

A quarterly publication of the Boston Chapter of the National Electrical Contractors Association



The electrical and telecommunications industry news in Eastern MA, ME, and NH

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POWERPOINTS

A Message from the Executive Manager

NECA Boston Proactive in Solar Licensing

Licensing complaints recently filed against a Southbridge solar project

In ongoing efforts to ensure solar electric systems are installed safely, according to code and Massachusetts state law, by licensed electricians, the National Electrical Contractors Association of Greater Boston is taking a proactive stance against solar (PV) developments in Massachusetts that are in violation.



Glenn Kingsbury

As an example, unlicensed, unqualified temporary workers are allegedly installing conductive solar electric components in violation of state law at a large solar farm in Southbridge, MA. NECA Boston has recently filed three separate complaints with the Mass. Division of Professional Licensure against Michigan-based Patriot Solar, Worcester's Absolute Staffing, and Commonwealth Electrical Technologies of Worcester. NECA Boston contends Absolute Staffing employees not licensed as electricians, with assistance from unlicensed Patriot Solar counterparts, are erecting electrical components – including racks, rails and conduit – of a solar photovoltaic facility at Southbridge's 236 Blackmer Road. Commonwealth Electrical Technologies presumably assumes full responsibility for all electrical work under its permit. MDB Equity LLC of Chevy Chase, MD., owns the development and San Francisco's Martifer Solar is the lead contractor.



Temp workers, not licensed electricians, allegedly installing electrical components at Southbridge PV project

Mass. General Law Chapter 141 and the Mass. Electrical Code, bolstered by advisories from the Board of State Examiners of Electricians, require licensed electricians and licensed electrical contractors to install solar PV power systems, among other electrical apparatuses.

Solar arrays generate electricity and pose the same dangers of electrocution or fire as any other electrical system. That is why Massachusetts law, state regulators and the National Electrical Code, which govern our industry, mandate that licensed electricians handle installation of these systems and the life-threatening voltages they produce.

NECA Boston initially grew suspicious after viewing an Oct. 12 Craigslist posting by Absolute Staffing for "general laborers installing solar panels." A call to Absolute Staffing confirmed the \$10 per hour positions were in Southbridge for the subcontractor, Patriot Solar. Assistant Chapter Manager Matt Lash visited the

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INDUSTRY NEWS

NECA Releases New Standard on Electric Vehicle Supply Equipment

Bethesda, MD – NECA 413-2012, Standard for Installing and Maintaining Electric Vehicle Supply Equipment (EVSE) (ANSI) is now available from the National Electrical Contractors Association (NECA). The standard describes essential procedures for installing and maintaining AC Level 1, AC Level 2 and both AC/DC fast charging Electric Vehicle Supply Equipment (EVSE). Quality and performance aspects of these installations, including performing site assessments are detailed. To order, call NECA at (301) 215-4504.

NECA Boston Chapter Members Honored



West Newton, MA – NECA Eastern Regional Executive Director Rich Parenti was the guest speaker at the quarterly Boston Chapter Meeting in September at the Westin Waltham/Boston. Parenti, joined by NECA District 1

Representative Ben Nest, presented special industry recognition awards to three Boston Chapter members. David MacKay (pictured) of E.G. Sawyer Company was honored with NECA's Electrical Industry Distinguished Service Award. Paul Guarracino of J.M. Electrical Company received the NECA 25-Year Member Award. J. F. White Electrical earned the NECA Zero Injury Safety Award.

NECA Boston Contractors Among ENR's Top Specialty Contractors

West Newton, MA – Four NECA Boston members have made the recently published 2012 ENR Top 600 Specialty Contractors List: Mass Electric Construction, E.S. Boulos Company, John A. Penney Company, and Broadway Electrical Co., Inc.

UL's PV Installer Certification Earns IBEW-NECA Endorsement

Northbrook, IL – UL, a world leader in advancing safety, and the International Brotherhood of Electrical Workers recently announced an agreement to begin offering UL's Photovoltaic (PV) Installer Certification to IBEW and NECA members. Learn more at www.necanet.org.

CONNECTIONS



CONNECTIONS is a quarterly publication of the Boston Chapter of the National Electrical Contractors Association / Electrical Contractors Association of Greater Boston, Inc., 106 River Street, West Newton, MA 02465. Phone 617-969-2521.

