United States and are offered only in English.
6. Currently this exam is only offered in Imperial units except Cleanliness Classification where metric only is used.
7. All questions are designed to test recall skills and the Candidate’s ability to apply knowledge, interpret data, and solve problems.

The Candidate is allowed to bring in and use the following:
1. Any reference books, indexes, printed and hand-written reference notes
   i. NEBB CPT Procedural Standard
   ii. Seminar Presentation Handouts and Notes
   iii. IEST RP 034
   iv. IEST RP 006
   v. ISO 14644-1
   vi. ISO 14644-2
   vii. ISO 14644-3
   viii. ISO 14644-4
   ix. Aseptic Processing Guidance (FDA)
   x. EU Guideline Annex 1
   xi. PICS Guideline
2. A calculator
3. A laptop (with no internet access)
4. Writing instruments to include pencils, mechanical pencils, pens, and erasers
5. No other study material or aids are permitted.

The Kryterion Center Proctor will provide Candidate with:
• Three pieces of scratch paper and two pencils to use while in the exam session
• The Proctor will initial each page of the scratch paper given, record the number of pages given in the Kryterion Test Taker Tracking Log, and collect and shred the pages immediately after the test session is completed.
Scheduling the CPT CP Exam
- The CPT CP exams are offered on demand at more than 350 Kryterion test centers within the United States and more than 700 test centers worldwide.
- Specific examination locations are listed at http://www.kryteriononline.com/Locate-Test-Center.
- Reminder: Upon arrival to the Kryterion Test Center, make sure to have your authorization letter and two valid forms of identification.
- The paper-based exam is also made available at various NEBB events, such as seminars or the NEBB Annual Conference.

Deadlines for Completion of Personnel Certification
- Candidates have three (3) years from their initial exam date to pass all of the certification’s written and/or practical exams.
  a. After this time period expires, Candidates must wait one (1) year from the last examination attempt before re-applying for Personnel Certification.

- After successful completion of the examination, Candidates have one (1) year to apply for their Personnel Certification and pay all related fees.
  a. If Candidates do not apply for Personnel Certification within one (1) year, Candidates will be responsible for paying a Certification Re-application Fee before being awarded Certification.

Achieving CPT CP Certification & Requirements
- Candidates will receive specific written notification upon successfully completing all the certification pre-requisite requirements, including passing the required exams.
- Upon passing the exam, NEBB will contact the Candidate to complete the final stage of achieving the certification, which is to complete the Application for Certification and pay all related fees.
- Processing of final certification may take 30 days from receipt of form and payment.
- Candidates may not use the credential(s) until they have received their official CPT CP Certificate and Certificant number.
- After receiving notification of achieving the Cleanroom Performance Testing Certified Professional (CPT CP) certification, the credential granted may be used only as long as the individual’s certification remains valid and in good standing.
- Certificants must comply with all recertification requirements to maintain use of the credential.
- The use and/or display of the CPT CP acronyms or designation names, except as permitted by the policy, is prohibited. Individuals who fail to maintain certification/recertify or whose certification is suspended or revoked must immediately discontinue use of the certification mark(s) and are prohibited from stating or implying that they hold the certification.

Acceptable Use
Certificants who have earned the CPT CP certification may identify themselves as:
- NEBB Cleanroom Performance Testing Certified Professional, or “CPT CP.”

The name and acronym listed above may only be used in connection with a certified individual and not with a firm, facility, department, or other group.
Appendix E

Cleanroom Performance Testing Certified Technician: CPT CT

The Cleanroom Performance Testing Technician certification program recognizes individuals who have demonstrated their ability to execute field testing accurately while following a reliable standard. They have the working knowledge, and skills necessary to complete the testing of cleanroom systems.

Cleanroom Performance Testing CT

Individuals certified in Cleanroom Performance Testing work under management and have positions related to acquiring field test data by executing various cleanroom tests. They add valuable assistance regarding cleanroom performance testing matters. CPT CT Certificants: perform the work as directed by the CPT CP; are knowledgeable regarding report forms; help identify problems; perform all work using common safety practices; knowledgeable regarding the proper use and handling of instrumentation; basic knowledge of cleanroom operations and protocol; Good understanding on the executing of cleanroom test methods.

CPT Certified Technicians meet a combination of education and/or experience requirements and demonstrate their knowledge of Cleanroom Performance Testing by meeting specific pre-requisite requirements, at-home and in-professional studying, passing the CPT exam and maintaining their certification with continuing education.

Eligibility Criteria

Those accepted into the CPT Certified Technician program must meet all the conditions in any one of the following education categories and pass the CPT CT Written Exam.

<table>
<thead>
<tr>
<th>Have worked at least one (1) year (min of 1,000 hours) as a Cleanroom Performance technician.</th>
<th>Have at least two (2) years of experience with a Cleanroom Performance Testing Firm (min of 1,000 annually)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AND</strong></td>
<td><strong>AND</strong></td>
</tr>
<tr>
<td>Successful completion of the NEBB Study Course for Certified Testing of Cleanrooms or equivalent live seminar or course.</td>
<td>Have attended industry training related to Cleanroom Performance Testing</td>
</tr>
</tbody>
</table>

CPT CT Application for Candidacy

Please visit [www.nebb.org](http://www.nebb.org) to download a copy of the CPT CT Application for Candidacy which contains specific information pertaining to the full application process, or email certification@nebb.org. Review of application and related documents may take up to two weeks. Applicants who meet the eligibility criteria and are accepted into the certification program are referred to as “Candidates.”
Studying for the Exam

Applicants who are accepted as Candidates and are approved to sit for the exam should have a working knowledge of the following CPT Content Domains and are encouraged to study and review these items in preparation for the exam:

Candidates should have a

- Basic knowledge of cleanroom test procedures
- Math skills including:
  - Square and square roots
  - Percentages and equations
  - Standard/Metric conversions
- Operational knowledge of Photometers
- Operational knowledge of Laskin nozzles
- Operational knowledge of PSL generators
- Experience with air volume and velocity instrumentation
- Understanding the NEBB Procedural Standard for Certified Testing of Cleanrooms
- Working knowledge of critical guides, standards and codes for Cleanroom testing

Recommended Reading

The Procedural Standard for Certified Testing of Cleanrooms, 3rd Edition, 2009 and the Cleanroom Performance Testing Home Study Guide are available through www.nebb.org and are recommended readings for anyone doing cleanroom performance testing. In addition these documents are recommended.

- Cleanroom Performance Testing Home Study Course
- CPT Seminar Presentation Handouts and Notes
- IEST RP 034
- IEST RP 006
- ISO 14644-1
- ISO 14644-2
- ISO 14644-3
- Aseptic Processing Guidance (FDA)
- EU Guideline Annex 1
- PICS Guideline I

Suggested Training

Those pursuing this specific certification should consider attending a specialized seminar on this discipline. The CPT Technician seminar is intended to augment the Candidate’s ongoing study of the discipline which will help them comprehend and assess the knowledge, skills and abilities necessary for this certification. Attending the course will aid in the comprehension of the subject matter but is not a guarantee for passing the exam. For complete details, visit www.nebb.org.
CPT CT Exam Details

1. **CPT CT Written Exam**:
   b. Consists of 100 multiple choice questions.
   c. Can take up to four (4) hours to complete.
   d. All questions are designed to test recall skills and the Candidate’s ability to apply knowledge, interpret data, and solve problems.
   e. Exams and certification program information documents are developed based on practice in the United States and are offered only in English.
   f. Calculations and formulas are in the Imperial Standard with Metric equivalents.

2. **The Candidate is allowed to bring in and use the following**:
   a. Any reference books, indexes, printed and hand-written reference notes
   b. A non-programmable calculator with limitations to the following models only:
      i. Casio FX-115 series models or Texas Instruments TI-30X and TI-36X series models
   c. Writing instruments to include pencils, mechanical pencils, pens, and erasers
   d. No other study material or aids are permitted.

3. **The Kryterion Center Proctor will provide Candidate with**:
   a. Three pieces of scratch paper and two pencils to use while in the exam session
      i. The Proctor will initial each page of the scratch paper given, record the number of pages given in the Kryterion Test Taker Tracking Log, and collect and shred the pages immediately after the test session is completed.
   b. A four-page *Project Details* packet used for exam items. The Proctor will collect all pages of the download and shred each page at the completion of the exam.
   c. All items provided by the Test Center will be collected and shredded upon completion of the examination and may not be removed from the Test Center by the Applicant.

Scheduling the CPT CT Exam

- The CPT CT exams are offered on demand at more than 350 Kryterion test centers within the United States and more than 700 test centers worldwide.
- Specific examination locations are listed at [http://www.kryteriononline.com/Locate-Test-Center](http://www.kryteriononline.com/Locate-Test-Center).
- **Reminder:** Upon arrival to the Kryterion Test Center, make sure to have your authorization letter and two valid forms of identification.
- The paper-based exam is also made available at various NEBB events, such as seminars or the NEBB Annual Conference.

