

Data Center Energy Practitioner (DCEP) Program

**Developed by DOE in
Collaboration with the Industry**

Updated May 2011

The DOE “Save Energy Now” program has partnered with the industry in the development of a process leading to practitioners qualified to evaluate the energy status and efficiency opportunities in data centers. The key objective of the Data Center Energy Practitioner (DCEP) Program is to accelerate energy savings in the dynamic and energy-intensive marketplace of data centers.

Overview

Energy Assessment Tools for data centers are being developed by the Department of Energy (DOE) under the *Save Energy Now* program for evaluating major data center systems (see: www1.eere.energy.gov/industry/datacenters/software.html). This suite of software tools called DC Pro is partially available now and will eventually be fully available for use by anyone for identifying energy savings. Some data center operators may prefer to have assistance in the use of the Tools or contract for assessments by Practitioners.

The DCEP Program is driven by the fact that significant knowledge, training, and skills are required to perform accurate energy assessments in data centers. Benefits of using the Practitioners include consistency of qualifications and approach as well as a high level of repeatability and credibility of recommendations. Target groups for participating in the



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Program include employees of property management companies, engineering consulting firms, service companies, data center end users, state energy agencies, colleges, and utilities.

The Program was defined and designed by working closely with industry stakeholders. This work was completed in 2009. Lawrence Berkeley National Laboratory (LBNL) and ANCIS Incorporated managed three pilot events. They took place in 2010 to fine-tune the program before the official launch in 2011. There are many opportunities to participate this year. DatacenterDynamics www.datacenterdynamics.com/training/course-types/doe-certified-energy-professional and CNet Training www.cnet-training.com are the delivery organizations in the US and outside the US, respectively. By May 2011, there were more than 150 DCEPs. By the end of the year, DOE has set a goal to have graduated at least 200 DCEPs.

Data Center Energy Practitioners

The Practitioner is an individual who is trained on performing energy assessments in data centers and transferring knowledge to the data center staff for allowing replication. Key skills include design, operation, and diagnostics experience as well as measurement equipment techniques and data collection. The candidate can be trained at either one (Level 1) or two (Level 1 + Level 2) knowledge levels, including demonstration of proficiency in the use of select tools in the DC Pro Tool Suite (Profiling Tool + System Assessment Tools).

The Level 1 Practitioners (Generalists) will be expected to have a good understanding of all data center disciplines (IT-equipment, cooling systems, air management, and electrical systems) for providing broad recommendations based on the high-level DC Pro Profiling Tool. The Level 2 Practitioners (Specialists) address energy opportunities using one or several of the in-depth DC Pro System Assessment Tools covering the same four data center disciplines. Initially, the Program will include the Level 1 as well as the Level 2 for cooling and air management (HVAC).

DOE and the industry collaborators have developed a candidate training curriculum, candidate test, and a complete set of supporting Program documents, including a Process Manual for use by the Practitioners and a User's Manual, an Engineering Manual, and a Data Collection Guide for the DC Pro Air Management System Assessment Tool.

Candidate Training

There are two candidate training tracks for either training level: Training Track (training only) or Certificate Track (training + exam). There are no prequalification or exam requirements for the Training Track.

Individuals who meet knowledge requirements and academic/work experience requirements (prequalification) will be eligible to participate in the Certificate Track. Since technical knowledge and experience is required for using the DC Pro Software Tools, the candidates need to attend obligatory training events before taking the exams. The Level 2 training requires a PE, CEM by AEE, or CDCDP by CNet Training as part of the prequalification requirements. The training includes material from select technical disciplines, corresponding DC Pro Tools, and the process of doing energy assessments. A basic knowledge of other data center disciplines is required to effectively identify and quantify energy saving opportunities.

Becoming a Practitioner requires a passing score (80% correct answers) on the multiple-choice exams. Exam areas are the same as training areas plus case studies to test the use of the DC Pro Software Tools. An update course every 3 years will be required to cover changing technologies, which is especially critical in data centers.



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Organizational Structure

The organizational structure consists of several collaborative bodies. DOE and LBNL took the lead on the development of training and exam content in close collaboration with the industry led by a Steering Committee (SC). Going forward, DOE and LBNL will update and maintain the Program and the PTOs will deliver the training and exams. The PTOs will also be responsible for maintaining a database of the Practitioners.

By signing up at www1.eere.energy.gov/industry/datacenters/dc_cep.html you will receive more information and an application for participating in the Program. A completed application is a requirement for being considered for the training and exams.

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