

A MESSAGE TO THE MASSACHUSETTS CONSTRUCTION INDUSTRY

MA Court Rules: Solar PV Installations are Electrical

PHYSICAL INSTALLATION of PV Systems Must Be Done by LICENSED ELECTRICIANS

A July 2012 ruling by Suffolk Superior Court affirmed the long-held position of the Massachusetts State Board of Examiners of Electricians: licensed electricians and properly supervised apprentices must install solar photovoltaic (PV) systems with the assistance of other non-electrical building professionals as necessary.

In August 2010, a contingent of solar companies without electrical licenses took legal action against the Board (*John Carroll et al. v. Massachusetts Board of State Examiners of Electricians et al.*), alleging the Board's position kept them from advertising for and taking on solar PV projects out of fear of prosecution. The group sought a declaratory judgment that they, as so-called general contractors, are beyond the Board's jurisdiction with respect to advertising and performing non-electrical solar PV installation tasks.

WHAT THE RULING MEANS TO YOU

The Court's decision affirmed the following in regard to solar PV installations:

- PHYSICAL INSTALLATION of solar PV systems **MUST** be done by LICENSED ELECTRICIANS.
- INSTALLATION includes, but is not limited to:
 - Linking individual modules, hardware, mounting brackets, grounding, installation of wires, conduits, apparatus, devices, fixtures, other appliances, etc., as mandated by M.G.L. Chapter 141.
- General Contractors **MAY** advertise solar PV systems **ONLY** if subcontracting installation to LICENSED ELECTRICIANS.
- General Contractors **MAY** perform **NON-ELECTRICAL** tasks within a project, including energy audits; applying for tax credits; consulting with consumers about renewable energy options; analysis of roof conditions, strength, wind effect and load; physical piercing, waterproofing and reinforcement of the roof; and purchase of PV panels and transport from warehouse to the jobsite. However, a LICENSED ELECTRICIAN is required for INSTALLATION.

The National Electrical Contractors Association, the Massachusetts Electrical Contractors Association, the International Brotherhood of Electrical Workers, the Municipal Electrical Inspectors Association of Massachusetts and Rhode Island, and the International Association of Electrical Inspectors Paul Revere Chapter are fully committed to the safe installation of solar PV systems by licensed electricians, in collaboration with other construction professionals if needed.

This message is brought to you by:

National
Electrical
Contractors
Association



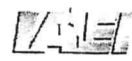
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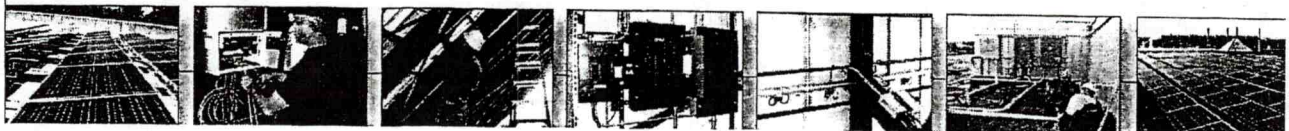
International
Brotherhood
of Electrical
Workers



International
Association of
Electrical Inspectors
Paul Revere Chapter



Municipal Electrical
Inspectors Association
of Massachusetts
and Rhode Island





New York State Department of Labor
Andrew M. Cuomo, *Governor*
Colleen C. Gardner, *Commissioner*

January 6, 2011

Mr. Donald Rahm
Business Manager/Financial Secretary
International Brotherhood of Electrical Workers
Local Union 236
3000 Troy-Schenectady Road
Schenectady, New York 12309

Dear Mr. Rahm:

I am writing in response to your e-mail dated December 23 concerning the installation of photovoltaic panels and the proper classification on public work projects.

The installation, mounting, anchoring and all related electrical transmitting components would be classified as Electrician.

I hope this answers your question, but if further clarification is needed please let me know. Thank you for writing.

Sincerely,

A handwritten signature in black ink that reads "Christopher D. Alund".

Christopher D. Alund
Director
Bureau of Public Work

New York State Department of Labor
 Harriman State Office Campus
 Building 12, Room 130, Albany, NY 12240
 www.labor.ny.gov

Solar Power Purchase Agreements

Please Take Notice:

Pursuant to requests received from public entities, the Bureau of Public Work has made determinations that construction of photovoltaic systems under a Power Purchase Agreement (PPA) for the purpose of meeting energy needs of the public entity is public work and requires the payment of prevailing wage. As with all public work projects, the public entity must request a prevailing wage schedule from the Bureau of Public Work and provide it to the PPA contracted party. Wherefore,

Please Be Advised:

All public entities in the State of New York must either obtain a prevailing wage schedule for all Solar PPA projects or alternatively request that a determination be made by the Bureau of Public Work regarding the proposed Solar PPA project. All determinations will be rendered within 10 business days of the date of receipt of all pertinent documentation. Failure to follow this advisory may result in additional delays, costs and penalties.