Deadlines for Completion of Personnel Certification

- Candidates have three (3) years from their initial exam date to pass all of the certification’s written and/or practical exams.
  a. After this time period expires, Candidates must wait one (1) year from the last examination attempt before re-applying for Personnel Certification.
• After successful completion of the examination, Candidates have one (1) year to apply for their Personnel Certification and pay all related fees.
  a. If Candidates do not apply for Personnel Certification within one (1) year, Candidates will be responsible for paying a Certification Re-application Fee before being awarded Certification.

**Achieving CPT CT Certification & Requirements**

• Candidates receive written notification upon successfully completing all the certification prerequisite requirements, including passing the required exam.
• Upon passing the exam, NEBB will contact the Candidate to complete the final stage of achieving the certification, which is to complete the Application for Certification and pay all related fees.
• Processing of final certification may take 30 days from receipt of form and payment.
• Candidates may not use the credential(s) until they have received their official CPT CT Certificate and Certificant number.
• Processing of final certification may take 30 days from receipt of form and payment.
• After receiving notification of achieving the Cleanroom Performance Testing Certified Technician (CPT CT) certification, the credential granted may be used only as long as the individual’s certification remains valid and in good standing.
• Certificants must comply with all recertification requirements to maintain use of the credential.
• The use and/or display of the CPT CT acronyms or designation names, except as permitted by the policy, is prohibited. Individuals who fail to maintain certification/recertify or whose certification is suspended or revoked must immediately discontinue use of the certification mark(s) and are prohibited from stating or implying that they hold the certification.

**Acceptable Use**

Certificants who have earned the CPT CT certification may identify themselves as:

• *NEBB Cleanroom Performance Testing Certified Technician*, or “CPT CT.”

The name and acronym listed above may only be used in connection with a certified individual and not with a firm, facility, department, or other group.
Appendix F

Fume Hood Performance Testing Certified Professional: FHT CP

The Fume Hood Performance Testing Certified Professional certification program is designed to recognize individuals who have demonstrated the experience, knowledge, and skills necessary to provide competent testing and troubleshooting of laboratory fume hoods and laboratory air systems.

Individuals certified in Fume Hood Performance Testing represent their firm on fume hood performance testing projects. FHT Certified Professionals: develop and plan the work; handle report preparation; recommend corrective action; set the overall safety plan; maintain instruments and calibration program; have experience with laboratory airflow systems and design, equipment and software; and review, check, and sign the final report.

FHT CP certificants meet a combination of education and experience requirements and demonstrate their knowledge of Fume Hood Performance Testing by meeting specific pre-requisite requirements, studying, passing the FHT CP exam and maintaining their certification with continuing education.

Eligibility Criteria

Those accepted into the FHT CP Certification program must meet the following education categories and professional experience requirements in one of the following categories (A or B) and must pass both the FHT CP Written and FHT CP Practical certification exams.

<table>
<thead>
<tr>
<th>Category A</th>
<th>Category B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have a minimum of five years combined educational and supervisory experience in fume hood testing</td>
<td>Have a High School Diploma/GED</td>
</tr>
<tr>
<td></td>
<td>AND</td>
</tr>
<tr>
<td></td>
<td>Have two years field experience in fume hood testing</td>
</tr>
<tr>
<td></td>
<td>AND</td>
</tr>
<tr>
<td></td>
<td>Attended training directly related to fume hood testing</td>
</tr>
</tbody>
</table>

FHT CP Application for Candidacy

Please visit www.nebb.org to download a copy of the FHT CP Application for Candidacy which contains specific information pertaining to the full application process, or email certification@nebb.org. Review of application and related documents may take up to two weeks.

Applicants who meet the eligibility criteria and are accepted into the certification program are referred to as “Candidates.”

Studying for the FHT CP Exam

Candidates should have a working knowledge of the following Fume Hood Content Domains and are encouraged to study and review these items in preparation for the FHT CP exams.
The written and practical examinations test the knowledge, engineering application and field testing skills required to properly test and evaluate the performance of fume hoods.

The Written & Practical Examination tests the Candidate in these areas, but are not limited to:

- Knowledge of the NEBB FHT Procedural Standard testing requirements.
- Knowledge of basic laboratory HVAC design.
- Knowledge of the operation of fume hoods and other containment enclosures.
- Knowledge of the engineering applications of fume hood testing.
- Testing of basic HVAC fundamentals.
- Airflow Velocity
- Airflow Visualization
- Tracer Gas Containment

**Recommended Readings**

Candidates are encouraged to purchase and use the following reference material for their at-home studying in preparation for the exams. Publications can be purchased online at [www.nebb.org](http://www.nebb.org), or at the ASHRAE and ANSI websites.

- *NEBB Procedural Standard for Fume Hoods Performance Testing*
- *ANSI Z9.5*
- *ASHRAE 110*

**Suggested Training**

Those pursuing the FHT certification should consider attending a specialized seminar on this discipline. The NEBB FHT CP seminar is a review and is intended to augment the Candidate’s ongoing study of the discipline which will help them comprehend and assess the knowledge, skills and abilities necessary for this certification. *The course cannot and should not serve as the sole comprehensive training or study method for the FHT CP exams.* For complete details, visit [www.nebb.org](http://www.nebb.org).

**FHT CP Exam Details**

Candidates are advised to schedule and take the FHT CP Written Exam first and when they have passed, schedule their FHT Practical Exam. Alternatively, Candidates may choose to attend the Review Seminar which is followed immediately with the Written and Practical exams.

1. **The FHT CP Written Exam (Online & Paper-based)**
   b. Can take up to three (3) hours to complete.
   c. Consists of 100 multiple choice questions.
   d. All questions are designed to test recall skills and the candidate’s ability to apply knowledge, interpret data, and solve problems.
   e. Exams and certification program information documents are developed based on practice in the United States, Canada, and countries using the *ASHRAE 110 Standard* and are offered only in English.
   f. Calculations and formulas are in the Imperial Standard and not available in Metric.
2. **The FHT CP Practical Exam:**
   a. Is comprised of three sections:
      i. Airflow Velocity Tests (1 hour)
      ii. Airflow Visualization Tests (½ hour)
      iii. Tracer Gas Containment Tests (1½ hour)
      iv. Reporting: complete report with data accumulated and/or provided (2 hours)
   b. The Practical Examination tests the Candidate in these areas:
      i. Correct application, knowledge and proper use of the appropriate instrumentation for each performance test.
      ii. Knowledge of the procedural requirements of each performance test.
      iii. Knowledge of the analysis of the measured data and reporting requirements of each performance test.
   c. The Candidate is allowed to bring in and use the following:
      i. Pencils, mechanical pencils, pens, and erasers
      ii. A non-programmable calculator with limitations to the following models only:
      iii. Computer with Excel or equivalent
      v. No other study material or aids are permitted

3. **The Kryterion Center Proctor will provide:**
   a. Three pieces of scratch paper and two pencils to use while in the test session
      i. The Proctor will initial each page of the scratch paper given, record the number of pages given in the Kryterion Test Taker Tracking Log.
      ii. The Proctor will collect and shred the pages immediately after the test session is completed.
   b. The Kryterion Proctor will download a NEBB Formula Sheet and give to the Candidate.
   c. These items may not be removed from the Test Center by the Applicant.

**Scheduling the FHT CP Written Exam**
- The FHT CP written exams are offered on demand at more than 350 Kryterion test centers within the United States and more than 700 test centers worldwide.
- Specific examination locations are listed at [http://www.kryteriononline.com/Locate-Test-Center](http://www.kryteriononline.com/Locate-Test-Center).
- Reminder: Upon arrival to the Kryterion Test Center, make sure to have your authorization letter and two valid forms of identification.
- The exam is also made available at various NEBB events, such as FHT seminars or the NEBB Annual Conference.

**Scheduling the FHT CP Practical Exam**
- The FHT CP Practical Exam can be scheduled to be taken after the NEBB FHT Seminar.
• Individual Practical Exams can be scheduled as required, and scheduling is based on the Test Location’s access to a lab setting and fume hood setting.
• To schedule FHT CP Practical Exam, please email certification@nebb.org.

Deadlines for Completion of Personnel Certification
• Candidates have three (3) years from their initial exam date to pass all of the certification’s written and/or practical exams.
  a. After this time period expires, Candidates must wait one (1) year from the last examination attempt before re-applying for Personnel Certification.

• After successful completion of the examination, Candidates have one (1) year to apply for their Personnel Certification and pay all related fees.
  a. If Candidates do not apply for Personnel Certification within one (1) year, Candidates will be responsible for paying a Certification Re-application Fee before being awarded Certification.

