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PROJECT NO. 54233

TECHNICAL REQUIREMENTS AND	§	PUBLIC UTILITY COMMISSION
INTERCONNECTION PROCESSES	§	OF TEXAS
FOR DISTRIBUTED ENERGY	§	
RESOURCES (DERS)	§	

TEXAS SOLAR ENERGY SOCIETY & ALISON SILVERSTEIN CONSULTING
REPLY COMMENTS ON
NEW 16 TAC §25.210, AMENDMENTS TO §25.211
AND REPEAL AND REPLACEMENT OF §25.212

The Texas Solar Energy Society (TXSES) and Alison Silverstein Consulting (Silverstein) appreciate the opportunity to respond to the request for comments issued by the Public Utility Commission of Texas (PUCT) relating to its review of Distributed Energy Resources (DER) rules. These comments do not necessarily reflect the opinions of all TXSES members.

TXSES, a 501(c)3 organization, is the pre-eminent statewide organization developing fact-based information and quality educational materials that share best practices and inform decision-makers on the critical importance of sound policies for small solar photovoltaics that will grow the industry; protect clean air; build healthy, resilient communities; support local, well-paying jobs; and lay the foundation for America's energy independence. Alison Silverstein Consulting is an independent consultancy with long experience in grid reliability, electric transmission and distribution, distributed energy resources, and Texas electricity regulation.

The Commission's proposed rule for interconnecting DER projects below 10 MW and below 250 kW, and the stakeholder comments on that proposal, demonstrate the technical and procedural complexity of such interconnections. Such complexity is appropriate for larger DER projects with widely varying equipment and capabilities, connecting directly to a distribution feeder or a transmission line, with owners or sponsors having extensive financial, technical and legal support and time. But all those requirements are unnecessary and highly burdensome for small DER projects under 50 kW that lie behind the customer's meter at the DSP's distribution level. Current, disparate DSP interconnection requirements and the complex application and processing requirements now proposed impose significant and excessive cost and time burdens on the DSPs as well as the DER applicants.

We reiterate the need for a separate process for interconnecting residential/small commercial DER projects under 50 kw at the distribution level. This process should incorporate and establish a uniform interconnection application, technical requirements and evaluation process statewide. Since these individual small residential and commercial systems collectively use a relatively limited set of commercially available equipment and controls behind the customer meter, their behavior and grid impact are consistent and predictable and require minimal utility analysis. Furthermore, these systems have limited impact on the distribution feeders they interconnect to. Therefore, these systems, the interconnection application and evaluation process, and all related DER-side and grid-side technical requirements, should leverage preapproved NLTR DER

equipment and use automated systems for application submittal, DER system analysis (e.g., one-line diagram development and protection system evaluation), and predicting the impact of the incremental DER system upon host feeder safety and system reliability. Interconnection evaluation of these small systems should use careful -- but not stifling -- distribution technical screens to limit DSPs' discretion to disapprove appropriate DER applications. This rule should allow exceptions for non-standard DER equipment or feeder conditions that don't meet the state's adopted technical screens, and place an obligation on the DSP to work with the DER applicant to remedy an exception and get the project approved and online if possible.

For the Commission's convenience, TXSES and Silverstein attach our proposed stand-alone DER interconnection rule for customer-sited DERs under 50 kW nameplate size and 25 kW export capability. We encourage the Commission to adopt this rule, or something like it, as a separate set of provisions apart from but companion to the proposed changes in TAC §25.210, §25.211 and §25.212.

A standardized DER interconnection rule for customer-sited DERs should apply uniformly to all DSPs, including municipal utilities & coops. Establishing a uniform process for these small DER systems will enable the DSPs to improve the efficiency of their small DER application processing, speed DSP application review and costs, and reduce soft costs for DER installers and system costs for small DER customers.

These small DER systems are costly but highly valuable for the customer and community resilience. Once the PUC enables broader use of aggregated DER, more of the small DERs can be used to support grid resilience and reliability and help rationalize wholesale power costs. Even operating independently without aggregation, individual small DER systems with suitable technical provisions such as export-limiting power control systems and smart inverters can protect the grid while protecting the customer.