Mission: CONNECTIONS is designed to provide information relating to current happenings in the electrical construction industry in Eastern Massachusetts, Maine, and New Hampshire and to report activities of the Boston Chapter of NECA and its members. Your comments are welcome. We can be reached via e-mail at info@bostonneca.org

SOLAR INSTALLATION NEWS

An inside look at recent projects completed by NECA Greater Boston Chapter members

Broadway Renewable Strategies Completes One of Boston's Largest Rooftop PV Installations at Drydock Center in Innovation District

Local 103 Electricians provide 568.7kW Solar Installation on Boston's largest building; State, City, and community officials mark partnership with local solar leaders and celebrate the future of PV throughout the City

Boston, MA – On August 23, Broadway Renewable Strategies a NECA Boston Chapter/IBEW Local 103 signatory electrical contractor, based in Boston, hosted a ceremony with the City of Boston and Cargo Ventures/Millennium Partners to commemorate one of the City of Boston's largest rooftop Solar PV projects – at the Drydock Center. The 568.7 kilowatts (kW) system was installed on the City's largest building by volume, located at 21, 23 and 25 Drydock Avenue.



Photograph: Carter Wall, Broadway Electrical Company

The solar event was held in one of the City's many outdoor spaces and featured commentary from Boston Mayor Thomas M. Menino, Boston Redevelopment Authority (BRA) Director Peter Meade, and Broadway Renewable Strategies President Jonathan Wienslaw on the success of the project, the future of renewable energy in Boston, and the leadership role of the organizations.

Broadway's field crew of 10 IBEW Local 103 electricians provided installation of the solar farm. The project is comprised of 2,068 Suntech 275 Watt PV modules mounted to a Panelclaw Ballasted Module Mounting System, as well as five Satcon 100kW Inverters and one 50kW inverter. Satcon Technologies and Panelclaw are both Massachusetts-based companies, Satcon being headquartered in Boston and Panelclaw

in Andover.

"I encourage everyone to join the clean energy revolution in Boston," said Mayor Menino. "Solar power is now more affordable than ever in the City. It's being installed on residences, businesses, and municipal buildings at an increasing rate, and we are on the way to meeting our 2015 goal of 25 megawatts of solar energy in Boston."

Broadway Renewable Strategies, Cargo Venture/Millennium Partners, the BRA and Satcon collaborated on the 568.7kW project as part of Mayor Menino's Innovation District Solar Challenge. The project adds to the Mayor's Solar Boston Initiative, which aims to increase solar energy system capacity in Boston to 25 MW by 2015.

"This project would not have been possible without the City of Boston and Mayor Menino's proven commitment and dedication to pursuing energy-saving initiatives, which is helping to create jobs and strengthen the economy by hiring local firms, like Broadway Renewable Strategies," said Wienslaw. "We are extremely proud of the project's outcomes and the collaboration the partnerships represent for the City of Boston."

The project, which was installed under a power purchase agreement (PPA) between Broadway Renewable Strategies and Cargo Ventures, received the Commonwealth Solar Stimulus Award in the amount of \$471,780 from the Massachusetts Clean Energy Center, with no upfront capital investment required. Broadway Renewable Strategies was selected as the project developer, Broadway Electrical Co., Inc. as the contractor, and Satcon, also of Boston was selected by Broadway to provide the system's inverters.

The solar farm will produce enough power annually to accommodate 85% of the common building loads at the Drydock Center. The environmental benefit of the solar project is the annual equivalent of reducing CO2 emissions by approximately 513 tons and oil consumption by 1,082 barrels. ■

Lighthouse Electrical Shines in Mann Orchards 220.4kW Solar Project in Methuen, MA

Electrical output to cover about 80% of orchard's annual electricity costs

Methuen, MA – Lighthouse Electrical Contracting, Inc., of Rockland, MA, has completed installation of the 220.4kW solar field at Mann Orchards in Methuen, MA. The PV system was interconnected to the electrical grid in June 2012.

The solar farm is producing approximately 245,000 kilowatt hours of electricity annually, saving Mann Orchards an estimated \$32,000 each year. That covers approximately 80 percent of the orchard and farm stand's electricity needs for cold storage, cooking and cider pressing. The renewable installation will also reduce the orchard's carbon dioxide emissions by about 150 tons each year.