Achieving FHT CP Certification & Requirements
• Candidates will receive specific written notification upon successfully completing all the certification pre-requisite requirements, including passing the required exams.
• Upon passing the exam, NEBB will email the Candidate to complete the final stage of achieving the certification, which is to complete the Application for Certification and pay all related fees.
• Processing of final certification may take 30 days from receipt of form and payment.
• Candidates may not use the credential(s) until they have received their official FHT CP Certificate and Certificant number.
• After receiving notification of achieving the Fume Hood Performance Testing Certified Professional (FHT CP) certification, the credential granted may be used only as long as the individual’s certification remains valid and in good standing.
• Certificants must comply with all recertification requirements to maintain use of the credential.
• The use and/or display of the FHT CP acronyms or designation names, except as permitted by the policy, is prohibited. Individuals who fail to maintain certification/recertify or whose certification is suspended or revoked must immediately discontinue use of the certification mark(s) and are prohibited from stating or implying that they hold the certification.

Acceptable Use
Certificants who have earned the FHT CP certification may identify themselves as:
• NEBB Fume Hood Performance Testing Certified Professional, or “FHT CP.”

The name and acronym listed above may only be used in connection with a certified individual and not with a firm, facility, department, or other group.
Appendix G

Retro-Commissioning for Existing Buildings Certified Professional: RCx-EB CP

The Retro-commissioning for Existing Buildings Certified Professional is a professional who is capable of assessing, testing, evaluating and optimizing existing building systems for the performance of technical commissioning.

Individuals certified in Retro-Commissioning for Existing Buildings (RCx-EB) work in management positions and represent their firm on building commissioning matters. RCx-EB certificants: develop and plan the work; handle report preparation; recommend corrective action; set the overall safety plan; maintain instruments and calibration program; have experience with control strategies, sequences of operation, control systems, equipment and software; and review, check, and sign the final report.

RCx-EB Certified Professionals (RCx-EB CP) meet a combination of education and/or experience requirements and demonstrate their knowledge of Retro-Commissioning for Existing Buildings by meeting specific pre-requisite requirements, individual and professional-based studying, passing the RCx-EB CP exam and maintaining their certification with continuing education.

Eligibility Criteria

Those accepted into the RCx-EB Certification program must meet the following education categories and professional experience requirements in one of the following categories and must successfully pass the RCx-EB Procedural Standards Exam and the RCx-CB Technical Exam.

<table>
<thead>
<tr>
<th>Category A</th>
<th>Category B</th>
<th>Category C</th>
<th>Category D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold a Bachelor of Science Degree in Engineering</td>
<td>Hold an Associate’s Degree in Engineering Technology</td>
<td>Have at least four years of experience in performing building systems design, building systems installation, BSC, systems testing, systems operations, or TAB</td>
<td>Have a minimum of four years of building systems design or installation related experience (which could include accredited apprenticeship)</td>
</tr>
<tr>
<td>AND</td>
<td>AND</td>
<td>AND</td>
<td>AND</td>
</tr>
<tr>
<td>Have at least two years of supervisory experience in building system design, building system installation, building system commissioning, building systems testing, systems operations or TAB</td>
<td>Have at least four years of supervisory experience in performing building systems design, building systems installation, BSC, systems testing, systems operations or TAB</td>
<td>Have at least four years of supervisory experience in building systems design, building systems installation, BSC, systems testing, systems operations or TAB</td>
<td>Have a minimum of two years of experience in building systems design, building systems installation, building systems commissioning, systems testing, systems operations or TAB</td>
</tr>
<tr>
<td>AND</td>
<td>AND</td>
<td>AND</td>
<td>AND</td>
</tr>
<tr>
<td>Have two years of supervisory experience in building systems design, building systems installation, building systems commissioning, building systems testing, systems operations or TAB</td>
<td>Eight years total.</td>
<td>In addition, have a minimum of four years of supervisory experience in: building systems design, building systems installation, BSC, systems testing, systems operations or TAB</td>
<td>Ten years total.</td>
</tr>
</tbody>
</table>
RCx-EB CP Application for Candidacy

Please visit www.nebb.org to download a copy of the RCx CP Application for Candidacy which contains specific information pertaining to the full application process, or email certification@nebb.org. Review of application and related documents may take up to two weeks. Applicants who meet the eligibility criteria and are accepted into the certification program are referred to as “Candidates.”

Studying for the RCx-EB CP Exam

Candidates approved to sit for the exam must have a working knowledge of the following Content Domains and are encouraged to study and review these in preparation for the exam:

**Professional Commissioning Conduct**
- Establishes good relationships with other commissioning team members, operators and occupants
- Represents company & conducts meetings in a professional manner
- Produces professional communication documents
- Understands use of commissioning measurement instruments
- Maintains calibrated instruments
- Demonstrates troubleshooting skills

**Safety**
- Trained on job site safety & use of PPE
- Knowledge of safe use of instruments

**Technical Commissioning Process**
- Assists Owner in determining RCx Scope of Work
- Manages the Retro-commissioning contract
- Develops the technical commissioning plan and performance verification process
- Secures building documentation
- Performs design review; Quick Fixes; operator training; estimates and energy savings calculations of recommended improvements
- Creates the CFR
- Performs energy audit; system assessment; interviews, site investigation, site testing

**Field Assessment**
- Understands: building envelope systems & component types
- Understands HVAC, Control, Plumbing, Electrical and Lighting systems & corresponding equipment types
- Record model and serial and equipment data from building equipment
- Test and record equipment operating parameters, voltage, current, temperature, pressures, flows, etc.
- Perform lighting audit
- Create Assessment report
- Analyze equipment field assessment and assign condition assessment

**RcX Testing**
- Perform: system data logging and trending; building envelope thermal intrusion tests; HVAC control system point-to-point tests; plumbing system tests, TAB testing and electrical testing.

**Functional Testing**
- Create functional test designs
- Perform HVAC and lighting control system functional tests

**System Troubleshooting**
- Understand troubleshooting process
- Implement troubleshooting using testing

**Recommended Readings**

Candidates are encouraged to purchase and use the following reference material for their at-home studying in preparation for the exam. Publications can be purchased online at www.nebb.org.

- NEBB Procedural Standards for Retro-Commissioning of Existing Buildings – 2009
Suggested Training
Those pursuing this specific certification should consider attending a specialized seminar on this discipline. The RCx-EB CP seminar is intended to augment the Candidate’s ongoing study of the discipline which will help them comprehend and assess the knowledge, skills and abilities necessary for this certification. The course cannot and should not serve as the sole comprehensive training or study method for the RCx-EB CP exams. For complete details, visit www.nebb.org.

RCx CP Exam Details
The RCx-EB CP Procedural Standard Exam Details
b. Can take up to two (2) hours to complete.
c. Consists 80 multiple choice questions.
d. The online exam utilizes the Split Screen technology.
   i. The online exam software has the ability to allow the Candidate to view the exam on the left and the NEBB Procedural Standards for Retro-Commissioning of Existing Buildings – 2009 on the right side of the computer screen and is a scrollable and searchable PDF.
e. *For the paper-based RCx-EB CP Procedural Standard Exam, Candidates may bring into the exam site a clean, unmarked copy of the NEBB Procedural Standards for Retro-Commissioning of Existing Buildings – 2009.

The Candidate is allowed to bring in and use the following:
f. Writing instruments to include pencils, mechanical pencils, pens, and erasers.
g. No study materials or aids are permitted, other than what is detailed above.

The RCx-EB Technical Exam Details
b. Consists of 100 multiple-choice questions.
c. Can take up to four (4) hours to complete.

1. The Candidate is allowed to bring in and use:
   a. Any reference books, indexes, printed and/or hand-written reference notes.
   b. A non-programmable calculator with limitations to the following models only:
      i. Casio FX-115 series models or Texas Instruments TI-30X and TI-36X series models.
   c. Writing instruments to include pencils, mechanical pencils, pens, and erasers.
   d. No other study material or aids are permitted.

2. The Kryterion Center Proctor will provide:
   a. Three pieces of scratch paper and two pencils to use while in the test session
      i. Proctor will initial each page of the scratch paper given, record number of pages given in the Kryterion Test Taker Tracking Log.
      ii. Proctor will collect and shred the pages immediately after the exam is completed.
   b. Proctor will download a Formula Sheet and give to the Candidate.
1. All questions are designed to test recall skills and the candidate’s ability to apply knowledge, interpret data, and solve problems.
2. Exams and certification program information documents are developed based on practice in the United States and are offered only in English.
3. Calculations and formulas are in the Imperial Standard and not available in Metric.

**Scheduling the RCx-EB CP Exam**

- The RCx-EB CP exams are offered on demand at more than 350 Kryterion test centers within the United States and more than 700 test centers worldwide.
- Specific examination locations are listed at [http://www.kryteriononline.com/Locate-Test-Center](http://www.kryteriononline.com/Locate-Test-Center).
- Reminder: Upon arrival to the Kryterion Test Center, make sure to have your authorization letter and two valid forms of identification.
- The exam is also made available at various NEBB events, such as seminars or the NEBB Annual Conference.