Contact information for all Bureau of Public Work Offices:

District Office	Address	Phone Number
Albany	State Campus, Bldg. 12, Rm. 134B, Albany, NY 12240	(518) 457-2744
Binghamton	State Office Bldg., 44 Hawley St., Rm. 908, Binghamton, NY 13901	(607) 721-8005
Buffalo	State Office Bldg., 65 Court St., Rm. 201, Buffalo, NY 14202	(716) 847-7159
Garden City	400 Oak St., Suite 102, Garden City, NY 11530-6551	(516) 228-3915
Newburgh	The Maple Bldg., 3 Washington Ctr., 4 th Floor, Newburgh, NY 12550	(845) 568-5287
NYC	Adam Clayton Powell Jr. State Office Bldg., 163 W. 125 th St., Rm. 1307, New York, NY 10027	(212) 932-2419
Patchogue	160 South Ocean Ave., 2 nd Floor, Patchogue, NY 11772	(631) 687-4882
Rochester	109 S. Union St., Rm. 312, Rochester, NY 14607	(585) 258-4505
Syracuse	Senator Hughes State Office Bldg., 333 E. Washington St., Rm. 419, Syracuse, NY 13202	(315) 428-4056
Utica	State Office Bldg., 207 Genesee St., Rm. 603B, Utica, NY 13501	(315) 793-2314
White Plains	120 Bloomingdale Rd., Rm. 204, White Plains, NY 10605	(914) 997-9523

For a copy of this notice and other online Prevailing Wage/Public Work information:

- Enter this URL into your Internet Browser <http://www.labor.ny.gov/home/>;
 - Click on *Laws and Regulations*;
 - Click on *Prevailing Wage/Public Work*; you will now be at *The Bureau of Public Work* home page.



Department
of Labor

Department of Labor and Training and Office of Energy Resources – Questions and Answers on Solar Installations

1. As the renewable energy market expands in Rhode Island what can DLT inspectors do while on site?

The type of project does not affect the inspection rights of DLT inspectors provided by law. Inspectors will continue to carry out inspections according to the applicable trade licensing law.

2. For the small commercial PV installations the jobs ratio is 3 electricians to one apprentice, correct. Is that ratio different for small business or residential solar installations?

Apprenticeship ratios are based on the type of project and by trade not the size of the contractor. The ratio for electrician apprentices on residential projects is 1 apprentice per 1 journeyman. The ratio for electrician apprentices on commercial or manufacturing/shop projects is 1 apprentice per 1 journeyman for the first apprentice and then 1 apprentice per 3 journeymen for each additional apprentice. A complete list of apprenticeship ratios for each trade is included as Appendix A of the Apprenticeship Rules and Regulations, which can be found online at: <http://www.dlt.ri.gov/apprenticeship/pdfs/ApprenRRs1113.pdf>

3. Can an individual who is involved with a small scale PV project, works for a solar installation company with a Renewable Energy Professional Certificate, and is not an electrician cut a rail to size for the project on the jobsite? What about in the warehouse? Can they put the rail in place on the jobsite?

Renewable energy professionals can cut a rail to size on the jobsite and at a warehouse location and can bring the rail to the final location of installation. However a licensed electrician must install the rails at the final location of installation.

4. What preparation work can be done to installation materials before taking them to the job site? What can be done on-site?

The location at which work is performed does not affect the application of the statute. For example, mounting modules to the mounting rack must be performed by a licensed electrician regardless of where the work is performed.

5. Can flashing be done by a non-licensed electrician?

Yes.

6. When there are multiple crew members on a commercial PV jobsite should workers have distinct colored shirts or vests distinguishing electricians and non-electricians on the site?

Licensed electricians are required by law to carry their license while on the jobsite. Any other method used to distinguish between electricians and non-electricians is at the contractor's discretion.

7. What happens if the racking for the solar panels can only be installed by trained contractors associated with the solar racking company, in order for the warranty to be guaranteed for the system? What happens if electricians do not have proper training from the solar racking company that the solar business needs to install the system?

Solar racking systems must be installed by licensed electricians. It is the responsibility of each business to comply with the DLT policy regarding R.I.G.L. §5-6-8 (g). The strategy used by a business to achieve compliance is at the business' discretion.

