



Licensing Requirements for Solar PV Installers in Texas: Frequently Asked Questions

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NOTE: *This document is intended to highlight certain regulatory issues of importance to Solar PV installers in Texas and as a guide for those seeking additional information on this topic. It is not intended to serve as, and is not offered as, legal advice or a legal opinion of any person's or company's options for conducting solar PV business in Texas or otherwise complying with applicable Texas law. Readers should consult with their own legal counsel, the Texas Department of Licensing and Regulation, local authorities, and/or other pertinent authorities. The recommendations and conclusions expressed herein are those of the author do not necessarily reflect the opinions of additional contributors and reviewers, the Texas Renewable Energy Industries Association or its members, or the Texas Department of Licensing and Regulation.*

Summary

With the widespread introduction of utility-sponsored solar photovoltaic (PV) incentive programs in Texas since 2004, the Texas distributed solar industry appears to be poised for at least short-term growth, and many new individuals and companies are expressing interest in offering to sell and install solar PV systems on Texas homes and businesses. These individuals and companies may not be fully aware of the laws, rules and requirements that currently govern their eligibility to conduct such a business, and the manner in which they must do so.

This document attempts to clarify some of the related issues most relevant to PV installation companies in Texas. It is important to note that the State regulatory requirements are independent from additional eligibility requirements which may exist for companies to participate in utility incentive programs. The document is structured as a series of frequently asked questions, starting with an overview of applicable laws and definitions, and working through related topics of interest.

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Frequently Asked Questions

What laws and regulations apply to installing solar PV systems in Texas?

The Texas Electrical Safety and Licensing Act (Title 8, Occupations Code Ch. 1305 - the “Act”, see <http://www.license.state.tx.us/electricians/eleclaw.htm>) and the Administrative Rules (16 Texas Administrative Code, Chapter 73, see <http://www.license.state.tx.us/electricians/elecrules.htm>) adopted by the Texas Department of Licensing and Regulation (TDLR) apply to solar PV installations in Texas.

In general, Section 1305.151 of the Act requires that all individuals performing or offering to perform “Electrical Contracting” or “Electrical Work” (including installation of solar PV systems) must hold the the appropriate electrician license issued or recognized by the TDLR:

“Except as provided by Section 1305.003, a person or business may not perform or offer to perform electrical work or residential appliance installation unless the person or business holds an appropriate license issued or recognized under this chapter.”

The Act includes exemptions for certain types of electrical work which are set forth in some detail under Section 1305.003.

In addition to the above state-specific requirements, persons or companies performing solar PV installation services should also be prepared to comply with the following:

- National Electrical Code, particularly Chapter 690.
- Local Ordinances and Amendments to Code - refer to local building codes as applicable.
- Utility system interconnection and incentive program requirements, if applicable.

This document focuses on state law and regulations and only minimally addresses additional requirements listed above which also may be applicable to solar installation work.

How does the Act define “electrical work”?

The definition of “electrical work” encompasses installation of solar PV equipment and associated wiring:

“Electrical work” means any labor or material used in installing, maintaining, or extending an electrical wiring system and the appurtenances, apparatus, or equipment used in connection with the use of electrical energy in, on, outside, or attached to a building, residence, structure, property, or premises. The term includes service entrance conductors as defined by the National Electrical Code (Act, Sec. 1305.002(11)).

Note that the definition of electrical work does not distinguish between the “DC side” and “AC side” of a solar electric system, nor does it exempt certain tasks (such as mounting electrical equipment to roofs or walls) that are not directly associated with wiring.

How does the Act define “electrical contracting”?

The definition of “electrical contracting” also encompasses solar PV installation work:

“Electrical contracting” means the business of designing, installing, erecting, repairing, or altering electrical wires or conductors to be used for light, heat, power, or signaling purposes.

The term includes the installation or repair of ducts, raceways, or conduits for the reception or protection of wires or conductors and the installation or repair of any electrical machinery, apparatus, or system used for electrical light, heat, power, or signaling. (Act, Sec. 1305.002(5)).

Note that the definition of electrical contracting includes not just installation-related tasks, but also design and repair.

What constitutes an “offer to perform” electrical work?

Under Texas Administrative Code Rules, an “offer to perform” electrical work is broadly defined as follows:

“To make a written or oral proposal, to contract in writing or orally to perform electrical work... or to advertise in any form through any medium that a person or business entity is an electrical contractor... or that implies in any way that a person or business entity is available to contract for or perform electrical work...” (Rules, 1 TAC Ch. 73.10(26)).

What tasks in a typical solar PV installation can be done by someone other than a licensed electrician?

Generally, none. Although some PV installers are under the impression that DC electrical work and/or work associated with mounting PV equipment can be performed by individuals or companies that are not licensed Electrical Contractors; this is not supported by statute. All work must be provided through a licensed Electrical Contractor whose Master Electrician ensures the appropriate level of supervision.