**Deadlines for Completion of Personnel Certification**

- Candidates have three (3) years from their initial exam date to pass all of the certification’s written and/or practical exams.
  a. After this time period expires, Candidates must wait one (1) year from the last examination attempt before re-applying for Personnel Certification.
- After successful completion of the examination, Candidates have one (1) year to apply for their Personnel Certification and pay all related fees.
  a. If Candidates do not apply for Personnel Certification within one (1) year, Candidates will be responsible for paying a Certification Re-application Fee before being awarded Certification.

**Achieving RCx-EB CP Certification & Requirements**

- Candidates will receive specific written notification upon successfully completing all the certification pre-requisite requirements, including passing the required exams.
- Upon passing the exam, the Candidate must contact NEBB to complete the final stage of achieving the certification, which is to complete the Application for Certification and pay all related fees.
- Processing of final certification may take 30 days from receipt of form and payment.
- Candidates may not use the credential(s) until they have received their official RCx-EB CP Certificate and Certificant number.
- After receiving notification of achieving the Retro-Commissioning of Existing Buildings Certified Professional (RCx-EB CP) certification, the credential granted may be used only as long as the individual’s certification remains valid and in good standing.
- Certificants must comply with all recertification requirements to maintain use of the credential.
- The use and/or display of the RCx-EB CP acronyms or designation names, except as permitted by the policy, is prohibited. Individuals who fail to maintain certification/recertify or whose certification is suspended or revoked must immediately discontinue use of the certification mark(s) and are prohibited from stating or implying that they hold the certification.
Acceptable Use
Certificants who have earned the RCx-EB CP certification may identify themselves as:

*NEBB Retro-Commissioning of Existing Buildings Certified Professional*, or “RCx-EB CP.”

The name and acronym listed above may only be used in connection with a certified individual and not with a firm, facility, department, or other group.
Appendix H

Sound Measurement Certified Professional: SM CP

The SM CP certification program is designed to recognize individuals who have demonstrated the experience, knowledge, and skills necessary to provide competent testing and tuning of building systems.

Individuals certified in Sound Measurement (SM CP) work in management positions and represent their firm on measurement of sound matters. SM CP certificants: develop and plan the work; handle report preparation; recommend corrective action; set the overall safety plan; maintain instruments and calibration program; have experience with control strategies, sequences of operation, control systems, equipment and software; and review, check, and sign the final report.

SM Certified Professionals meet a combination of education and/or experience requirements and demonstrate their knowledge of Measurement of Sound by meeting specific prerequisite requirements, studying, passing the SM CP exam and maintaining their certification with continuing education per NEBB’s continuing education credit (CEC) requirements.

Eligibility Criteria

Those accepted into the SM CP Certification program must meet the following education categories and professional experience requirements in any one of the following categories (requirements cannot be conducted concurrently) and must pass the SM CP written certification examination.

<table>
<thead>
<tr>
<th>Category A</th>
<th>Category B</th>
<th>Category C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold a Bachelor of Science Degree in Engineering</td>
<td>Hold an Associate’s Degree in Engineering Technology</td>
<td>Have a minimum of four years of HVAC related experience (which could include accredited apprenticeship)</td>
</tr>
<tr>
<td>AND</td>
<td>AND</td>
<td>AND</td>
</tr>
<tr>
<td>Have at least one years of supervisory experience in Sound Measurement</td>
<td>Have at least two years of supervisory experience in Sound Measurement</td>
<td>Attended approved training session directly related to Sound Measurement AND/OR Have at least six years of experience in Sound Measurement with at least four of those years in a supervisory position</td>
</tr>
</tbody>
</table>

SM CP Application for Candidacy

Please visit [www.nebb.org](http://www.nebb.org) to download a copy of the SM CP Application for Candidacy which contains specific information pertaining to the full application process, or email [certification@nebb.org](mailto:certification@nebb.org). Review of application and related documents may take up to two weeks.

Applicants who meet the eligibility criteria and are accepted into the certification program are referred to as “Candidates.”
Studying for the SM CP Exam
Applicants who are accepted as Candidates and are approved to sit for the exam should have a working knowledge of the following Content Domains and are encouraged to study and review the following in preparation for the SM CP exam:

- NEBB Sound Procedural Standards
- Equipment and measuring devices
- Calculations
- Sound theory
- Terminology and Definitions
- RC Curves
- NC Curves
- NEBB Study Course for Measuring Sound & Vibration- 1996
- NEBB Design and Analysis- 1994

Recommended Readings
Candidates are encouraged to purchase and use the following reference material for their at-home studying in preparation for the exam. Publications can be purchased online at www.nebb.org.

- NEBB Procedural Standard for Measurement of Sound & Vibration
- NEBB Study Course for Measuring Sound & Vibration- 1996
- NEBB Design and Analysis- 1994

Suggested Training
Those pursuing this specific certification should consider attending a specialized seminar on this discipline. The Sound & Vibration CP seminar is intended to augment the Candidate’s ongoing study of the discipline which will help them comprehend and assess the knowledge, skills and abilities necessary for this certification. **The course cannot and should not serve as the sole comprehensive training or study method for the Sound Measurement CP exams.** For complete details, visit www.nebb.org.

SM CP Exam Details

1. **The SM CP Written Exam:**
   1. Is an “open book” exam.
   2. Can take up to two (2) hours to complete.
   3. Consists of 50 multiple choice questions.
   4. All questions are designed to test recall skills and the candidate’s ability to apply knowledge, interpret data, and solve problems.
   5. Exams and certification program information documents are developed based on practice in the United States and are offered only in English.
   6. Calculations and formulas are in the Imperial Standard and not available in Metric.

2. **The Candidate is allowed to bring in and use the following:**
   1. Writing instruments to include pencils, mechanical pencils, pens, and erasers
   2. A calculator
   3. Any reference books, indexes, printed and/or hand-written reference notes.
   4. No other study material or aids are permitted
5. No laptop, smartphone, tablet, or any item which allows use of internet or network access

3. The Kryterion Center Proctor will provide:
   1. Three pieces of scratch paper and two pencils to use while in the test session
      i. The Proctor will initial each page of the scratch paper given, record the number of pages given in the Kryterion Test Taker Tracking Log.
      ii. The Proctor will collect and shred the pages immediately after the test session is completed.
   2. Noise Criterion (NC) and Room Criterion (RC) charts- minimum of 5 of each type chart.

Scheduling the SM CP Written Exam
- The SM CP written exams are offered on demand at more than 350 Kryterion test centers within the United States and more than 700 test centers worldwide.
- Specific examination locations are listed at http://www.kryteriononline.com/Locate-Test-Center.
- Reminder: Upon arrival to the Kryterion Test Center, make sure to have your authorization letter and two valid forms of identification.
- The exam is also made available at various NEBB events, such as seminars or the NEBB Annual Conference.

SM CP Practical Exam Details
In addition to the SM CP Written exam, Candidates are required to take the SM CP Practical Exam. The following are details specific to scheduling a SM CP Practical Exam.
   1. The SM CP Practical Exam can be taken at an Approved Local NEBB Chapter Facility after successfully passing the SM CP Written Exam.
   2. The Candidate must contact and schedule the time and place through his/her Local Chapter.
   3. Other Options:
      a. The SM CP Practical Exam may be taken at a NEBB National Meeting with prior arrangement with NEBB National Office and the Sound & Vibration (S&V) Committee.
      b. Candidates are required to bring their own instruments for the Practical Exam or make other arrangements with the S&V Committee for alternatives.

Deadlines for Completion of Personnel Certification
- Candidates have three (3) years from their initial exam date to pass all of the certification’s written and/or practical exams.
   a. After this time period expires, Candidates must wait one (1) year from the last examination attempt before re-applying for Personnel Certification.

- After successful completion of the examination, Candidates have one (1) year to apply for their Personnel Certification and pay all related fees.
   a. If Candidates do not apply for Personnel Certification within one (1) year, Candidates will be responsible for paying a Certification Re-application Fee before being awarded Certification.
Achieving SM CP Certification & Requirements

- Candidates will receive specific written notification upon successfully completing all the certification pre-requisite requirements, including passing the required exams.
- Upon passing the exam, the Candidate must contact NEBB to complete the final stage of achieving the certification, which is to complete the Application for Certification and pay all related fees.
- Processing of final certification may take 30 days from receipt of form and payment.
- Candidates may not use the credential(s) until they have received their official SM CP Certificate and Certificant number.
- After receiving notification of achieving the Sound Measurement Certified Professional (SM CP) certification, the credential granted may be used only as long as the individual’s certification remains valid and in good standing.
- Certificants must comply with all recertification requirements to maintain use of the credential.
- The use and/or display of the SM CP acronyms or designation names, except as permitted by the policy, is prohibited. Individuals who fail to maintain certification/recertify or whose certification is suspended or revoked must immediately discontinue use of the certification mark(s) and are prohibited from stating or implying that they hold the certification.

Acceptable Use

Certificants who have earned the SM CP certification may identify themselves as:

- NEBB Sound Measurement Certified Professional, or “SM CP.”