Lighthouse project manager Ned Chaney and foreman Scott Bennett supervised a field crew of



six electricians based out of IBEW Local 103 throughout the project. The system is comprised of 760 solar panels mounted to a ground-mount racking system, covering about an acre of Mann Orchards 29-acre site. The panels are intercon-

nected to two 95kW solar inverters manufactured by Solectria Renewables, based in Lawrence, MA. The NECA contractor completed construction of the two-month project in late February 2012.

Among the challenges met by Lighthouse Electrical was performing installations during the unusually mild winter. Navigating the site was made difficult over the muddy terrain, requiring the use of special material handling equipment to transport the panels and racking systems around the site.

The Mann Orchard solar project marked the second such agricultural solar installation Lighthouse Electrical has completed in Massachusetts in the past two years. In 2010, the NECA contractor provided Carlson Orchards in Harvard, MA with a 220 kW solar (PV) installation. ■

INSTALLATIONS

An inside look at recent projects completed by NECA Greater Boston Chapter members

Gaston Electrical Completes \$3.25M Electrical Construction at New Mass. Eye & Ear Outpatient Surgical Facility in Boston

Architect: Tsoi / Kobus Associates, Cambridge, MA; GC: Suffolk Construction, Boston, MA; EE: Cosentini Associates, Cambridge, MA; BR+A, Watertown, MA

Cambridge, MA –Gaston Electrical Co., Inc., based in Norwood, MA, has completed the comprehensive electrical construction of the 90,000 sq. ft. Mass. Eye & Ear Infirmary (MEEI) Multi Specialty Ambulatory Care Center at 800 Huntington Avenue. The project included the renovation and expansion of an existing building, which is being transformed into state-of-the-art MEEI medical offices and outpatient surgical center. The facility is located on the outskirts of Boston's Longwood Medical Area, near Harvard Medical School.

The three-story facility, designed by architectural firm Tsoi/Kobus Associates of Cambridge, MA, houses 21 physician exam suites, four operating rooms, medical offices, an optical shop, and a café. The project also includes an underground parking garage.

Gaston's comprehensive scope encompassed core and shell construction, and under separate contract, the electrical build-out. The NECA contractor installed the facility's primary and emergency power systems, lighting and lighting control, and life safety system. Gaston also provided two temporary electrical services to support the site in early construction.

Primary power is provided via a new 2,500 Amp electrical service, consisting of a 1,500 KVA Utility transformer and a new main electrical room, located on the third floor. The contractor handled



Photograph: Seymour Levy

complete build-out of the penthouse, which houses the majority of the mechanical equipment as well as normal and emergency electric rooms. The Emergency/Critical & Life Safety power systems are backed up via a new 350 KVA Natural Gas Generator. Mineral insulated (MI) cable was used in the installation of the life safety and critical care equipment.

Energy efficient lighting installations at the MEEI care center include LED and high-efficiency fluorescent fixtures and occupancy sensors throughout the building. High-end decorative lighting is featured in all patient waiting and public areas.

The Mass Eye and Ear facility is equipped with the most advanced Simplex fire alarm/life safety system and a state-of-the-art Rauland nurse call system.

Gaston met unique project coordination challenges in that the core and shell building renovation was constructed simultaneously with the MEEI tenant fit-out, under separate construction documents. Both projects required electrical installations in the same areas and involved the same systems, especially in the mechanical rooms with the power distribution equipment and fire alarm systems.

Electrical engineering services for the base building was provided by Cosentini Associates of Cambridge. BR+A of Watertown provided engineering services for the tenant fit-out project. Gaston Electrical worked on project teams headed by general contractor and construction manager Suffolk Construction of Boston.

The construction of operating rooms also necessitated a high level of coordination and expertise. Isolated power panels were installed in each operating room and extensive electrical provisions were required for all medical devices and systems.

Gaston Project Manager Jim Reen, Foremen Steve Manning (base building core and shell) and Brendan Cunningham (MEEI tenant fit-out) supervised the project with a field crew comprised of 25 IBEW Local 103 electricians at peak construction.