TDLR has provided the following general guidelines on licensing requirements that apply to each “portion of work”:

Task	Required License
Designing PV systems	Licensed Master electricians through a licensed Electrical Contractor (and other licensed design professionals as authorized by applicable statute, for example, an electrical engineer).
Transporting PV modules to the jobsite	No license required (other than a drivers license), however, per Section 1305.166 of the Electrical Safety and Licensing Act: (a) An Electrical Contractor...shall display the contractor's business name and the number of the license issued by the executive director on each vehicle owned by the contractor. The information required to be displayed must be: (1) printed in letters and numbers that are at least two inches high and in a color that contrasts with the color of the background surface; and (2) permanently affixed in conspicuous places on both sides of the vehicle.
Installing racking or mounting equipment	Licensed electricians installing the racking/mounting equipment.
Affixing PV modules to racking system	Licensed electricians affixing PV modules to racking system.

(table continues on next page)

Connecting DC circuits, equipment and electrical grounding	Licensed electricians connecting DC circuits and all grounding circuits.
Connecting AC equipment and electrical grounding conductors	Licensed electricians connecting AC circuits and all grounding circuits.

So I need to be licensed as an electrician and work through a licensed Electrical Contractor?

In general, yes. Such persons or companies must also comply with all other requirements under the Act applicable to a licensed electrician performing electrical work (e.g., onsite supervision, display of license number identification on vehicles, continuing education, etc.). See below for circumstances relating to general contractors.

What about general contractors – can they subcontract PV installations and/or electrical work?

There are circumstances where it is possible, but the general contractor will have to take great care to ensure full compliance with state law. General contractors are not licensed in Texas, so the issues become more complex.

A general contractor is hired to manage a project and to coordinate work that requires multiple trades/subcontractors. (Other trades and services which complement solar PV installations might include roofing, carpentry, insulation, or other energy efficiency and energy conservation offerings.)

A general contractor may offer to perform work which includes electrical work as one element of a larger project consisting of multiple trades (i.e., plumbing, roofing, carpentry, etc.), but the general contractor must do so in coordination with a licensed Electrical Contractor and all the associated electrical work would have to be performed by licensed electricians.

General contractors bidding or offering to perform work that consists exclusively of electrical work are likely to be in violation of Section 1305.151 of the Act which limits authority to offer or perform electrical work to licensed electricians – even if the work is later subcontracted to licensed electricians.

I work with a Master Electrician whenever I contract solar PV installations - am I in compliance?

It depends on whether:

1. The Master Electrician also holds the required Electrical Contractor's license;
2. All the individuals performing the electrical work are licensed electricians; and,
3. The project does not consist exclusively of electrical work (and other non-electrical work is subcontracted to and/or performed by other companies or trades).

If any of these conditions is not true, then you are not in compliance. General contractors who contract with licensed electricians only to “pull the permit and complete the AC interconnection” of a solar PV system otherwise constructed by unlicensed individuals are not in compliance.

What do I risk by not complying with these requirements?

TDLR is authorized to assess penalties of up to \$5,000 per violation and may issue cease and desist orders to non-compliant companies. A list of possible penalties/sanctions can be found at <http://www.license.state.tx.us/enforcement/elecsanctions.htm>. Most penalties result from TDLR investigations arising from consumer, industry, and departmental complaints, though TDLR enforcement officials may also act on reported tips and conduct periodic unannounced investigation operations.

Does the listing of my company as a registered PV installer on a utility incentive program's website constitute an offer to perform electrical work?

No. Such a listing by a third party shows only that your company has been determined to meet utility program eligibility criteria to apply for and receive program incentives. However, you need to be careful to ensure that your own company website, advertising materials, proposed contracts, and customer invoices do not constitute or provide documentation of offers to perform electrical work unless you hold the appropriate electrical contracting license.

What are the qualifications for becoming a licensed Master Electrician or Electrical Contractor?

According to Sec. 1305.153 of the Act, in order for persons to apply for Master Electrician license they must:

- Have at least 12,000 hours of on-the-job-training under the supervision of a Master Electrician;
- Have held a Journeyman Electrician license for at least two years; and,
- Pass a Master Electrician examination administered by TDLR.

A company that wishes to apply for an Electrical Contractors license must:

- Employ at least one person licensed as a Master Electrician (note that Master Electricians may only be assigned to a single Electrical Contractor unless the Master Electrician owns more than 50 percent of the electrical contracting business);
- Carry insurance and worker's compensation coverage in the manner prescribed by Rules, 1 TAC Ch. 73.40.
- Maintain worker's compensation coverage for employees or elect to not obtain worker's compensation coverage (see Subchapter A, Chapter 406, Labor Code for more information).

Additional conditions and details apply. For more information consult TDLR's website at <http://www.license.state.tx.us/electricians/elec.htm> and review the full text of the Texas Electrical Safety and Licensing Act and implementing Rules.

Can municipalities apply different requirements than the state?

