



Electric Vehicle Infrastructure Training Program (EVITP) Overview

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Electric Vehicle Infrastructure Training Program (EVITP)

A structured platform for delivering training and certification for the installation of Electric Vehicle Supply Equipment (EVSE's) across Residential, Commercial & Public Markets.



What is EVITP?

A not-for-profit, collaborative training program that addresses the technical requirements, safety imperatives, and performance integrity of industry partners and stakeholders including:

Automobile Manufacturers
Investor-Owned and Municipal Utilities
Electric Vehicle Supply Equipment Manufacturers
Electrical Energy Storage Device Manufacturers
State and Local Electrical Inspectors
Electrical Contractors
Electrical Workers
First Responders



EVITP Partner Advisors:

- General Motors (Vehicle Manufacturer)
- Coulomb Technologies, Inc. (EVSE Manufacturer)
- AeroVironment, Inc. (EVSE Manufacturer; Nissan Partner)
- General Electric (EVSE Manufacturer)
- The National Fire Protection Association (NFPA)
- Ecotality (Program Manager)
- The International Association of Electrical Inspectors (IAEI)
- Schneider Electric (EVSE Manufacturer)
- DTE Energy (Michigan Utility)
- PEP Stations (EVSE Manufacturer)
- ClipperCreek (EVSE Manufacturer)
- Exergonix (Battery Storage)
- Ameren (Missouri Utility)
- Milbank Manufacturing Co. (EVSE Manufacturer)
- California Community Colleges-Advanced

Transportation Technology & Energy Program



EVITP Partner Advisors, (cont.):

- The University of California-Davis, PHEV Research Center
- Orlando Utilities Commission (Municipal Utility)
- Southern California Edison (SCE)
- Smith Electric Vehicles (Vehicle Manufacturer)
- The National Electrical Contractors Association
- American Electric Power (Ohio Utility)
- Hubbell (EVSE Manufacturer)
- Commonwealth Edison (Illinois Utility)
- Leviton (EVSE Manufacturer)
- Legrand/Pass & Seymour (EVSE Manufacturer)
- Kansas City Power & Light (Utility)
- Duke Energy (Southeastern & Midwestern U.S. Utility)
- National Joint Apprenticeship Training Committee (NJATC)



EVITP Philosophy?

- Demand based workforce training
- We do not want to “over prepare” the market with Electricians and Contractors. Our mission is to *adequately* prepare the market.
- Curriculum will remain “fluid” in response to real market issues and developments.
- Industry collaboration is Key.



EVITP Curriculum

The Power of the Electric Vehicle Infrastructure Training Program (EVITP) lies in Industry Collaboration.



Instructor Qualifications

Instructor Eligibility for EVITP Master Instructor Training:

Instructors for the Electric Vehicle Infrastructure Training Program (EVITP) are required to meet or exceed the following minimum eligibility criteria:

Must be a state licensed or certified commercial/industrial electrician, master electrician, or electrical administrator

Or a state licensed or registered Professional Electrical Engineer

Or an IAEI certified Electrical Inspector

And

Must have a minimum of five years of experience providing instruction at the Train-the-Trainer level, **and**

Must have National Training Institute instructor certification or equivalent technical teaching credential, **and**

Must have adequate time to teach EVITP course material, on an ongoing and regular basis, beginning in May, 2011



Electrician Qualifications

Must be a state licensed or certified commercial/industrial electrician, master electrician, or electrical administrator.

State *licensed* Electricians (journeymen inside wiremen) who have completed a state or federally approved electrical apprenticeship program with a minimum of 8,000 hours of On-the-Job training and a minimum of 720 hours of related classroom and laboratory instruction,

State *certified* Electricians (journeymen inside wiremen) who have completed a state or federally approved electrical apprenticeship program with a minimum of 8,000 hours of On-the-Job training and 720 hours of classroom and laboratory instruction.



Contractor Qualifications

State Licensed and Bonded Electrical Contractors

OR

State Licensed and Bonded Electrical
Administrators (Alaska) or Master Electricians



EVITP Course Description

Course Description:

This 24-30 hour class comprehensively addresses the requirements, regulations, products and strategies which will enable electrical contractors and electricians to master successful, expert, and professional customer relations, installation, and maintenance of Electric Vehicle (EV) and Plug-in Hybrid Electric Vehicle (PHEV) infrastructure.



EVITP Course Objectives & Plan

Course Objectives: Graduates will have gained thorough knowledge and practical application of all covered Electric Vehicle infrastructure subjects including the critical areas of customer experience, protection of utility systems, vehicle charging technical applications, and safety.

Course Plan: This Phase One class focuses on Level One and Level Two charging systems and related subjects. The Phase Two class, which will be delivered later in 2011, will cover Level Three Systems, Facility Based Energy Storage, and EVSE Troubleshooting, Repair and Maintenance.



The EVITP Phase One Class Outline

- Overview of Electric Vehicles
- Types of Electric Vehicles – Present & Future
- Electric Vehicle Manufacturers and Products
- Electric Vehicle Charging Unit Manufacturers and Products
- Utility Policy, Notification and Integration
- Electric Vehicle Rules and Regulations
- Electric Vehicle Charging Site Assessment
- Electric Vehicle Charging Stations and Charging Load Requirements



The EVITP Phase One Class Outline (cont.)

- Code Officials and Inspection
- Electrical Codes, Electrical Safety Requirements, Other Regulations and Standards
- Electric Charging Installation
- Renewable Energy and Electric Vehicles
- First Responders
- Customer Relations – Contractor’s Role/Electricians Role
- Field Installation Practicum (Lab)
- EV Certification Lab and Written Exams



EVITP Master Train the Trainer

- Over 54 Candidates from 21 states completed the first ever EVITP Master Train the Trainer in Chicago, April 14-16, 2011.
- These new Master Instructors have returned home and are currently training additional Instructors and Electricians.
- All Master Instructors passed both the written test and the hands-on lab practicum.



EVITP Master Train the Trainer



24 Hours of Classroom instruction was given to EVITP Candidates

Comprehensive Hands-On Lab Instruction included Customer Relations material.





EVITP Master Train the Trainer



EVITP Candidates and Instructors
Inside the comprehensive Hands-on Lab

Kristin Zimmerman with General Motors explains the features of the Volt to EVITP Candidates





EVITP MT3 Footprint



EVITP Next Steps

- By the end of July 2011, EVITP Master Instructors will have completed course training in over 21 states for both EVITP Instructors and Electricians.
- Training will be offered through a network of Electrical Industry Training Centers and select Community Colleges throughout the United States.
- Phase 2 Training will focus on Level 3 Charging & Facility Based Storage and will be implemented through the MT3 network in late 2011.



EVITP & DOE/Clean Cities

- EV Guidebooks
- EVSE 101 Video
- Clean Cities Community Outreach Events-EVSE Subject Matter Experts.
- Cross promotion of EV related events.
- Recommend EVITP Certification for EVSE Installations.



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