Gaston commenced construction in September 2011 and the project was completed, as scheduled, in October 2012. The MEEI facility is scheduled to open to patients in December. ■

Gaston Electrical Provides Fire Alarm Renovation at Harvard's Historic Weld and Grays Halls

Cambridge, MA – Gaston Electrical Co., Inc. also recently completed the fast-track fire alarm retrofit project at Harvard University's Weld and Grays Halls on JFK Street in Cambridge. The project entailed installation of new fire alarm systems in both student resident buildings. The buildings were occupied during construction.



Photo Credit: Paco Seoane

Gaston, serving as the prime contractor, maintained the existing fire alarm protection to the buildings in the parallel construction process. The aggressive project schedule allowed only nine weeks for construction, from start to completion. The project commenced on May 15, 2012 and was

completed by mid-July.

The historic buildings' (circa 1860s - 1870s) construction posed a challenge met by the Gaston team. Brick and plaster lathe walls and ceilings, common to the buildings, made concealing new wiring for the fire alarm systems particularly challenging. The

project required the contractor to install all new equipment without cutting and patching the existing structures. The Gaston crew "fished" all wiring for the installation within the plaster ceilings, working around the brick walls of the 150-year-old buildings. Gaston's scope included installation of all fire alarm access panels.

Gaston managed the project with a field crew of 20 IBEW Local 103 electricians, headed by one general foreman and two foremen. The union electrical team installed more than 60,000 feet of fire alarm cable, 400 initiating devices (e.g. smoke detectors and pull stations), and 500 notification devices in the two buildings. Gaston's crew also installed Simplex 4100U panels and Voice/LCD annunciators in the fire alarm retrofit for each building.

In meeting the aggressive 9-week schedule, Gaston Electrical was given only two weeks of exploratory time to completely plan the installation, while students were still living in the dorms. They then provided project installation and testing in six weeks, one week ahead of schedule. Cambridge Fire Department tested and approved the new life safety systems in early July. ■

SOLAR INSTALLATIONS

An inside look at recent projects by NECA Greater Boston Chapter members

Ayer Electric, LLC Installs New Hampshire's Largest Roof-mounted Solar PV System – 140kW Array at Favorite Foods Headquarters in Somersworth Now Online

Somersworth, NH – NECA Boston Chapter/NH Division member Ayer Electric, LLC, of Dover, NH, recently completed the fast-track installation of the 572-panel, 140kW roof-mounted solar energy system at Favorite Foods headquarters in Somersworth, NH. The food dis-



tribution company's photovoltaic (PV) system, New Hampshire's largest roof-mounted system to date, went online in October.

Solar energy from the system will help power Favorite Foods' massive industrial cooler and freezer, generating enough electricity to cover approximately 17 percent of the

company's energy usage. The solar electric system will produce an electrical load of nearly 170,000 kilowatt hours annually, enough to power about 24 modest-size homes.

Ayer Electric managed project installations with its team of six electricians based out of IBEW Local 490 in Concord. Ayer teamed with system financier and renewable energy engineering firm, Revolution Energy of Portsmouth, NH. The system was funded in part by New Hampshire's Renewable Energy Fund. ■

INSTALLATIONS

McPhee Electric in Progress with \$11.6M Electrical Construction of Biogen HQ at Alexandria Center™, 225 Binney Street, Cambridge

Architects: Spagnolo Gisness & Associates, Boston; Nelson Architecture and Engineering, P.C., Boston; GC: Consigli Construction, Milford, MA; EE: R.G. Vanderweil, Boston, MA

Cambridge, MA – McPhee Electric, Ltd., of Medford, MA, is underway with the comprehensive electrical construction of the first building of the state-of-the-art Alexandria Center at Kendall Square, located at 225 Binney Street in Cambridge. The facility will



Rendering: Spagnolo Gisness & Associates

serve as Biogen Idec's new executive office headquarters as the company moves from its current facility in Weston, MA.

In a total electrical project contract valued at \$11.6 million, McPhee's project scope includes core and shell electrical construction of the six-story, 310,000 square foot facility, plus custom electrical and communications build-out for Biogen Idec, the global biotech company.

The Alexandria project is being built utilizing a

BIM construction platform. McPhee Electric was awarded the project on a design-assist basis. In the pre-construction phase, McPhee assisted in completing design engineering and shop drawings. The contractor also provided real-time cost estimating during

design development, as well as recommendations for design alternatives beneficial to the project and solutions to constructability issues.

