

NEBB's Cleanroom Certified Technician Training Seminar



**June 19-22, 2012
Fremont, CA**



Introduction:

NEBB, in continuance of its policy to enhance education and training within the cleanroom industry, will offer its intensive training seminar for Cleanroom Certified Performance Testing (CPT) Technicians in June 2012.

Enrollment will be limited to 24 persons. Available openings will be filled on a “first come-first serve” basis.

Seminar Date:
June 19-22, 2012

Arrival in Fremont, CA:
June 18

Location:
Lighthouse Worldwide Solutions,
47300 Kato Road, Fremont, CA 94538

Please contact Elana Noel at 301-977-3698 to confirm that space is available prior to purchasing airline tickets, or committing to other expenses.

This seminar is exclusively designed for an individual who is interested in becoming a NEBB Certified Cleanroom Technician. This course includes an overview of cleanroom performance testing and will be geared to both beginning and intermediate level technicians. The seminar includes both classroom reviews and hands-on training lessons in cleanroom labs.

Who should attend:

NEBB Certified Cleanroom Firms and non-NEBB firms are encouraged to have their technicians attend this intensive training seminar. Also, those who wish to have their technicians become NEBB Certified Technicians who meet the Requirements of Eligibility as stated in the “NEBB Cleanroom Technician Qualification Program Administration Guide.”

This seminar is designed to instruct individuals who have a basic knowledge of cleanrooms and cleanroom testing. This training seminar is **not** intended for individuals with very little or **no** cleanroom testing experience.

This seminar is for individuals who need to refine certain areas of their cleanroom knowledge before re-taking the NEBB Certified CPT Technician Examinations or NEBB Certified CPT Professional Examination.

Cleanroom Performance Testing (CPT) Technicians also include those persons who are employed by firms that intend to become NEBB certified in cleanroom performance testing. Candidate CPT Technicians must pass several open book written Qualification Examinations and hands on Practical Knowledge Examinations.

Seminar schedule:

Tuesday 6/19	8:00 AM	Registration
	8:00 AM - 6:00 PM	Classroom and Lab Sessions
Tues/Wed 6/19 - 6/20	8:00 AM - 6:00 PM	Classroom and Lab Sessions
Thursday 6/21	8:00 AM - 1:30 PM	Classroom and Lab Sessions
	2:00 PM - 6:00 PM	CPT Technicians Exam (Optional)
Friday 6/22	8:00 AM - 5:00 PM	CPT Technicians Exam (Optional)

Instructors:

Proctors will include members of the NEBB Cleanroom Committee:

- Dan C. Milholland (Milholland & Associates, - Holly Springs, NC)
- Patrick Law (Hepatest, Inc., - Longwood, FL)
- Donald Hill, P.E., [Chairman of NEBB's Cleanroom Committee](#) (Accutec Services, - Independence, MO)
- Emil Bordelon (AM Technical Solutions, - Austin, TX)
- Randy Silva (Pacific Coast Trane, - San Jose, CA)



Equipment required for the Technician Seminar:

Participants should bring:

- Calculator and pencils.
- NEBB Procedural Standards for Performance Testing of Cleanrooms
- Industry Testing Standards such as IEST-RP-006.3, IEST-RP-034.2 ISO 14644-1,2, 3

Optional equipment requirement:

Candidates taking the optional hands-on test on Thursday or Friday will be tested using their choice of the Photometer or the Particle Counter Leak Test Method. You will be required to bring your own calibrated Photometer or Particle Counter and Diluter that you are more familiar with so as not to hinder your chances with passing this test if you intend on taking the practical exam.

Requirements for Technician examinations:

The Candidate should have a basic knowledge of cleanroom test procedures and math skills that include:

- Square and square roots
- Percentages and equations
- Particle counters
- Photometers
- Laskin nozzles
- PSL generators
- Air volume and velocity instrumentation

This seminar is intensive and individuals are recommended to possess the minimum CPT work-related experience.

The seminar provides an overview of Cleanroom Testing with both classroom and hands-on training.

Candidates will be required to work safely around operating equipment involving electrical equipment.