Yes, although municipal ordinances or other requirements do not supersede requirements under the Act or Rules. A municipality may adopt ordinances applicable within its jurisdiction that establish additional requirements for electrical work in such jurisdiction (Act, Sec. 1305.201(d)). Typically, such local requirements include local permits, fees and inspection requirements. Municipalities may also adopt locally applicable amendments to the National Electrical Code (Act, Sec. 1305.201(c)).

While a municipality may offer examinations or municipal licenses, and may require a municipal permit fee, it may not require a person to take a municipal examination if such person holds a license under the Act and is working within the scope of such license (Act, Sec. 1305.201(b)).

Aside from ordinances and other legal requirements, municipal utilities or other utilities may offer rebates or other special programs designed to encourage PV installation, and such programs may have technical rules or particular installation requirements, as well as administrative or documentation and inspection requirements.

Does eligibility to participate in a utility-sponsored solar PV incentive program imply compliance with state law?

No. Eligibility to participate in utility-sponsored solar PV programs is determined independently of compliance with state law. Utilities and their program implementers are not required to, and generally do not enforce licensing requirements, and registration with a utility-sponsored solar PV program does not affect eligibility to apply for a Master Electrician's or Electrical Contractor's license. Persons and companies are responsible for ensuring they are in compliance with state law on each job they complete, independent of any utility program requirements.

Does compliance with state law imply eligibility to participate in utility-sponsored solar PV programs?

No. Eligibility requirements for participating in utility-sponsored solar PV programs are determined by the utilities and/or their program implementers. These programs may have additional requirements governing participation, such as documentation of training and/or demonstrated experience in installing solar PV systems, which are not reflected in the state licensing requirements.

Do voluntary certifications such as those offered by the North American Board of Certified Energy Practitioners (NABCEP) imply compliance with state law or eligibility to participate in utility-sponsored solar PV programs?

No. Current state licensing requirements make no references to voluntary certifications. Utility-sponsored PV incentive programs may reference such certifications, but typically do so as one of several means of establishing experience or eligibility to participate in the program.

What should I do if I am a licensed Master Electrician or Electrical Contractor?

Consider expanding your experience with solar installations by documenting your history of working on solar PV systems, engaging in professional development opportunities and/or earning voluntary industry certifications such as the NABCEP PV Installer certification. At a minimum, obtain the training necessary to participate in utility-sponsored solar PV incentive programs.

What should I do if I am not a licensed Master Electrician or Electrical Contractor?

Make sure you are compliant with Texas law by becoming a licensed Master Electrician or Electrical Contractor. You might achieve this goal by hiring a licensed Master Electrician to work for your company, and registering your company as a licensed Electrical Contractor. Once a licensed Master Electrician is on staff, you may gain work experience under that licensed Master Electrician to eventually become a licensed electrician yourself.

If becoming a licensed Master Electrician or Electrical Contractor is impossible or is otherwise not appropriate for you or your firm, investigate your options for working as a general contractor with TDLR and your local enforcement officials, taking care to structure your offerings and contracts to maintain compliance with state law.

In any case, consider expanding your experience with solar installations by documenting your history of working on solar PV systems, engaging in professional development opportunities and/or earning voluntary industry certifications such as the NABCEP PV Installer certification, and obtaining the experience necessary to participate in utility-sponsored solar PV incentive programs.

What are TREIA's goals with regard to licensing?

The solar industry in Texas is not new, but current expansion within the industry has illuminated areas of concern and highlighted a need for better coordination among industry and regulators. There are some concerns about licensed electricians who may not know enough about solar technologies. There are also concerns about solar companies performing electrical work without formal electrical training and licensure.

TREIA's goal is to work cooperatively with its industry members, TDLR and utility solar PV program administrators to:

1. Promote the safe, reliable, and cost-effective installation of solar PV systems in Texas;
2. Disseminate information, promote forums for ongoing discussion, identify issues and barriers to industry development, and propose responsible solutions;
3. Encourage and catalyze opportunities for licensed electricians or others interested or involved in solar installations to obtain formal training in solar PV design, installation and maintenance; and,
4. Encourage and provide information enabling all individuals and companies interested or engaged in solar PV installation work in Texas to understand state requirements and to comply with state law.

Where may I find more information?

If you are not already a member of the Texas Renewable Energy Industries Association (TREIA), consider joining today. TREIA's Solar Electric and Distributed Generation Subcommittee works to identify barriers, disseminate information, and propose solutions to problems facing the PV industry in Texas. More information about TREIA may be found at <http://www.treia.org>. You may also contact the author of this document at steve.wiese@cleanenergyassociates.com or (800) 381-6552.

Please see TDLR's website at <http://www.license.state.tx.us/electricians/elec.htm> for more information regarding state electrical requirements and the full text of the Texas Electrical Safety and Licensing Act and implementing Rules. If you have more specific questions, please contact Jerry Daniel, Electrical Occupations & Code Specialist, at jerry@license.state.tx.us or (512) 799-1489.