8. Can DLT and OER provide a table showing all aspects that can be done on the job site by electricians and the same for general contractors and non-electricians?

Renewable Energy Electrical Work (Licensed)	Renewable Energy Ancillary Non-Electrical Work
<ul style="list-style-type: none"> • Install <ul style="list-style-type: none"> ○ Electrical Wires ○ Conduits ○ Apparatus (including racking systems) • Connect <ul style="list-style-type: none"> ○ Electrical Wires ○ Conduits ○ Apparatus (including rack systems) • Maintain <ul style="list-style-type: none"> ○ Electrical Wires ○ Conduits ○ Apparatus (including rack systems) • Service <ul style="list-style-type: none"> ○ Electrical Wires ○ Conduits 	<ul style="list-style-type: none"> • Install <ul style="list-style-type: none"> ○ Ground and/or rooftop support brackets for racking systems ○ Ground and/or rooftop support ballast for rack systems, i.e. cement blocks • Distribute materials to final location of installation <ul style="list-style-type: none"> ○ Place PV modules onto the rack system • Advertise services • Excavation and trenching related work relating for preparation of the ground mount system (hoisting license requirements may apply) • Pre and post landscaping of the installation area

<ul style="list-style-type: none"> ○ Apparatus (including rack systems) • Test <ul style="list-style-type: none"> ○ Electrical Wires ○ Conduits ○ Apparatus (including rack systems) • Mount modules to the mounting racks • Mount inverters • Tie inverters into the main electrical panels 	
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9. Will the solar installer and electrical communities have the opportunity to provide comments on OER/DLT drafted responses to the questions posed at the solar stakeholder meeting today? Will there be a follow up meeting with stakeholders?

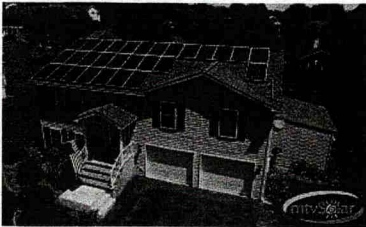
Contractors with specific questions regarding the application of the trade licensing laws should contact the Department of Labor and Training directly for assistance.

10. Can non-licensed individuals (apprentices or laborers) and those solar companies having the Renewable Energy Professional Certificate (REPC) issued by DLT and OER place the solar modules onto the rack system when delivering the solar module materials to the commercial or residential job site, and then the licensed electricians secures/connects the solar modules to the rack system and then completes all of the electrical wiring and inverter work. Is this scenario correct?"

Yes, that would be permissible.

The Importance of Licensed Electricians When Installing Solar Power

By mtvSolar | February 8, 2018 | Category mtvSolar



You've decided to make the leap to solar power. It's a major step towards lowering your energy bills – and possibly eliminating your electrical utility costs completely. According to the Solar Energy Industries Association (SEIA), the solar industry is expected to continue growing at a record pace. What this means for those looking for residential or commercial solar energy solutions is – lower prices.

Statistics show that the US experienced a 70% drop in the cost to install solar over the period from 2010-2017. From public schools to Fortune 500 corporations, solar systems are being installed at a record pace – *"enough to offset 11 million metric tons of carbon dioxide emissions each year."*

Deciding to Add Solar as a Home Remodeling Project

When thinking about your home remodeling project, that's also a good time to consider upgrading your utility systems – especially adding solar to create your home's energy efficiency. But, adding solar power (also called, PV systems) are also a stand-alone project which will add substantial value to your home if you decide to sell. A recent study funded by the U.S. Department of Energy states the following:

...on average, homebuyers are consistently willing to pay solar home premiums of approximately \$4 per watt of installed solar capacity. For a standard 6-kilowatt (kW) solar PV system, that means solar can add \$24,000 to home resale value.*

Having your own solar energy system typically brings a return on your investment within 10-12 years. After you've reached that point, every bit of energy your home or business will use – is totally free, courtesy of Mother Nature! Your property will join the proud group of landowners that contribute zero greenhouse gas emissions into the environment, while helping our nation to reduce its dependence on imported fossil fuel sources.

Hiring a Licensed Contractor for Solar Installation

After you've had your home's present electrical system evaluated and your roof structure inspected for stability, the next steps include choosing your solar system vendor and installer, completing the proper documentation, and obtaining your installation permits. Before your equipment is even delivered, it is important to know that your installer has a Master electrician on staff and is a licensed electrical contractor for the final steps in owning your new solar system: installation, approval, and making the interconnection with the power grid.