The name and acronym listed above may only be used in connection with a certified individual and not with a firm, facility, department, or other group.
Appendix I

Sound Measurement Certified Technician: SM CT

The SM CT certification program is designed to recognize individuals who have demonstrated the experience, knowledge, and skills necessary to provide competent testing of building systems.

Individuals certified in Measurement of Sound (CT) work on measurement of sound matters. SM Certified Technicians meet a combination of education and/or experience requirements and demonstrate their knowledge of Measurement of Sound by meeting specific pre-requisite requirements, studying, passing the SM CT exam and maintaining their certification with continuing education.

Eligibility Criteria

Those accepted into the SM CT Certification program must have a minimum of a high school education or GED and professional experience in sound measurement and must pass the SM CT written certification examination and the SM CT Practical Exam.

<table>
<thead>
<tr>
<th>Category A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have at least two (2) years of experience with a Sound Testing Firm and/or with a NEBB Certified Discipline Firm</td>
</tr>
</tbody>
</table>

AND

| Have attended industry training related to Sound Measurement Testing |

SM CT Application for Candidacy

Please visit www.nebb.org to download a copy of the SM CT Application for Candidacy which contains specific information pertaining to the full application process, or email certification@nebb.org. Review of application and related documents may take up to two weeks. Applicants who meet the eligibility criteria and are accepted into the certification program are referred to as “Candidates.”

Studying for the SM CT Exam

Applicants who are accepted as Candidates and are approved to sit for the exam should have a working knowledge of the following Content Domains and are encouraged to study and review the following in preparation for the SM CT exam:

- NEBB Measurement of Sound & Vibration Procedural Standards
- Equipment and measuring devices
- Calculations
- Sound theory
- Terminology and Definitions
- NEBB Sound & Vibration Certified Technician Home Study Course
- RC Curves
- NC Curves
Recommended Readings
Candidates are encouraged to purchase and use the following reference material for their at-home studying in preparation for the exam. Publications can be purchased online at www.nebb.org.
- *NEBB Procedural Standard for Measurement of Sound & Vibration*
- *NEBB Sound & Vibration Certified Technician Home Study Course*

SM CT Written Exam Details
1. **The SM CT Written Exam:**
   1. Is an “open book” exam.
   2. Can take up to two (2) hours to complete.
   3. Consists of 40 multiple choice questions.
   4. All questions are designed to test recall skills and the candidate’s ability to apply knowledge, interpret data, and solve problems.
   5. Exams and certification program information documents are developed based on practice in the United States and are offered only in English.
   6. Calculations and formulas are in the Imperial Standard and not available in Metric.

2. **The Candidate is allowed to bring in and use the following:**
   1. Pencils, mechanical pencils, pens, and erasers
   2. A calculator
   3. Any reference books, indexes, printed and/or hand-written reference notes.
   4. **No other study material or aids are permitted.**
   5. **No laptop, smartphone, tablet, or any item which allows use of internet or network access**

3. **The Kryterion Center Proctor will provide:**
   1. Three pieces of scratch paper and two pencils to use while in the test session
      i. The Proctor will initial each page of the scratch paper given, record the number of pages given in the Kryterion Test Taker Tracking Log.
      ii. The Proctor will collect and shred the pages immediately after the test session is completed.
   2. **Noise Criterion (NC) and Room Criterion (RC) charts- minimum of 5 of each type chart.**

Scheduling the SM CT Written Exam
- The SM CT written exams are offered on demand at more than 350 Kryterion test centers within the United States and more than 700 test centers worldwide.
- Specific examination locations are listed at [http://www.kryteriononline.com/Locate-Test-Center](http://www.kryteriononline.com/Locate-Test-Center).
- Reminder: Upon arrival to the Kryterion Test Center, make sure to have your authorization letter and two valid forms of identification.
- The exam is also made available at various NEBB events, such as seminars or the NEBB Annual Conference.
SM CT Practical Exam Details

In addition to the SM CT Written exam, Candidates are required to take the SM CT Practical Exam. The following are details specific to scheduling a SM CT Practical Exam.

1. The SM CT Practical Exam can be taken at an Approved Local Chapter Facility after successfully passing the SM CT Written Exam.
2. The Candidate must contact and schedule the time and place through his/her Local Chapter.
3. Other Options:
   a. The SM CT Practical Exam may be taken at a NEBB National Meeting with prior arrangement with NEBB National Office and the Sound & Vibration (S&V) Committee.
   b. Candidates are required to bring their own instruments for the Practical Exam or make other arrangements with the S&V Committee for alternatives.

Deadlines for Completion of Personnel Certification

- Candidates have three (3) years from their initial exam date to pass all of the certification’s written and/or practical exams.
  a. After this time period expires, Candidates must wait one (1) year from the last examination attempt before re-applying for Personnel Certification.

- After successful completion of the examination, Candidates have one (1) year to apply for their Personnel Certification and pay all related fees.
  a. If Candidates do not apply for Personnel Certification within one (1) year, Candidates will be responsible for paying a Certification Re-application Fee before being awarded Certification.

Achieving SM CT Certification & Requirements

- Candidates will receive specific written notification upon successfully completing all the certification pre-requisite requirements, including passing the required exams.
- Upon passing the exam, NEBB will contact the Candidate to complete the final stage of achieving the certification, which is to complete the Application for Certification and pay all related fees.
- Processing of final certification may take 30 days from receipt of form and payment.
- Candidates may not use the credential(s) until they have received their official SM CT Certificate and Certificant number.
- After receiving notification of achieving the Sound Measurement Certified Technician (SM CT) certification, the credential granted may be used only as long as the individual’s certification remains valid and in good standing.
- Certificants must comply with all recertification requirements to maintain use of the credential.
- The use and/or display of the SM CT acronyms or designation names, except as permitted by the policy, is prohibited. Individuals who fail to maintain certification/recertify or whose certification is suspended or revoked must immediately discontinue use of the certification mark(s) and are prohibited from stating or implying that they hold the certification.
Acceptable Use
Certificants who have earned the SM CT certification may identify themselves as:

- *NEBB Sound Measurement Certified Technician*, or “SM CT.”

The name and acronym listed above may only be used in connection with a certified individual and not with a firm, facility, department, or other group.
Appendix J

Testing, Adjusting & Balancing of Environmental Systems: TAB CP

The TAB CP certification program is designed to recognize individuals who have demonstrated the experience, knowledge, and skills necessary to provide competent testing, adjusting and balancing of building systems.

Individuals certified in Testing, Adjusting and Balancing of Environmental Systems work in management positions and represent their firm on contractual, scheduling, and overall TAB management. TAB CP certificants: develop and plan the work; handle report preparation; recommend corrective action; set the overall safety plan; maintain instruments and calibration program; have experience with control strategies, sequences of operation, control systems, equipment and software; and review, check, and sign the final report.

TAB CP certificants meet a combination of education and/or experience requirements and demonstrate their knowledge of Testing, Adjusting and Balancing of Environmental Systems by meeting specific pre-requisite requirements, studying, passing the TAB CP exam and maintaining their certification with continuing education.

Eligibility Criteria

Those accepted into the TAB CP Certification program must meet the following education categories and professional experience requirements in one of the following categories (requirements cannot be conducted concurrently) and must pass the TAB CP Written Exam and two TAB CP Online Practical Exams and the TAB CP Practical Hands-on Exam.

<table>
<thead>
<tr>
<th>Category A</th>
<th>Category B</th>
<th>Category C</th>
<th>Category D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold a Bachelor of Science Degree in Engineering</td>
<td>Hold an Associate’s Degree in Engineering Technology</td>
<td>Have four years of experience in Testing, Adjusting and Balancing</td>
<td>Have at least four years of HVAC system installation or Service experience</td>
</tr>
<tr>
<td>AND</td>
<td>AND</td>
<td>AND</td>
<td>OR</td>
</tr>
<tr>
<td>Have at least two years of supervisory experience in Testing, Adjusting and Balancing</td>
<td>Have at least four years of supervisory experience in Testing, Adjusting and Balancing</td>
<td>Have at least four years of supervisory experience in Testing, Adjusting and Balancing</td>
<td>Attended approved training session directly related to Testing, Adjusting and Balancing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AND</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Have at least six years’ experience in Testing, Adjusting and Balancing with at least four of those years in a supervisory position</td>
</tr>
</tbody>
</table>
TAB CP Application for Candidacy

Please visit www.nebb.org to download a copy of the TAB CP Application for Candidacy which contains specific information pertaining to the full application process, or email certification@nebb.org. Review of application and related documents may take up to two weeks. Applicants who meet the eligibility criteria and are accepted into the certification program are referred to as “Candidates.”

Studying for the Exams

Applicants who are accepted as Candidates and are approved to sit for the exams should have a working knowledge of the following Content Domains and are encouraged to study and review these items in preparation for the exams:

- Engineering
- System Types and Arrangement
- Equipment
- Procedural Standards
- Problem Solving

Recommended Readings

Candidates are encouraged to purchase and use the following reference material for their at-home studying in preparation for the exam. Publications can be purchased online at www.nebb.org.