Candidates, and their company sponsors, will be required to sign a "Hold Harmless" statement indemnifying NEBB, NEBB Employees, Seminar Instructors and the Training & Educational Center, of any and all losses associated with the seminar attendance of the individual.

The Technician's Seminar is strongly focused on training for the following skills:

- Cleanliness Classification - Correct usage of particle counters to measure particle count levels in all types of cleanrooms and clean environments. Understanding the basic requirements of sample location calculation, sample volume calculation and other pertinent calculations as presented in ISO 14644.
- Correct usage of Photometers for leak detection of HEPA filters and correct usages of aerosol generators such as Laskin nozzles and hot oil generators, along with necessary calculations.
- Correct usage of Particle Counters for leak detection of HEPA/ULPA filters and the correct usage of aerosol generators/diluters that use microspheres along with necessary calculations
- Techniques for collecting airflow velocity and volume along with the necessary calculations
- Secondary testing including, Airflow Parallelism, Temperature and Humidity Uniformity Tests, Conducting Duct Traverses, Room Pressurization.

The first two and one half days of the seminar consist of hands on instruction and classroom instruction.

The hands on instruction will be approximately 40% with 60% in the classroom. As an option, on Thursday afternoon and Friday, the candidate may take Practical and Written Examinations. These exams are required for achieving NEBB-Certified Technician status.

Cleanroom Technician fundamentals examination:

The NEBB CPT discipline is similar to all of the other NEBB disciplines in that there are written and practical examinations that must be successfully completed in order to attain certification as a technician or as a professional. These written and practical examinations test the knowledge, engineering application and field testing skills required to properly test the performance of today's cleanrooms.

There are six (6) distinct tests that are administered for the program.

This is a series of written examinations that test the candidate's basic knowledge of the Cleanroom applications, the NEBB CPT Procedural Standard, Primary and Secondary Cleanroom Tests and Cleanroom Protocol.

The Cleanroom Fundamentals Examinations are comprised of True/False, Multiple Choice and Work Problems that test the candidate in the following areas:

- Knowledge of the cleanroom basics
- Knowledge of Cleanroom and TAB engineering principles and applications
- Knowledge of the engineering applications of cleanroom testing
- Knowledge of cleanroom statistical calculations and reporting
- Knowledge of cleanroom instrumentation and equipment to perform the various primary and secondary tests

The series of written tests include:

- General Cleanroom Knowledge Test (1.5 hour)
- Airflow Velocity and Airflow Volume Test (1 hour)
- Particle Counter Test (1 hour)
- Photometer Test (1 hour)
- Cleanliness Classification Test (1 hour)
- Secondary Cleanroom Tests (1 hour)

Cleanroom Technician practical examinations:

There is a hands-on practical exercise where the candidate must display proper application, set-up and use of either a particle counter or photometer and perform filter leak scanning test. The candidate must be thoroughly familiar with the instrumentation operation, calibration, initial set-up routing and use. The candidate will perform a filter leak scan test on a sample test filter and must issue a completed report on the results of that test (1/2 hour).

- Correct application, knowledge and proper use of the appropriate instrumentation for the test
- Knowledge of the procedural requirements of the test
- Knowledge of the analysis of the measured data and reporting requirements of the test

Testing schedule:

All tests are optional for the seminar attendees and are NOT included in the cost of the Basic seminar.

Additionally, NEBB will offer all examinations to any candidate who wishes to be tested but does not want to attend the seminar. This individualized testing is available to any candidate either before, during or at the conclusion of the seminar. You must contact Elana Noel at the NEBB National Office and make the necessary arrangements prior to June 1, 2012 to schedule this testing.

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Certification requirements:

The NEBB CPT discipline offers certification to firms and individuals. All of the requirements are available on the NEBB website at www.nebb.org.

Certification of firms is available to all firms performing cleanroom testing services. Firm requirements include such items as, length of time a firm has been in operation, ownership of the required instruments and equipment, letters of recommendations from owners, design professionals and contractors.

Certification of individuals is available on two levels: Certified Technician and Certified Professional. Both categories on individual certification require certain combinations of both educational and field experience performing cleanroom testing services.

A NEBB Certified CPT Technician must successfully pass the Cleanroom fundamentals examination and the Cleanroom practical examination.

