

Focus on Energy Full Service Installer Requirements Solar Electric (PV)

Purpose

Focus on Energy supports the development of Wisconsin's renewable energy market by co-funding renewable energy systems and encouraging the creation of a highly professional class of renewable energy system installers.

Experience and Training Requirement Objective

These experience and training requirements were developed to:

- provide a measure of protection to the public by giving them a standard for judging the competency of installers;
- provide installers with a way to distinguish themselves from their competition;
- promote the quality of installations, thus improving the public perceptions of the technology and helping increase the industry's prominence; and
- prepare and encourage installers to become NABCEP (North American Board of Certified Energy Practitioners) Solar PV Installer certified.

Definitions

Full Service Installer

A Full Service Installer is an individual that meets, on an ongoing basis, the requirements described in this document.

A **Full Service Installation Firm** is defined as the single point of contact with a customer to design, sell, install and maintain (service and/or repair) renewable energy equipment or who contracts with subcontractors to supply these services. A Full Service Installation Firm must employ a Focus on Energy approved Full Service Installer who takes the responsible role on systems co-funded by Focus on Energy.

Year of Experience

Having the responsible role in two Solar Electric system installations that must total one (1.0) kW dc. At least one installation must be a system with an inverter and at least one installation must be subject to a complete electrical permitting and inspection process. Being in a **responsible role** means doing decision-making on the job and includes the foreman, supervisor, site manager responsible for the quality of the installation, or experienced person performing the trade without direct supervision.

For systems to be counted toward years of experience they must be documented using the NABCEP System Installation Tracking Sheet (Appendix B).

Focus on Energy Solar Electric Full Service Installer Requirements

Solar Electric Installers providing services in Wisconsin must meet the experience and training criteria of **ONE** of the following tracks **prior to being listed** on the Focus on Energy Full Service Installation Firm list:

NOTE: Focus on Energy will co-fund a maximum of eight (8) solar electric systems for each installer before they sit for the NABCEP Solar PV Installer test. Once NABCEP certified, installers are required to maintain their NABCEP certification.

Track 1 – NABCEP Certified

Receive and maintain certification by the North American Board of Certified Energy Practitioners (NABCEP) as a Solar PV Installer.

NOTE: Tracks 2,3, and 4 outline the ways in which installers may be added to the Focus on Energy list of Solar Electric Full Service Installers as "Installers Working Toward NABCEP Certification".

Track 2 - Prior Experience

Previously listed as an Installer Working Towards NABCEP Certification on the Focus on Energy Full Service Solar Electric System Installers list as tracked by the Midwest Renewable Energy Association (as of February 2008).

Track 3 – Professional Training

Meet **ONE** of the following professional training requirements:

- A. Be an existing licensed contractor in good standing in solar or electrical construction-related areas; **OR**
- B. Four (4) years of electrical construction-related experience working for a licensed contractor; **OR**
- C. Three (3) years experience in a U.S. Dept. of Labor-approved electrical construction trade apprentice program; **OR**
- D. Two (2) year electrical construction-related, or electrical engineering technology, or renewable energy technology/technician degree from an educational institution; **OR**
- E. Four (4) year construction-related or engineering degree from an educational institution; **OR**
- F. One (1) Year of Experience installing Solar Electric systems in a responsible role within the last two years

AND

Successfully complete a Solar Electric Design and Installation Lab **OR** Advanced Hands-On Solar Electric System Installation Course and the required prerequisites (see Appendix A),

AND THEN

Installers with one (1) or more Years of Experience installing Solar Electric systems in a responsible role:

- The first Focus-eligible installation must pass a Solar Electric System Compliance Site Visit.

Installers with less than one (1) Year of Experience installing Solar Electric systems in a responsible role:

- The first two (2) Focus-eligible installations must pass Solar Electric System Compliance Site Visits.

NOTE: The installer's first system(s) will be eligible for Focus on Energy co-funding prior to Full Service listing, provided the installation(s) pass the compliance visit(s) and meet all eligibility requirements for the Focus on Energy rewards. An installer may not have more than one project approved by Focus on Energy at any given time prior to becoming a Full Service Installer.

Solar Electric System Compliance Site Visits

The compliance site visit from a Focus on Energy representative will:

- Be performed by a NABCEP certified solar electric professional representing Focus
- Verify the installation based on applicable national, state and local codes, and data submitted in the Focus on Energy Notice of Installation

If system requirements are not met, the installer has 30 days to amend and have the system verified at the installer's expense.