- NEBB Procedural Standards for Testing, Adjusting and Balancing of Environmental Systems
- Testing, Adjusting & Balancing Specifications (available for download at www.nebb.org)
- TAB Technician Manual (TAB CP oversees this work by the Certified Technicians)
- TAB Supervisor Home Study Course

Suggested Training

Those pursuing this specific certification should consider attending a specialized seminar on this discipline. The Testing, Adjusting & Balancing CP seminar is intended to augment the Candidate’s ongoing study of the discipline which will help them comprehend and assess the knowledge, skills and abilities necessary for this certification. The seminar cannot and should not serve as the sole comprehensive training or study method for the TAB CP exams. For complete details, visit www.nebb.org.

TAB CP Exam Details

To achieve the TAB CP certification, there are 3 parts to complete:

- Candidates are required to pass:
  - A written exam, two on-line practical exams and conduct a practical hands-on exam.
  - There is no special order to take the exams
    - Candidates can take the practical and on-line before taking the written.
  - Details for all three exam processes are outlined below.

TAB CP Written Exam Details

1. The TAB CP Written Exam:
   a. Is a closed book exam.
   b. Can take up to five (5) hours to complete.
c. Is comprised of 100 multiple-choice questions.
d. All questions are designed to test recall skills and the candidate’s ability to apply knowledge, interpret data, and solve problems.
e. Exams and certification program information documents are developed based on practice in the United States and are offered only in English.
f. Calculations and formulas are in the Imperial Standard and not available in Metric.

2. The Candidate is allowed to bring:
   - 11" x 17" Psychrometric Chart - Sea Level (I-P)
     o Note: The Proctor will collect and shred it at the end of the exam.
   - A non-programmable calculator with limitations to the following models only: Casio FX-115 series models or Texas Instruments TI-30X and TI-36X series models.
   - Writing instruments to include pencils, mechanical pencils, pens, and erasers.
   - Ruler or straight edge.
   - No other aids are permitted.

3. The Kryterion Test Center Proctor will provide:
   a. Three pieces of scratch paper and two pencils to use while in the test session.
      i. The Proctor will initial each page of the scratch paper given, record the number of pages given in the Kryterion Test Taker Tracking Log, and collect and shred the pages immediately after the test session is completed.
   b. NEBB Formula Charts.
      i. The Proctor will collect all pages and shred each page at the end of the exam.

4. Scheduling the TAB CP Written Exam
   a. The TAB CP exams are offered on demand at more than 350 Kryterion test centers within the United States and more than 700 test centers worldwide.
   b. Specific online examination locations are listed at http://www.kryteriononline.com/Locate-Test-Center.
   c. Reminder: Upon arrival to the Kryterion Test Center, make sure to have your authorization letter and two valid forms of identification.
   d. The exam is available at various NEBB seminars or the NEBB Annual Conference.

Practical Online Exam Details

1. TAB CP Practical Online Exam
   a. Candidates are required to complete two (2) online practical exams that focus on Pre-Field Reporting and Error Finding that are offered through a cooperative arrangement with HVACEducation.net. Course descriptions can be obtained at the NEBB website: http://www.nebb.org/hvacr_testing_modules/

2. Scheduling the TAB CP Practical Online Exam
   a. Purchasing the two online exams can be done through the NEBB website at http://www.nebb.org/hvacr_testing_modules/
   b. A separate course fee is paid directly to HVACEducation.net.
Practical Hands-On Exam Details

1. **TAB CP Practical Hands-On Exam Details**
   a. The TAB CP Practical Exam consists of two hands-on exams: air and hydronic, and takes up to five hours to complete. This portion of the exam process is proctored by two Examiners who will assess the Candidate’s hands-on abilities in testing, adjusting and balancing.

2. **Scheduling the TAB CP Practical Hands-On Exam**
   a. To schedule the TAB CP Practical Hands-on Exam, Candidates must contact their local NEBB Chapter to coordinate and schedule days and times or email certification@nebb.org.

Deadlines for Completion of Personnel Certification

- Candidates have three (3) years from their initial exam date to pass all of the certification’s written and/or practical exams.
  a. After this time period expires, Candidates must wait one (1) year from the last examination attempt before re-applying for Personnel Certification.

- **After successful completion of the examination, Candidates have one (1) year to apply for their Personnel Certification and pay all related fees.**
  a. If Candidates do not apply for Personnel Certification within one (1) year, Candidates will be responsible for paying a Certification Re-application Fee before being awarded Certification.

Achieving TAB CP Certification & Requirements

- Candidates will receive specific written notification upon successfully completing all the certification pre-requisite requirements, including passing the required exams.
- Upon passing the exam, NEBB will contact Candidate to complete the final stage of achieving the certification, which is to complete the Application for Certification and pay all related fees.
- Processing of final certification may take 30 days from receipt of form and payment.
- Candidates may not use the credential(s) until they have received their official TAB CP Certificate and Certificant number.
- After receiving notification of achieving the Testing, Adjusting and Balancing Certified Professional (TAB CP) certification, the credential granted may be used only as long as the individual’s certification remains valid and in good standing.
- Certificants must comply with all recertification requirements to maintain use of the credential.
- The use and/or display of the TAB CP acronyms or designation names, except as permitted by the policy, is prohibited. Individuals who fail to maintain certification/recertify or whose certification is suspended or revoked must immediately discontinue use of the certification mark(s) and are prohibited from stating or implying that they hold the certification.

Acceptable Use

Certificants who have earned the TAB CP certification may identify themselves as:

*NEBB Testing, Balancing and Adjusting of Environmental Systems Certified Professional*, or *“TAB CP.”*

The name and acronym listed above may only be used in connection with a certified individual and not with a firm, facility, department, or other group.
Appendix K

Testing, Adjusting & Balancing of Environmental Systems: TAB CT

The TAB CT certification program is designed to recognize individuals who have demonstrated the experience, knowledge, and skills necessary to provide competent testing, adjusting and balancing of building systems, under the guidance of a TAB CP.

Individuals certified in Testing, Adjusting and Balancing of Environmental Systems work under the direction and oversight of the TAB CP. TAB CT certificants: execute the TAB procedures; measure and record field data; follow the safety plan; maintain and use instruments appropriately; have experience with control strategies, sequences of operation, control systems, equipment and software; and review all field work and data prior to submitting to the TAB CP for final review and certification.

TAB CT certificants meet a combination of education and/or experience requirements and demonstrate their knowledge of Testing, Adjusting and Balancing of Environmental Systems by meeting specific pre-requisite requirements, studying, passing the TAB CT exam and maintaining their certification with continuing education.

Eligibility Criteria

Those accepted into the TAB CT Certification program must meet the following education categories and professional experience requirements in one of the following categories (requirements cannot be conducted concurrently) and must pass the TAB CT Written Exam.

<table>
<thead>
<tr>
<th>Category A</th>
<th>Category B</th>
<th>Category C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have four years (1000 hours minimum per year) or more of documented TAB fieldwork</td>
<td>Have two years (1000 hours minimum per year) or more of TAB Fieldwork</td>
<td>Have two years (1000 hours minimum per year) or more of TAB Fieldwork</td>
</tr>
<tr>
<td>AND</td>
<td>AND</td>
<td>AND</td>
</tr>
<tr>
<td>Have successfully completed the NEBB TAB Technician Course (provide Certificate)</td>
<td></td>
<td>Have successfully completed a program equivalent to NEBB’s Technician Certification testing program. (Provide documentation)</td>
</tr>
</tbody>
</table>

TAB CT Application for Candidacy

Please visit www.nebb.org to download a copy of the TAB CT Application for Candidacy which contains specific information pertaining to the full application process, or email certification@nebb.org. Review of application and related documents may take up to two weeks.

Applicants who meet the eligibility criteria and are accepted into the certification program are referred to as “Candidates.”
Studying for the Exam

Applicants who are accepted as Candidates and are approved to sit for the exam should have a working knowledge of the following Content Domains and are encouraged to study and review these items in preparation for the exam:

- Math
- Fundamentals of TAB
- Fans
- Air Systems
- Pumps
- Hydronic Systems
- Electrical
- Motors
- Controls
- TAB instruments
- TAB measurements
- Air Procedures
- Identify deficiencies and other factors that prevent proper completion of TAB work

- Hydronics Procedures
- Reporting
- Preliminary TAB Procedures
- Basic TAB Measurements
- Air and Hydronic Systems TAB Procedures
- Completing TAB Forms and Reports
- Proper use, application, and care of instruments used for TAB work
- Reading and interpreting prints and submittals

Recommended Readings

Candidates are encouraged to purchase and use the following reference material for their at-home studying in preparation for the exam. Publications can be purchased online at www.nebb.org.