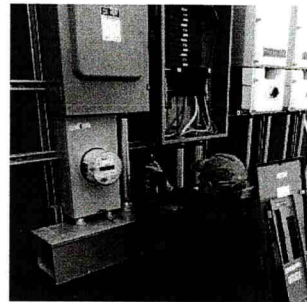
When you choose a solar installation company, you should expect your PV installation to be completed by certified professionals. Although the specific definitions vary from state to state, an electrical contractor can be an individual or a business owner that employs certified electricians to safely install electrical systems. The contractor should have insurance and appropriate licenses to protect the business, the employees and the clients from liability and unexpected damage.

A general look at the installation process (which could take anywhere from 1 day up to 3 days) will show why it is important to use licensed electricians when installing solar:

- install wiring between new electrical panel and the power system
- racks are attached to the roof or at other location to support the PV panels
- PV panels are professionally installed onto the racking system
- the PV system's inverter is connected to the new electrical panel
- installation of power meter (for net metering) to obtain utility energy credits

While these steps may look straightforward at first glance, there are a number of installation and electrical wiring mistakes that have become common when examining systems that fail or operate below the expected performance level. Under-sized wiring and loose connections are a common cause of electrical fire or poor performance. The reasons why solar installations require quality technicians who also abide by legal requirements and safety considerations include:

1. A licensed electrician is required to sign-off on the installed grid connect installation, certifying that it has been inspected and the installation is found 'to adhere to electrical code and is deemed safe'
2. To ensure the PV panels have been attached to the roof structure and not the roof sheeting, providing sound mechanical support for the entire system
3. A skilled PV installer knows the difference between north and south and will install the system in the direction and location for the greatest amount of sunshine to the solar panel over the course of an average day
4. DC wiring can be dangerous if done incorrectly. If the electrician does not recognize the different wiring required for polarized circuit breakers versus non-polarized circuit breakers, the unit can catch fire when it is switched to the 'off' position.
5. The electrician must understand proper earth and ground bonding principles. The proper grounding of a photovoltaic (PV) power system is critical to ensure safe operations.



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Index

- » About Us
- » Agricultural Solar PV
- » Battery Backup & Preparedness
- » Blog
- » Commercial Solar PV
- » Commercial Storage
- » Company Reviews
- » Contact Us
- » Customer Resources
- » Electric Car Chargers
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- » Home
- » Maryland Solar
- » Meet Our Family
- » mtvSolar Community Giveback Program
- » mtvSolar Solar Co-Op Program
- » News, Media and Links
- » PEARL Solar Certification
- » Pennsylvania Solar
- » Photos
- » Photos – Agricultural
- » Photos – Commercial
- » Photos – Miscellaneous
- » Photos – Residential
- » Privacy Policy
- » Referral Program
- » Residential Solar PV
- » School Systems
- » SmartFlower Solar
- » Social Media

Local and national codes and according to detailed equipment specifications, wiring schematics, and system design layout.



Choosing Your Solar Installation Service Provider

When you choose solar for your residential or commercial property, you are making a long term investment which lasts 25+ years. Technical knowledge combined with craftsmanship is important. Unlike other power systems, solar panels will become a part of your landscape or your home's exterior roofing. Many decisions need to be made, from orientation to location to the proper power generation levels.

Choose a PV installer that provides multiple solutions, such as battery storage systems and commercial demand reduction. This will help you choose an experienced contractor which will offer larger projects greater flexibility in power generation. It is also a good idea to check the company's customer reviews and their standing with the Better Business Bureau (BBB) to ensure they operate with professionalism and responsibility to their customers.

nally, ask your contractor to see a copy of their license and insurance. Take the time to review the company's installation portfolio and check their references which should include recent projects the company has completed. The best solar installation service providers will have a good mix of residential and commercial projects, such as municipal buildings and manufacturing facilities, and crew members with NABCEP certifications.

begin your journey in energy independence and operating a sustainable household or business contact [mtvSolar](#) today!

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PAGES

- About Us
- Agricultural Solar PV
- Battery Backup & Preparedness
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- Commercial Solar PV
- Commercial Storage
- Company Reviews
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- Customer Resources
- Electric Car Chargers
- Electric Vehicle Charging
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- Maryland Solar
- Meet Our Family
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- News, Media and Links
- PEARL Solar Certification
- Pennsylvania Solar
- Photos
- Photos – Agricultural
- Photos – Commercial
- Photos – Miscellaneous
- Photos – Residential
- Privacy Policy
- Referral Program
- Residential Solar PV
- School Systems
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- Testimonials
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