The project entails integrating primary power – 13.8kV switchgear and 13.8kV substation transformers – from Biogen Idec's existing cogeneration facility in Kendall Square. The project also includes site work and electrical installations for two levels of underground parking and a cafeteria on the first level.

The NECA Boston Chapter member is managing a field crew of 20 IBEW journeymen and apprentice electricians throughout the course of the two-year project, which commenced in September 2011 and is targeted for completion in October 2013. McPhee's project management team includes Project Executive Thomas Lombardo, BIM Director Ryan Giroux, Project Managers Michael Moran and Kevin Delaney, Supervisor Peter Nugent and General Foreman James O'Shea.

When complete, the Alexandria Center will be a \$500 million 1.73 million square foot campus, comprised of five world-class, build-to-suit science and technology buildings in the heart of Cambridge. The facilities will all be designed to be flexible, modern laboratory and high-tech office settings, integrating a variety of innovative spaces designed to encourage collaboration. ■

McPhee Electric Connects with Electrical Renovation of MIT Buildings E-17, E-18 and E-19

LAN-TEL Communications, Norwood, MA, provides Tel/Data as subcontractor to McPhee

Cambridge, MA – McPhee Electric has completed the 100,000 SF electrical renovation of MIT Buildings E-17, E-18 and E-19 in Cambridge. The project scope encompassed complete demolition of existing electrical and fire alarm systems, and installations for all new electrical, fire alarm, security and tel/data systems. Labs, conference and study areas were renovated at MIT Buildings E-17 and E-18. In addition, McPhee has provided electrical fit-out of all floors from basement through the electrical penthouse in both buildings. A new fire alarm system was also installed in a portion of Building E-19.



Fellow NECA contractor LAN-TEL Communications, based in Norwood, worked as a subcontractor to McPhee Electric, handling the tel/data

project scope. The project team included architect: The SLAM Collaborative, Boston, MA; GC: Barr & Barr, Inc. Builders, Framingham, MA; and EE: WSP Flack + Kurtz, Boston, MA.

McPhee's field crew of 14 electricians and 3 telecom technicians from Local 103 provided installations, supervised by Project Foreman Brian Conlon, Project Supervisor Peter Nugent, Project Manager Ryan Giroux and Project Executive Thomas Lombardo. The fast-track, 10-month project was completed as scheduled, in October 2012. The fire alarm system is pending final testing. ■

INSTALLATIONS

An inside look at recent projects completed by NECA Greater Boston Chapter members

E.S. Boulos Powers 115kV Starks, Maine Switchyard – EPC Greenfield Project for Iberdrola/USA-CMP

Starks, ME – E. S. Boulos Company's Utility Division, based in Lewiston, ME, completed construction of the Starks 115kV EPC Substation for Iberdrola/USA – Central Maine Power (CMP) as scheduled, in late October. ESB served as Prime General Contractor and Electrical Contractor on an EPC team that included project architect TRC Engineers, Inc. and TRC Engineering, LLC – electrical engineering, testing and commissioning, both of Augusta, ME. CCB, Inc. of Westbrook, ME provided civil engineering as a subcontractor to the EPC team.

The Starks 115kV Switchyard is a greenfield project consisting of three incoming 115kV lines in a ring bus configuration. The initial



ring bus configuration is designed and con-

structed to allow for expansion into a full breaker and a half configuration. The switchyard consists of a new control house and three general purpose breakers which will segregate the three line terminals. Two 18 MVAR capacitor banks are connected to bus #2 and controlled via a zero crossing breaker and two circuit switchers.

Project Manager Patrick Driscoll, Superintendent Dennis Andrea, General Foreman Thomas Raye, Lineman Foreman Jamie Rackliffe and Electrical Foreman Alan Squilanti headed ESB's crew of six Local 1253 journeymen electricians and six Local 104 linemen during the 10-month project. ■

PROJECT NEWS

An inside look at recent projects awarded to NECA Greater Boston Chapter members

J.F. White / Skanska, J.V. Awarded \$244M Fore River Bridge Replacement Project by MassDOT

NECA member J.F. White Electrical to provide comprehensive electrical construction beginning in Spring 2013

Cambridge, MA –The \$244 million reconstruction of the Fore River Bridge has been awarded to J.F. White/Skanska J.V. – a joint venture between J.F. White of Framingham, MA and Skanska of New York. Both firms specialize in highway and bridge construction. The project is expected to create 250 to 300 construction jobs and last approximately 3 ½ years. It is the largest contract ever awarded by the Massachusetts Department of Transportation.