- NEBB Procedural Standards for Testing, Adjusting and Balancing of Environmental Systems
- TAB Technician Manual
- Testing, Adjusting & Balancing Specifications (available for download at www.nebb.org)
- TAB CT Home Study Course (available only to those affiliated with NEBB Firms)

TAB CT Exam Details

1. The TAB CT Written Exam:
   b. Can take up to three (3) hours to complete.
   c. Is comprised of 100 - 113 multiple-choice questions.
   d. All questions are designed to test recall skills and the candidate’s ability to apply knowledge, interpret data, and solve problems.
   e. Exams and certification program information documents are developed based on practice in the United States and are offered only in English.
   f. Calculations and formulas are in the Imperial Standard and not available in Metric.

2. The Candidate is allowed to bring:
   - 11" x 17" Psychrometric Chart - Sea Level (I-P)
     o Note: The Proctor will collect and shred it at the end of the exam.
   - A non-programmable calculator with limitations to the following models only: Casio FX-115 series models or Texas Instruments TI-30X and TI-36X series models.
   - Writing instruments to include pencils, mechanical pencils, pens, and erasers.
• Ruler or straight edge.
• No other aids are permitted.

3. The Kryterion Test Center Proctor will provide:
   a. Three pieces of scratch paper and two pencils to use while in the test session.
      i. The Proctor will initial each page of the scratch paper given, record the number of pages given in the Kryterion Test Taker Tracking Log, and collect and shred the pages immediately after the test session is completed.
   b. A NEBB Formula Chart.

Scheduling the TAB CT Exam
• The TAB CT exams are offered on demand at more than 350 test centers within the United States and more than 700 test centers worldwide.
• Specific examination locations are listed at http://www.kryteriononline.com/Locate-Test-Center.
• Reminder: Upon arrival to the Kryterion Test Center, make sure to have your authorization letter and two valid forms of identification.
• The exam is also made available at various NEBB events, such as seminars or the NEBB Annual Conference.

Deadlines for Completion of Personnel Certification
• Candidates have three (3) years from their initial exam date to pass all of the certification’s written and/or practical exams.
   a. After this time period expires, Candidates must wait one (1) year from the last examination attempt before re-applying for Personnel Certification.

• After successful completion of the examination, Candidates have one (1) year to apply for their Personnel Certification and pay all related fees.
   a. If Candidates do not apply for Personnel Certification within one (1) year, Candidates will be responsible for paying a Certification Re-application Fee before being awarded Certification.

Achieving TAB CT Certification & Requirements
• Candidates will receive specific written notification upon successfully completing all the certification pre-requisite requirements, including passing the required exams.
• Upon passing the exam, NEBB will contact the Candidate to complete the final stage of achieving the certification, which is to complete the Application for Certification and pay all related fees.
• Processing of final certification may take 30 days from receipt of form and payment.
• Candidates may not use the credential(s) until they have received their official TAB CT Certificate and Certificant number.
• After receiving notification of achieving the Testing, Adjusting and Balancing Certified Technician (TAB CT) certification, the credential granted may be used only as long as the individual’s certification remains valid and in good standing.
• Certificants must comply with all recertification requirements to maintain use of the credential.
• The use and/or display of the TAB CT acronyms or designation names, except as permitted by the policy, is prohibited. Individuals who fail to maintain certification/recertify or whose certification is suspended or revoked must immediately discontinue use of the certification mark(s) and are prohibited from stating or implying that they hold the certification.

Acceptable Use
Certificants who have earned the TAB CT certification may identify themselves as:

NEBB Testing, Balancing and Adjusting of Environmental Systems Certified Technician, or “TAB CT.”

The name and acronym listed above may only be used in connection with a certified individual and not with a firm, facility, department, or other group.
Appendix L

Vibration Measurement Certified Professional: VM CP

The VM CP certification program is designed to recognize individuals who have demonstrated the experience, knowledge, and skills necessary to provide competent vibration testing of building systems.

Individuals certified in Measurement of Vibration work in management positions and represent their firm on measurement of vibration matters. VM CP certificants: develop and plan the work; handle report preparation; recommend corrective action; set the overall safety plan; maintain instruments and calibration program; equipment and software; and review, check, and sign the final report. VM CP certificants meet a combination of education and/or experience requirements and demonstrate their knowledge of measurement of vibration by passing the VM CP examinations.

VM Certified Professionals meet a combination of education and/or experience requirements and demonstrate their knowledge of Measurement of Vibration by meeting specific pre-requisite requirements, self-directed studying, passing the VM CP exams and maintaining their certification with continuing education per NEBB continuing education credit requirements.

Eligibility Criteria

Those accepted into the VM CP Certification program must meet the following education categories and professional experience requirements in any one of the following categories and must pass the VM CP Written exam and a VM Written Practical exam.

<table>
<thead>
<tr>
<th>Category A</th>
<th>Category B</th>
<th>Category C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold a Bachelor of Science Degree in Engineering</td>
<td>Hold an Associate’s Degree in Engineering Technology</td>
<td>Have at least four years of HVAC system installation or Service experience</td>
</tr>
<tr>
<td>AND</td>
<td>AND</td>
<td>AND</td>
</tr>
<tr>
<td>Have at least one year of supervisory experience in Vibration Measurement</td>
<td>Have at least two years of supervisory experience in Vibration Measurement</td>
<td>Attended approved training session directly related to Vibration Measurement</td>
</tr>
<tr>
<td>AND</td>
<td>AND</td>
<td>AND/ OR</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Have at least six years of experience in Vibration Measurement with at least four of those years in a supervisory position</td>
</tr>
</tbody>
</table>

VM CP Application for Candidacy

Please visit www.nebb.org to download a copy of the VM CP Application for Candidacy which contains specific information pertaining to the full application process, or email certification@nebb.org. Review of application and related documents may take up to two weeks. Applicants who meet the eligibility criteria and are accepted into the certification program are referred to as “Candidates.”
Studying for the VM CP Written Exam
Applicants who are accepted as Candidates and are approved to sit for the exam should have a working knowledge of the following Content Domains and are encouraged to study and review the following in preparation for the VM CP Written exam:

- *NEBB Procedural Standard for Measurement of Sound & Vibration*
- Equipment and measuring devices
- Calculations
- Vibration theory
- Terminology and Definitions
- *NEBB Study Course for Measuring Sound and Vibration- 1996*
- *NEBB Design and Analysis- 1994*

Recommended Readings
Candidates are encouraged to purchase and use the following reference material for their at-home studying in preparation for the exam. Publications can be purchased online at www.nebb.org.

- *NEBB Procedural Standard for Measurement of Sound & Vibration*
- *NEBB Study Course for Measuring Sound and Vibration- 1996*
- *NEBB Design and Analysis- 1994*

Suggested Training
Those pursuing this specific certification should consider attending a specialized seminar on this discipline. The Sound & Vibration CP seminar is intended to augment the Candidate’s ongoing study of the discipline which will help them comprehend and assess the knowledge, skills and abilities necessary for this certification. *The course cannot and should not serve as the sole comprehensive training or study method for the Vibration Measurement CP exams.* For complete details, visit www.nebb.org.

VM CP Written Exam Details
Those pursuing the Vibration Measurement CP certification must complete two exams: the VM CP Written Exam and the VM CP Practical Exam.

1. **The VM CP Written Exam:**
   1. Is an “open book” exam.
   2. Can take up to two (2) hours to complete.
   3. Consists of 50 multiple choice questions.
   4. All questions are designed to test recall skills and the candidate’s ability to apply knowledge, interpret data, and solve problems.
   5. Exams and certification program information documents are developed based on practice in the United States and are offered only in English.
   6. Calculations and formulas are in the Imperial Standard and not available in Metric.

2. **The Candidate is allowed to bring in and use the following:**
   1. Writing instruments to include pencils, mechanical pencils, pens, and erasers
   2. A calculator
   3. Any reference books, indexes, printed and/or hand-written reference notes.
4. No other study material or aids are permitted
5. No laptop, smartphone, tablet, or any item which allows use of internet or network access

3. **The Kryterion Center Proctor will provide:**
   1. A one-page *NEBB Vibration Formulas Sheet.*
      i. This will be collected at the end of the examination and shredded by the Proctor.
   2. Three pieces of scratch paper and two pencils to use while in the test session
      i. The Proctor will initial each page of the scratch paper given, record the number of pages given in the Kryterion Test Taker Tracking Log.
      ii. The Proctor will collect and shred the pages immediately after the test session is completed.

**Scheduling the VM CP Written Exam**

- The VM CP written exams are offered on demand at more than 350 Kryterion test centers within the United States and more than 700 test centers worldwide.
- Specific examination locations are listed at [http://www.kryteriononline.com/Locate-Test-Center](http://www.kryteriononline.com/Locate-Test-Center).
- Reminder: Upon arrival to the Kryterion Test Center, make sure to have your authorization letter and two valid forms of identification.
- The exam is also made available at various NEBB events, such as seminars or the NEBB Annual Conference.