NOTE: If an installer wishes to have a non-Focus eligible system considered toward meeting these Full Service Installer Requirements they may request a Compliance Visit at the installer's expense.

Track 4 – Self Directed

Successfully complete an Advanced Hands-On Solar Electric System Installation Course and the required prerequisites.

Approved courses are listed in Appendix A.

AND

The first two (2) Focus-eligible installations must pass Solar Electric System Compliance Site Visits.

NOTE: The installer's first two systems will be eligible for Focus on Energy co-funding prior to Full Service listing, provided the installations pass the compliance visits and meet all eligibility requirements for Focus on Energy rewards. An installer may not have more than one active project approved by Focus on Energy at any given time prior to becoming a Full Service Installer.

Eligibility

Potential Full Service Installers must comply with the criteria outlined in the Renewable Energy Program Full Service Installer and Market Provider Eligibility policy in order to be eligible to participate in the Focus on Energy program as a Full Service Installer.

Listing Removal and Reinstatement

If Focus on Energy receives a documented complaint, Solar Electric Full Service Installers must satisfy the conditions as detailed in the Renewable Energy Program Complaint and Grievance Process and Renewable Energy Reinstatement Policy to maintain or reinstate Full Service Installer listing.

Appendix A: Approved Solar Electric System Installation Courses

Solar Electric Design and Installation Labs (TRACK 3 ONLY)	Institution(s) Offering Course
PV Design & Install Lab (PV 301)	Midwest Renewable Energy Association
Wisconsin IBEW/NECA Advanced PV	NECA-IBEW Apprenticeship & Training
Additional classes TBD	

Advanced Hands-On Solar Electric System Installation Courses (TRACK 3, TRACK 4)	Institution(s) Offering Course
Advanced Photovoltaics Installation (PV 401, PV 501)	Midwest Renewable Energy Association
Advanced Photovoltaics Installation	Great Northern Solar
Solar Electric Apprentice Course	Great Lakes Renewable Energy Association
Renewable Electricity Technician Associate Degree	Mid-State Technical College
Photovoltaics - Design & Site AND Photovoltaics - Advanced	Northeast Wisconsin Technical College
Advanced Photovoltaic Systems (PV 300)	Solar Living Institute
Photovoltaic Design and Installation - 10 day course	Solar Energy International
Photovoltaic Design and Installation - 6 day course (may be taken online) WITH PV Lab Week	Solar Energy International
Advanced PV: Design Criteria and NEC Compliance (may be taken online) WITH PV Lab Week	Solar Energy International
Installing Photovoltaic Systems	Florida Solar Energy Center

Note: Some classes have prerequisites that must be met before attendance in the class.

A Solar Electric Design and Installation Lab must include hands-on learning and cover the following core competencies*:

1. Selecting a System Design
2. Adapting the Mechanical Design
3. Adapting the Electrical Design
4. Installing Subsystems and Components at the Site
5. Performing a System Checkout and Inspection
6. Maintaining and Troubleshooting a System

An Advanced Hands-On Solar Electric System Installation Course must cover the following core competencies*:

1. Working Safely with Photovoltaic Systems
2. Conducting a Site Assessment
3. Selecting a System Design
4. Adapting the Mechanical Design
5. Adapting the Electrical Design
6. Installing Subsystems and Components at the Site
7. Performing a System Checkout and Inspection
8. Maintaining and Troubleshooting a System

**More detail on the core competencies may be found at nabcep.org/certification/pv-installer-certification*

Effective 3/1/2008

The Approved Course list will be maintained by Focus on Energy and available at focusonenergy.com/fullserviceinstallers or 800-762-7077. To request that a course be approved and added to the list contact:

Focus on Energy – Solar Electric Program
431 Charmany Drive
Madison, WI 53719
800-762-7077

Appendix B: NABCEP System Installation Tracking Sheet

Prospective solar electric Full Service Installers pursuing Track 3 may submit a complete System Installation tracking sheet(s) as developed by the North American Board of Certified Energy Practitioners (NABCEP). We have provided NABCEP's tracking sheet on the following page. Please submit the completed form to the MREA:

The Midwest Renewable Energy Association
7558 Deer Road
Custer WI, 54423
715-592-6595 or info@the-mrea.org

The MREA and Focus on Energy reserve the right to contact the solar system owner.

Installers pursuing NABCEP certification must document one (1) year of experience installing Solar Electric systems in a responsible role within the last two years prior to sitting for the exam. The complete requirements to sit for the NABCEP PV Installer Certification examination may be found at nabcep.org. Please document your NABCEP qualified installations using the form below.