J.F. White's Electrical Division (JFW) will provide the extensive electrical construction of the bridge at an estimated \$11 million. The NECA contractor's project scope includes installation of power and control systems including motor control centers; 480V and 208V panel boards; transformers; submarine cables; lighting, inclusive of decorative bridge lighting; cathodic protection; fire alarm, access/intrusion and CCTV systems; traffic signals; and lighting poles. Concurrently, the electrical contractor will be charged with maintaining operation of the existing temporary bridge.

J.F. White will manage an electrical field crew comprised of 12 IBEW Local 103 foremen, journeymen electricians, and telecom technicians throughout the multi-year project. Project



Rendering: Rosales+Partners

manager George Foley and supervisor Peter Rush will head the J.F. White Electrical team.

The joint venture, design/build project incorporates both the bridge design and approval, and construction of the structure that will span over the Fore River, connecting Quincy and Weymouth along Route 3A, at a roadway height of more than 50 feet.

Site preparation is in progress and construction is scheduled to begin in March, 2013

Bridge Project History & Overview

In 2000, the U.S. Coast Guard classified the existing Fore River Bridge "structurally deficient" and ordered the state to tear it down. In 2002, a temporary bridge with a 15-year expected lifespan was constructed in its place over the Fore River, connecting Quincy and Weymouth along Route 3A. The existing temporary bridge will be demolished as part of the Fore River Bridge replacement project.

Bridge Design

The new Fore River Bridge will be a 250-foot wide, 175-foot high lift bridge, moving up and down when a ship passes. The bridge will have two 200-foot lift towers on either side of the main span. There will be three approach spans

on both the Weymouth and Quincy sides and there will be two 12-foot westbound and eastbound lanes. The vertical lift design will minimize environmental and right-of-way impacts, allow for accelerated construction techniques and more efficient construction and life-cycle costs, and meet the public desire for fewer bridge openings. It will be built on the same footprint as the original Fore River Bridge, which was constructed in 1936.

Funding

Funding for the bridge comes from the state's Accelerated Bridge Fund, which was launched in 2008 with \$2 billion dollars in state funds and \$1 billion in federal money. The program was created in reaction to a large bridge collapse in Minnesota. ■

SHOPTALK

An interview conducted with electrical industry professionals on issues impacting the construction industry.

Electrical Training for Photovoltaic (PV) System Installation

Greater Boston's union electrical industry is recognized nationally for its electrical training program. In this Shoptalk interview, **James M. O'Connell**, Director of Training for the Greater Boston Joint Apprenticeship and Training Committee's (JATC) Electrical Training program, discusses photovoltaic power system training.

Q How important is photovoltaic installation training from an electrical perspective?

A It is critical. Photovoltaic systems are power generating electrical systems, comprised of electrical components. Graduates of the five-year JATC electrical training program, co-sponsored by NECA and IBEW, are fully trained in all aspects of electrical installations.

Q What PV training courses does the Greater Boston JATC conduct within its Electrical Training Program?

A Presently, the Alternative Energy Course is provided for fifth year apprentices. The course provides an overview of photovoltaic, geothermal and wind power systems.

In 2013, the Greater Boston JATC plans to significantly expand our Photovoltaic systems training, as we'll introduce the online, interactive "blended learning" training model for PV Systems recently developed by the NJATC (National Joint Apprenticeship and Training Committee).

Q How detailed is the JATC PV Systems' Blended Learning course?

A It is a 15-lesson program covering all aspects of photovoltaic systems and solar power. It starts with a thorough introduction to PV power systems. Subsequent lessons cover Solar Radiation; Site Surveys and Pre-planning; Solar Cells, Modules, and Arrays; Charge Controllers; PV System Sizing; Mechanical Integration; Electrical Integration; Utility Interconnection; Permitting and Inspection; Commissioning, Maintenance and Troubleshooting; and, the Economics of Solar Power.

Q What safety training is provided for PV installations?