**VM CP Practical Exam Details**

After successfully passing the VM CP Written exam, Candidates are required to take the VM Practical Exam. The following are details specific to scheduling a VM CP Practical Exam.

1. The VM CP Practical Exam can be taken at an Approved Local Chapter Facility which currently includes two available locations: Ft. Lauderdale, FL and DC –area.
2. The VM CP Practical Exam can be taken at an Approved Local Chapter Facility after successfully passing the VM CP Written Exam
3. The Candidate must contact and schedule the time and place through his/her Local Chapter.
4. Other Options:
   a. The VM Practical Exam may be taken at a NEBB National Meeting with prior arrangement with NEBB National Office and the Sound & Vibration (S&V) Committee.
   b. Candidates are required to bring their own instruments for the Practical Exam or make other arrangements with the S&V Committee for alternatives.

**Deadlines for Completion of Personnel Certification**

- **Candidates have three (3) years from their initial exam date to pass all of the certification’s written and/or practical exams.**
  a. After this time period expires, Candidates must wait one (1) year from the last examination attempt before re-applying for Personnel Certification.

- **After successful completion of the examination, Candidates have one (1) year to apply for their Personnel Certification and pay all related fees.**
  a. If Candidates do not apply for Personnel Certification within one (1) year, Candidates will be responsible for paying a Certification Re-application Fee before being awarded Certification.
Achieving VM CP Certification & Requirements

- Candidates will receive specific written notification upon successfully completing all the certification pre-requisite requirements, including passing the required exams.
- Upon passing the exam, the Candidate must contact NEBB to complete the final stage of achieving the certification, which is to complete the Application for Certification and pay all related fees.
- Processing of final certification may take 30 days from receipt of form and payment.
- Candidates may not use the credential(s) until they have received their official VM CP Certificate and Certificant number.
- After receiving notification of achieving the Vibration Measurement Certified Professional (VM CP) certification, the credential granted may be used only as long as the individual’s certification remains valid and in good standing.
- Certificants must comply with all recertification requirements to maintain use of the credential.
- The use and/or display of the VM CP acronyms or designation names, except as permitted by the policy, is prohibited. Individuals who fail to maintain certification/recertify or whose certification is suspended or revoked must immediately discontinue use of the certification mark(s) and are prohibited from stating or implying that they hold the certification.

Acceptable Use
Certificants who have earned the VM CP certification may identify themselves as:

- NEBB Vibration Measurement Certified Professional, or “VM CP.”

The name and acronym listed above may only be used in connection with a certified individual and not with a firm, facility, department, or other group.
Appendix M

Vibration Measurement Certified Technician: VM CT
The VM CT certification program is designed to recognize individuals who have demonstrated the experience, knowledge, and skills necessary to provide competent vibration testing of building systems.

Individuals certified in Vibration Measurement (VM CT) work on measurement of vibration. VM CT certificants meet a combination of education and/or experience requirements and demonstrate their knowledge of measurement of vibration by passing the VM CT examination and maintaining their certification with continuing education.

Eligibility Criteria
Those accepted into the VM CT Certification program must have a minimum of a high school education or GED and professional experience in vibration measurement and must pass the VM CT Written certification examination and the VM CT Practical exam.

<table>
<thead>
<tr>
<th>Category A</th>
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<tr>
<td>Have at least two (2) years of experience with a Vibration Testing Firm</td>
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<tr>
<td>AND</td>
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<tr>
<td>Have attended industry training related to Vibration Measurement Testing</td>
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</tbody>
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VM CT Application for Candidacy
Please visit www.nebb.org to download a copy of the VM CT Application for Candidacy which contains specific information pertaining to the full application process, or email certification@nebb.org.

Applicants who meet the eligibility criteria and are accepted into the certification program are referred to as “Candidates.”

Studying for the VM CT Written Exam
Applicants who are accepted as Candidates and are approved to sit for the exam should have a working knowledge of the following Content Domains and are encouraged to study and review the following in preparation for the VM CT Written exam:

- NEBB Procedural Standard for Measurement of Sound & Vibration
- Equipment and measuring devices
- Calculations
- Vibration theory
- Terminology and Definitions
- NEBB Sound & Vibration CT Home Study Course
Recommended Readings
Candidates are encouraged to purchase and use the following reference material for their at-home studying in preparation for the exam. Publications can be purchased online at www.nebb.org.
- NEBB Procedural Standard for Measurement of Sound & Vibration
- NEBB Sound & Vibration CT Home Study Course

Suggested Training
Those pursuing this specific certification should consider attending a specialized seminar on this discipline. The Sound & Vibration seminar is intended to augment the Candidate’s ongoing study of the discipline which will help them comprehend and assess the knowledge, skills and abilities necessary for this certification. The course cannot and should not serve as the sole comprehensive training or study method for the Vibration Measurement CT exams. For complete details, visit www.nebb.org.

VM CT Written Exam Details
1. The VM CT Written Exam:
   1. Is an “open book” exam.
   2. Can take up to two (2) hours to complete.
   3. Consists of 40 multiple choice questions.
   4. All questions are designed to test recall skills and the candidate’s ability to apply knowledge, interpret data, and solve problems.
   5. Exams and certification program information documents are developed based on practice in the United States and are offered only in English.
   6. Calculations and formulas are in the Imperial Standard and not available in Metric.

2. The Candidate is allowed to bring in and use the following:
   1. Writing instruments to include pencils, mechanical pencils, pens, and erasers
   2. A calculator
   3. Any reference books, indexes, printed and/or hand-written reference notes.
   4. No other study material or aids are permitted
   5. No laptop, smartphone, tablet, or any item which allows use of internet or network access

3. The Kryterion Center Proctor will provide:
   1. A one-page NEBB Vibration Formula Sheet.
      i. This will be collected at the end of the examination and shredded by the Proctor.
   2. Three pieces of scratch paper and two pencils to use while in the test session
      i. The Proctor will initial each page of the scratch paper given, record the number of pages given in the Kryterion Test Taker Tracking Log.
      ii. The Proctor will collect and shred the pages immediately after the test session is completed.
Scheduling the VM CT Written Exam

- The VM CT written exams are offered on demand at more than 350 Kryterion test centers within the United States and more than 700 test centers worldwide.
- Specific examination locations are listed at [http://www.kryteriononline.com/Locate-Test-Center](http://www.kryteriononline.com/Locate-Test-Center).
- Reminder: Upon arrival to the Kryterion Test Center, make sure to have your authorization letter and two valid forms of identification.
- The exam is also made available at various NEBB events, such as seminars or the NEBB Annual Conference.

VM CT Practical Exam Details

Candidates are required to take the VM CT Practical Exam. To schedule a VM CT Practical Exam, please review the following details.

After successfully passing the VM CT Written exam, Candidates are required to take the VM Practical Exam. The following are details specific to scheduling a VM CT Practical Exam.

1. The VM CT Practical Exam can be taken at an Approved Local Chapter Facility which currently includes two available locations: Ft. Lauderdale, FL and DC –area.
2. The Candidate must contact and schedule the time and place through his/her Local Chapter.
3. Other Options:
   a. The VM CT Practical Exam may be taken at a NEBB National Meeting with prior arrangement with NEBB National and the Sound & Vibration (S&V) Committee.
   b. Candidates are required to bring their own instruments for the Practical Exam or make other arrangements with the S&V Committee for alternatives.

Deadlines for Completion of Personnel Certification

- Candidates have three (3) years from their initial exam date to pass all of the certification’s written and/or practical exams.
  a. After this time period expires, Candidates must wait one (1) year from the last examination attempt before re-applying for Personnel Certification.

- After successful completion of the examination, Candidates have one (1) year to apply for their Personnel Certification and pay all related fees.
  a. If Candidates do not apply for Personnel Certification within one (1) year, Candidates will be responsible for paying a Certification Re-application Fee before being awarded Certification.

Achieving VM CT Certification & Requirements

- Candidates will receive specific written notification upon successfully completing all the certification pre-requisite requirements, including passing the required exams.
- Upon passing the exam, the Candidate must contact NEBB to complete the final stage of achieving the certification, which is to complete the Application for Certification and pay all related fees.
- Processing of final certification may take 30 days from receipt of form and payment.
- Candidates may not use the credential(s) until they have received their official VM CT Certificate and Certificant number.
- After receiving notification of achieving the Vibration Measurement Certified Technician (VM CT) certification, the credential granted may be used only as long as the individual’s certification remains valid and in good standing.
- Certificants must comply with all recertification requirements to maintain use of the credential.
- The use and/or display of the VM CT acronyms or designation names, except as permitted by the policy, is prohibited. Individuals who fail to maintain certification/recertify or whose certification is suspended or revoked must immediately discontinue use of the certification mark(s) and are prohibited from stating or implying that they hold the certification.

**Acceptable Use**

Certificants who have earned the VM CT certification may identify themselves as:

- *NEBB Vibration Measurement Certified Technician, or “VM CT.”*

The name and acronym listed above may only be used in connection with a certified individual and not with a firm, facility, department, or other group.