

**AEEE and ECO-III Are Pleased to Bring Measurement
and Verification Professional Certification to India**

In Partnership With

**Efficiency Valuation Organization (<http://www.evo-world.org>) and Association of Energy Engineers
(<http://www.aeecenter.org/>)**

Date: November 19th-21st, 2009

**Target Audience: ESCOs, CDM Professionals, DSM
Implementers, ESCerts Verifiers, 3rd-Party M&V
Firms, Energy Efficiency Project Management
Companies**

**The First CMVP exam in India will be offered in
conjunction with EVO's two and a half day Level-3
M&V training and at 70% discount to the current US
rates (<http://www.aeecenter.org/certification/>)**

**Limited Seats (Only 30): Pre-Register to Book Your
Seat by Sending an Email to**

MandVTraining.India@gmail.com

CC:AEEE.India@gmail.com



The Certified Measurement & Verification Professional (CMVP®) Program

Association of Energy Engineers, in cooperation with the Efficiency Valuation Organization (EVO), has established the **Certified Measurement and Verification Professional** program with the dual purpose of recognizing the most qualified professionals in this growing area of the energy industry, and raising the overall professional standards within the measurement and verification field.

The International Performance Measurement & Verification Protocol (IPMVP), first established by the U.S. D.O.E., has become the internationally recognized protocol for performance measurement and verification (M&V). The IPMVP guidelines, built with the help of organizations from 16 countries and hundreds of individual experts from 25 nations, provides a consistent, reliable approach to M&V around the world. More information about EVO as well as access to the guidelines can be found at www.evo-world.org.

Since 1981, AEE has certified over 7,000 professionals within the energy industry. AEE's certifications are recognized by governmental agencies, including the U.S. Department of Energy and the U.S. Agency for International Development, as well as by utilities, end users, and energy service companies. When you earn the right to put the initials "CMVP" behind your name, you are distinguishing yourself among those involved professionally in areas requiring the application of accurate and reliable measurement and verification methodologies. You have demonstrated high levels of experience, competence, and specialized knowledge within your field.

Eligibility

Each applicant for the CMVP certification must attend AEE's three-day *Fundamentals of Measurement & Verification* training program prior to sitting for the CMVP exam. Exams are administered at each seminar site following each scheduled seminar. Each candidate for CMVP certification must pass the four-hour written exam as well as meet one of the following criteria:

- A **four-year degree** from an accredited university or college in science, engineering, architecture, business, law, finance, or related field, or be a **registered professional engineer** (P.E.), or **registered architect** (R.A.). In addition, the applicant must have at least **three** years experience in energy or building or facility management, or measurement and verification.
--OR--
- A **two-year technical degree**, or **four-year non-technical degree** from an accredited college or university in a field not specified above with **five** years experience in energy or building or facility management, measurement verification.
--OR--
- **Ten** years or more **verified experience** in energy or building or facility management, or measurement and verification.
--OR--
- The current status of **Certified Energy Manager (CEM)**.

Examination and Training Requirement

The four-hour CMVP exam is administered in conjunction with the *Fundamentals of Measurement & Verification* three day training program. The examination questions are based on concepts and experiences basic to measurement and verification. The exam is open book, and the questions are a mixture of multiple choice and true or false.

Fees

The fee for CMVP certification is as follows:

- Certification application and examination: **\$400**

This fee must be paid at the time the CMVP application is submitted. The certification application/exam fee does not cover the cost of the required preparatory training seminar.

How to Apply for CMVP Certification

Application Deadlines: Your completed application must be received by the Certification Administrator at least 3 weeks prior to the date of the examination for which you wish to sit.

STEP ONE: REGISTER FOR THE SEMINAR

All CMVP candidates must complete the Fundamentals of Measurement & Verification 3-day Training Program. **Note: *Registering online for the seminar does not automatically register you to take the CMVP exam. After completing your seminar registration, return to this page and go to STEP TWO below.*** The following links will take you to information and current schedules and fee information for this program, as well as access to online seminar registration:

Fundamentals of Measurement & Verification
3-day seminar / exam on the afternoon of day three of the seminar.

| [Dates and Locations](#) | [Join AEE](#) |

International Certification Training
| [Dates and Locations](#) | [Join AEE](#) |

STEP TWO: COMPLETE YOUR CMVP CERTIFICATION APPLICATION

- **[Online CMVP Certification/Exam Application](#)**

The CMVP exam is administered at each **Fundamentals of Measurement and Verification** seminar site, on the afternoon of day three of the seminar.

Notification of Exam Results

Within thirty days of the date of the exam, you will be notified of your score. Your application fee must be paid before your score can be released. Do not call AEE about your test results before the end of the thirty-day period. Exam results are not available on the AEE website.