A NEBB Certified CPT Professional must successfully pass the Cleanroom fundamentals examinations, the Cleanroom practical examination and the Cleanroom Professional examination.

Fees:

See the Registration form for applicable fees. Registration fees DO NOT cover travel or accommodation expenses.

NEBB will provide refreshments and lunch each day.

Registration:

Complete attached Registration Form and send with payment to:

Elana Noel
National Environmental Balancing Bureau
8575 Grovemont Circle, Gaithersburg, MD 20877-4121

REGISTRATION DEADLINE: Friday, June 1, 2012

Hotel, transportation and related information:

The seminar will start on Tuesday, June 19 at 7:30 a.m. and will end on Friday, June 22 at 5:00 p.m. Housing and other costs are not covered by the registration fee. **Reservations at the hotel of your choice must be made directly with the hotel. All hotel reservations must be guaranteed by a credit card. Below are a list of hotels in close proximity to the training center.**

Comfort Inn Silicon Valley	Hyatt Regency	Marriott Hotel Silicon Valley	Quinta Inn Silicon Valley
Tel: +1.510.490.2900	Tel: +1.510.623.6000	Tel: +1.510.413.3700	Tel: +1.866.599.6674
47031 Kato Road, Fremont, CA	3101 West Warren Avenue, Fremont, CA	46100 Landing Pkwy Fremont, CA	46200 Landing Pkwy Fremont, CA
Free Breakfast	Free Breakfast		Free Breakfast

NEBB Cleanroom Certified Technician Training Seminar Registration Form

I will attend the NEBB Cleanroom Certified Technician Training Seminar, June 19-22, 2012

Name: _____ Nickname: _____
Company Name: _____ Title: _____
Address: _____
Phone: _____ Fax: _____ Chapter: _____
Email: _____

All hotel reservations must be made directly by the seminar participant.
Please refer to the local hotel information in this brochure.

Fees: (check all that apply)

- ☐ \$1,000.00 REGISTRATION FEE (for NEBB Certified Firms)
☐ \$1,250.00 REGISTRATION FEE (for non-NEBB Firms)
☐ \$450.00 TECHNICIAN's FUNDAMENTAL EXAMINATIONS
☐ \$450.00 CPT CERTIFIED PROFESSIONAL EXAMINATIONS
☐ \$200.00 TECHNICIAN's PRACTICAL EXAMINATION
☐ \$50.00 NEBB *PROCEDURAL STANDARDS FOR CERTIFIED TESTING OF CLEANROOM* -
☐ \$100.00 for NON-NEBB Firms (**Hard-Copy**)

\$ _____ **TOTAL AMOUNT** (Please call NEBB for International Shipping Charges)

Payment method:

☐ Check Enclosed made payable to NEBB for Seminar Registration Fee

☐ VISA ☐ MASTERCARD ☐ AMERICAN EXPRESS

Name on the Card _____
Credit Card Number _____ Expiration _____
Security Code _____ Signature _____

Form & check must reach the NEBB Office no later than Friday, June 1, 2012. RETURN TO:
Elana Noel, elana@nebb.org | NEBB | 8575 Grovemont Circle, Gaithersburg, Maryland 20877-4121

Conditions:

- Pre-registration and pre-payment of fees are necessary to ensure your participation in the seminar.
- Cancellation by registrants, regardless of reason, will be subject to a \$250 service charge to cover NEBB's expenses. A refund of the prepaid registration and examination fees will be made less the \$250 service charge. All publication sales are final.
- No shows or late cancellations (those persons registered for the seminar who do not cancel 30 days prior to the seminar and subsequently do not attend the course) will forfeit the entire registration fee and examination fee unless a replacement can be found.
- NEBB reserves the right to cancel any seminars having insufficient registrants, in which case, all prepaid registration and examination fees will be refunded in full.
- NEBB cannot be responsible for any losses resulting from cancellation of a seminar. Please advise the NEBB office of any cancellations as-soon-as-possible.

For NEBB use:

Registration Form Received by NEBB and Reservation Made as Requested Above.

Confirmed by: _____ Date: _____

* Please advise NEBB and the hotel of any cancellations as-soon-as-possible. A hotel cancellation may apply.
Confirm cancellation policy with your hotel.



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