TXSES understands & appreciates the DSP concerns about grid safety. But broad grid safety concerns do not justify widely varying, evolving, and non-transparent DSP criteria for evaluating individual small DER project applications. The Commission can protect grid safety and reliability while respecting DSP feeder concerns by establishing broadly applicable, technically supportable interconnection screens (e.g., feeder limits) and unambiguous lists of qualifying DER equipment and controls, rather than allowing prolonged and inconsistent analysis, delay and high bureaucratic burdens on individual applicants. DSP concerns about the reliability and safety impacts of specific small DER applications on specific feeders can be handled by creating specific exceptions criteria to reflect issues like unconventional DER equipment and controls or exceedances to local feeder limits.

TXSES' solar installer members report that many of the utilities across the state can take up to two or three months (or longer) from application to energization of small residential DER systems. Cooperatives are often the worst offenders. Oddly, the utilities that have higher solar adoption and more sophisticated programs usually have the longest interconnection process -- this suggests that their DER interconnection application and evaluation systems could benefit from a standardized application, automated evaluation process and consistent technical criteria

for both the DER equipment and controls and the distribution feeder criteria. Some of the DSP obstacles for small DER interconnection include:

- Centerpoint will not approve the use of power control devices even though these are approved under NEC rules, and instead require expensive and time-consuming transformer upgrades, which adds significant cost, complexity and delays. The use of export-limiting power control devices would reduce distribution system upgrade costs, enhance distribution system safety, and thereby benefit all DSP customers.
- The City of Cuero electric utility hampers DER interconnection by requiring manual paper submittals and the requirement to pay application fees in person before they will approve. Cuero also requires the homeowner with DER to take out a \$1M insurance policy, which is impossible if the home itself is not worth that amount. This excessive insurance requirement is also required by Sam Houston Electric Coop.

TXSES and Silverstein appreciate & supports the comments of Base Power, SPS, TAEBA, Sierra Club, Texas Solar & Storage Assn. and Solar Energy Industries Assn., Tesla and Enphase, Houston Advanced Research Center, Centerpoint, and others who concur with the need for a uniform, streamlined stand-alone, statewide interconnection process for small DERs. Streamlined, standardized interconnection processes for small DER systems have been adopted successfully in many other states. We also support recommendations to incorporate innovative and widely accepted technical measures such as power socket adapters, export-limiting power control systems, smart inverters, automated application submittal and processing, and hosting capacity maps for behind-the-meter DER systems under 50 kW.

While TXSES and others offer somewhat differing recommendations for the interconnection agreement and process, those recommendations are broadly consistent. TXSES and Silverstein would be happy to work with PUC staff & other stakeholders to develop the final application, agreement, and process details in a collaborative process. Finally, we ask the Commission to address the small DER interconnection rule within the current Project 54233, to prevent further multi-year delays and costs for all small DER owners, adopters and installers.



Patrice Parsons
Executive Director
Texas Solar Energy Society



TEXAS SOLAR
ENERGY SOCIETY



Alison Silverstein
Alison Silverstein Consulting

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AND REPEAL AND REPLACEMENT OF §25.212**

EXECUTIVE SUMMARY

The Texas Solar Energy Society (TXSES) and Alison Silverstein Consulting (Silverstein) reiterate the need for a separate process for interconnecting residential and small commercial DER projects under 50 kw at the distribution level. This process should incorporate and establish a uniform interconnection application, technical requirements and evaluation process statewide. Since these individual small residential and commercial systems collectively use a relatively limited set of commercially available equipment and controls behind the customer meter, their behavior and grid impact are consistent and predictable and require minimal utility analysis. Furthermore, these systems have limited impact on the distribution feeders they interconnect to. Therefore, these systems, the interconnection application and evaluation process, and all related DER-side and grid-side technical requirements, should leverage preapproved NLTR DER equipment lists and use automated systems for application submittal, DER system analysis (e.g., one-line diagram development and protection system evaluation), and assessing the impact of the incremental DER system upon host feeder safety and system reliability. Interconnection evaluation of these small systems should use careful -- but not stifling -- distribution technical screens to limit DSPs' discretion to disapprove appropriate DER applications. This rule should allow exceptions for non-standard DER equipment or feeder conditions that don't meet the state's adopted technical screens, and place an obligation on the DSP to work with the DER applicant to remedy an exception and get the project approved and online if possible.

We encourage the Commission to adopt a streamlined interconnection rule for DERs under 50 kW as a separate set of provisions apart from but companion to the proposed changes in TAC §25.210, §25.211 and §25.212. While TXSES and others offer somewhat differing recommendations for the interconnection agreement and process, those recommendations are broadly consistent. TXSES and Silverstein would be happy to work with PUC staff & other stakeholders to develop the final application, agreement, and process details in a collaborative process. Last, we ask the Commission to address the small DER interconnection rule within the current Project 54233, to prevent further multi-year delays and costs for all small DER owners, adopters and installers.