A From a safety perspective, OSHA 10-Hour and 30-Hour training is ongoing at the Boston JATC and provided to all IBEW electricians. Aspects of these safety-training programs are very relevant to PV System installations. Fall protection and lockout/tagout procedures, for instance, certainly have application in PV installations. And, there is great flexibility in adapting the OSHA 30-hour course even more specifically to PV, which the Greater Boston JATC has plans to do.

Q Who conducts the OSHA training courses?

A We have seven certified OSHA instructors, comprised of journeymen electricians and telecom technicians, who teach the courses. And, on regular occasion, OSHA field reps are featured as guest speakers.

Q What can you tell us about the PV system that will be constructed at the new JATC Training Facility at 170 Freepoint Street?

A The new JATC Electrical Industry Training facility, planned to be operational in 2013, will feature a fully functioning 100kW ground-mounted PV system, including state-of-the-art system monitoring. This will be a great interactive teaching tool, as both apprentices and journeymen electricians will have hands-on learning about PV power.

It will also be ideal in our educational outreach to students throughout Greater Boston. Young science students will be able to learn about clean, renewable energy – both solar power and wind energy, as our facility is also the site of the 100kW Local 103 wind turbine. ■

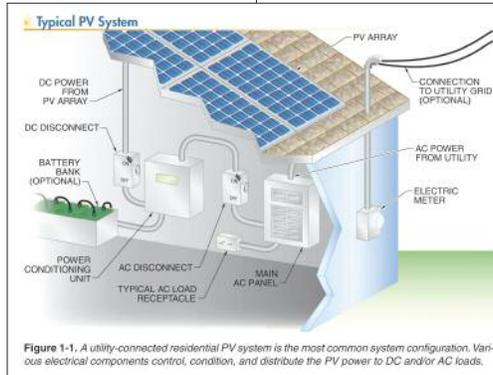


Figure 1-1. A utility-connected residential PV system is the most common system configuration. Various electrical components control, condition, and distribute the PV power to DC and/or AC loads.

POWERPOINTS Continued from page 1 NECA Boston Proactive in Solar Licensing

Southbridge site and photographed the alleged violations. He spoke to contractors and workers, who confirmed unlicensed workers were handling conductive rail, racking and conduit installations. Such work is permitted to be done only by licensed electricians.

Town inspection officials have issued permits in error for the unlicensed electrical activities.

NECA Boston supports renewable energy installations when safely implemented by properly trained and licensed individuals. We would applaud the Southbridge developers if they were using a licensed electrical contractor instead of staffing agencies and

out-of-state firms that are unfamiliar with applicable statutes and handling the project with an installation team unlicensed in Massachusetts as electricians. Cutting corners and breaking the law with low-wage, short-term jobs is not the answer to our nation's economic and environmental woes and, most importantly, undermines public safety. ■

NECA at Forefront of Photovoltaic (PV) Power System Installations

Release of National PV Installation Standard, NEIS 412-2012;
Introduction of NJATC Blended Learning PV System Course

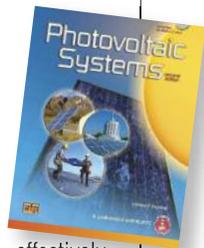
West Newton, MA - In 2012, the National Electrical Contractors Association (NECA) further established itself as an industry leader in photovoltaic system installation with the publication of *NECA 412-2012 Standard for Installing and Maintaining Photovoltaic Power Systems*. In addition, the National Joint Apprenticeship Training Committee (NJATC) of NECA and IBEW recently introduced the Blended Learning

Photovoltaic Systems course, which will be offered by the Greater Boston JATC in 2013.

NECA 412-2012 is the national standard for installation of PV systems and their components, designed to complement the National Electrical Code Article 690.

NECA 412-2012 may be ordered by calling NECA at (301)215-4504 or online at www.necanet.org/store under *Codes and Standards*.

The Blended Learning PV course is a model educational program that covers all aspects of the design, installation, and evaluation of residential and commercial PV systems. The course teaches all the principles of PV and how to effectively incorporate PV systems into stand-alone or interconnected electrical systems. Details on the Boston JATC course introduction are expected by year-end. ■



For a complete directory of NECA Greater Boston Chapter members, visit www.bostonneca.org