Review by Certification Board

If you receive a passing score and have paid the examination fee, and if your file is complete, including all supporting documents, your file will be sent to the Certification Board for final review. You will be notified at that time that you will receive the Board's approval or denial within sixty days.

Maintaining Certification

Continuing education is essential to maintaining high standards of professional competency. A CMVP must accumulate ten (10) professional credits every three years to maintain certification.

Activities Applicable as Credits for CMVP Renewal:

Continued employment in measurement and verification-related activities	1 credit per year
Membership in a professional engineering society	1 credit per year (3 max)
Continuing education: measurement and verification-related seminars and college courses (includes in-house or online seminars)	2 credits per: - CEU earned (e.g., 1.6 CEU=3.2 credits) - College credit hour earned - 10 non-credit contact hours ---(must be submitted for approval)
Professional awards or papers presented and published re: measurement and verification	2 credits each
Offices held in a professional engineering society	1 credit per year

The above serves as a guideline for the 10 credits to be accumulated during each three year renewal period. A reminder form will be sent during the year before your CMVP certification expires. Please keep a file of your credits to assist with completing this form.

Calculating Your Continuing Education Credits:

If you wish to use measurement & verification-related AEE seminars as a part of meeting the 10-credit requirement to maintain certification, note that you will earn 0.8 CEU for each full day of participation in any AEE seminar. For example, **a 2-day AEE seminar will earn you 1.6 CEU, or the equivalent of 3.2 credits toward CMVP renewal.** (The four-hour period allotted for certification examinations is not included when calculating the number of contact hours for a seminar.)

Renewal Fee:

A fee of \$300 is required for each three-year renewal of your CMVP certification. If you do not renew your certification by your renewal date, you will be required to retake the exam to be reinstated. It is therefore important to **inform AEE if your address changes**. Failure to do so will delay your receipt of your renewal notice, and **may result in your being required to retake the exam.**

For Additional Information About CMVP Certification...

If you have any questions about CMVP certification, please write, call or email:

Francine Seskin, CMVP Certification Administrator
Association of Energy Engineers
4025 Pleasantdale Road, Suite 420
Atlanta, GA 30340
(770) 447-5083, ext. 223
email: fseskin@aeecenter.org

Benefits of Professional Certification

- When an individual becomes certified in a designated field, his/her professional achievement is recognized in the eyes of colleagues, as well as prospective employers and clients.
- Certification establishes a standard of professional competence which is recognized throughout the industry.
- Certification fosters professional development through encouragement of long-term career goals.
- Certification promotes quality through continuing education to assure a high level of competence in constantly changing fields.

LIFETIME CERTIFICATION

A certified professional, upon retiring and reaching the age of sixty-two, is certified for life. No further reporting is necessary except to notify the Certification Secretary of meeting the age requirement by sending a copy of their Driver's License.

ABOUT THE SEMINAR

This course is designed in part to provide a useful preparatory vehicle for AEE's **Certified Measurement and Verification Professional (CMVP)** program.

Proven energy savings are now playing a significant role in financing energy management programs, whether through energy performance contracts or through emission trades under schemes such as the clean development mechanism of the UNFCCC. While interest in savings data is growing, the state of the art in determining savings has also been rapidly evolving. This seminar will examine current methods of determining and documenting savings, specifically reviewing the 2007 edition of the International Performance Measurement & Verification Protocol (IPMVP). Attendees will learn the process of designing a proper M&V program for their projects, including cost/accuracy tradeoffs, baseline adjustments, the role of estimates, maintaining space conditions, the role of verifiers, and the data needed for emission trading. Examples of specific techniques will be presented, along with common pitfalls which can result in unreliable data. Class time will include problem solving and debate. Bring a calculator.

Through participating in a "fundamentals" course, persons experienced in M&V will also appreciate the assembly of all of the issues, the debates, and engagement at their own level with expert instructors.

The CMVP exam will be administered at the close of instruction on day three of each seminar to those who have qualified in advance to sit for the exam by submitting a completed CMVP application and fee. Advance reading of IPMVP Volume I (available at www.evo-world.org) would be useful reading before the exam, though not required.

ABOUT CMVP CERTIFICATION

Please Note: In order to qualify to sit for the CMVP exam, you must submit your completed CMVP application, along with a \$400 application fee. For information on obtaining your CMVP application form, or for further information on the CMVP program, visit www.aeecenter.org/certification/cmvp.

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SEMINAR OUTLINE

REASONS FOR M&V

- Types of uses for M&V
- M&V's role in financing

CURRENT M&V PROTOCOLS

- Relationship of IPMVP and other guidelines

IPMVP 2007

- Its evolution
- Overview of IPMVP Options A, B, C & D

DEVELOPING AN M&V PLAN

- Principles of M&V
- Scope of energy to be monitored
- Differences between M&V for industry and for buildings
- "Cost avoidance" or "normalized savings?"
- Choosing independent variables for adjustments
- Sources of data
- M&V budgets
- Selecting the baseline period and data
- Measurement systems design, commissioning & maintenance
- Baseline analysis methods
- Various forms of savings computation
- Valuing savings
- Routine procedures and QC
- Managing the uncertainty created by sampling, metering, modeling and unknowns
- Bias and rounding
- Reporting procedures
- Coordinating with other purposes
- When to do the M&V Plan

CURRENT ISSUES IN M&V

- Coping with missing data
- Cost/uncertainty tradeoffs
- Monitoring IAQ

EMISSION TRADING

- The role of EE in emission markets
- Emission factors for site fuel savings and electricity savings
- Additionality
- Ownership
- Protocols

BASELINE ADJUSTMENTS

- Why they are necessary
- Who does what, when

KEY ELEMENTS OF SUCCESS: THEORY & EXAMPLES OF IPMVP 2007 OPTIONS

- Details of IPMVP methods
- Retrofit isolation (IPMVP Options A & B): Instrumentation issues
- Whole facility (IPMVP Option C): Utility billing issues
- Calibrated simulation (IPVMP Option D): Simulation issues
- Lessons from tough experience

SELECTING OPTIONS: WHICH ONE IS BEST SUITED FOR MY PROJECT

ADHERENCE WITH PROTOCOLS AND CONTRACTS

M&V FOR U.S. FEDERAL PROJECTS

- Federal Alternative Financing Market
 - FEMP Guidelines (specifically regarding option "A")
 - UESC vs. ESPC (including statutory authority for both)
 - ESPC Requirements (for each major agency contract administrator)
- Federal M&V Resources

ABOUT THE INSTRUCTORS

JOHN D. COWAN, P.Eng., M.B.A., C.M.V.P., president of Environmental Interface Limited, is chair of the EVO Board responsible for the IPMVP. He frequently acts as an independent verifier of savings claims. During his 29 years dedicated to the energy management business, he has been a consulting engineer, an ESCO owner/manager, and an owner's rep in energy performance contracting matters. Specializing in energy savings computations and/or savings verification, he has had roles as expert witness in savings "debates" and as verifier for emission trades. Published widely, Mr. Cowan also speaks publicly on related issues.

STEVE SAIN, P.E., C.E.M., C.M.V.P., C.E.P., brings to this program more than twenty years of experience in the energy conservation industry, including involvement in numerous energy conservation and alternative financing projects, especially involving U.S. federal agencies. He has served as expert witness in multiple performance contracting lawsuits, representing the owner or the contractor, never losing a case. In 1994, Mr. Sain was named AEE's "International Energy Engineer of the Year," and in 1995 was also awarded "Birmingham Engineer of the Year" (covering all engineering disciplines) by the Engineering Council of Birmingham. He has traveled throughout the U.S., as well as Europe, Asia, and South Africa teaching energy conservation, life-cycle costing, and alternative financing seminars for the U.S. Army, Air Force, General Services Administration, Edison Electric Institute and AEE. Mr. Sain is a Certified Life-Cycle Costing Trainer in accordance with the Federal Energy Management Program.

FEES

Note: Fees below are for seminar only. Application for CMVP certification and exam requires a separate fee of \$400.

Regular Fee: \$1250

AEE Member Fee: \$1150*

Government & Nonprofit Fee: \$1150

Team Discount: Deduct \$100 per Registrant*

*How to qualify for member rates and team discounts.

SEMINAR HOURS

Note: Below are standard seminar hours. Please refer to your registration confirmation letter to confirm actual seminar hours for the program for which you have registered.

Sign-in and Onsite Registration Day 1: 8:15 am

Seminar Hours Day 1: 9:00 am - 5:00 pm

Seminar Hours Day 2: 8:00 am - 4:30 pm

Seminar Hours Day 3: 8:00 am - 12:00 noon

Exam on Day 3 Following Seminar: 1:00 - 5:00 pm

(separate pre-application required to sit for exam)

REGISTRATION ASSISTANCE assistance or questions pertaining to your seminar registration, please contact the registrar directly during the hours of 10:00 am -5:00 pm (eastern time U.S.) at **(770) 925-9633**, or email her at valerie@aeecenter.org
<https://www.aeecenter.org/store/detail.cfm>