Attachment

TXSES and Alison Silverstein Consulting

Mark-up of §25.211. Interconnection of Distributed Energy Resources (DERs) with a Nameplate Capacity of 50kW or Less or Export Capacity less than or equal to 25 kW for Parallel Operation

§25.211. Interconnection of Distributed Energy Resources (DERs) with a Nameplate Capacity of 50kW or Less or Export Capacity less than or equal to 25 kW for Parallel Operation.

1 (a) **Application.** Unless the context indicates otherwise, this section applies to an electric
2 utility and a customer that owns or operates a distributed energy resource (DER) that has
3 a site-specific nameplate capacity up to 50 kilowatts (kW) or less or up to 25 kW of export
4 capacity and is interconnected or seeking interconnection, except to the extent preempted
5 by federal law.

6
7 (1) This section establishes the terms and conditions that govern the interconnection
8 and parallel operation of DERs to implement Public Utility Regulatory Act
9 (PURA) §39.101(b)(3) and a natural gas distributed generation facility smaller
10 than 50 kW or up to 25 kW of export capacity, to implement PURA §35.036.

11 (2) The only part of this section that applies to an electric cooperative is subsection
12 (n) of this section, as applicable.

13
14 (b) **Definitions.** The following words and terms when used in this section have the following
15 meanings, unless the context indicates otherwise:

16 (1) **Applicant** -- a person or entity that has filed an application to interconnect a DER
17 to an electric distribution system. The applicant may be an agent acting on behalf
18 of the customer.

19 (2) **Certified equipment** – The Commission shall compile and issue a list of specific
20 DER generating and protective equipment, software or systems that have been
21 certified by a National Recognized Testing Lab (NRTL) as complying with

1 applicable sections of UL-1741 and IEEE-1547 and other relevant standards.
2 Distribution Service Providers shall use this list rather than following their own
3 determinations of equipment relating to safety and reliability for paralleling the
4 DER to the grid at the time of interconnection and ongoing operation.

5 (3) **Company** -- An electric utility operating a distribution system that is not an electric
6 cooperative. A company may also be called a Distribution Service Provider.

7 (4) **Customer** -- Any entity that owns or operates a DER that is 50 kw or less, not
8 registered with ERCOT, and is interconnected or seeking interconnection to a
9 company's distribution system. The customer may receive electric distribution
10 service from the company as a retail customer. Customers may be represented or
11 assisted by other entities in preparing and filing DER applications. The customer
12 need not be the owner of the DER equipment.

13 (5) **Distributed energy resource (DER)** -- The equipment connected at a voltage of
14 less than 60 kilovolts (kV) and aggregated nameplate capacity of up to 50 kW to
15 generate, store, manage, interconnect and monitor electricity, including the
16 interconnection equipment package and associated protective devices and
17 inverters behind the point of interconnection with the company.

18 (6) **Distributed natural gas generation facility** -- A DER installed on the customer's
19 side of the meter that uses natural gas to generate not more than 2,000 kilowatts of
20 electricity, although only natural gas generation facilities using NRTL certified
21 equipment sized under 50 kW are allowed under this subsection.
22

23 (7) **Distribution system** -- A company's system operating under 60 kV.
24

- 1 (8) **Facility** -- An electrical generating installation consisting of one or more on-site
2 DER units, including a distributed natural gas generation facility, a generator using
3 photovoltaic technology or fossil generation, or an energy storage device that
4 captures, stores and delivers energy as electricity.
- 5 (9) **Fast track interconnection** -- A simplified DER interconnection form and
6 expedited review for DER applications under 50 kW nameplate capacity and 25
7 kW of export capacity.
- 8 (10) **Interconnection** -- The physical connection of a DER to a distribution system to
9 enable parallel operation.
- 10 (11) **Interconnection agreement** -- The commission-prescribed contractual agreement
11 under subsection (-) of this section.
- 12 (12) **Interconnection application** -- DERs that have nameplate capacity under 50 kW
13 or export capacity under 25 kW, using certified equipment and protective devices,
14 may use a simplified commission-prescribed application form under subsection (-)
15 of this section and the fast track application review and approval process under
16 subsection (-) of this section.
- 17 (13) **Network** -- Two or more primary distribution feeder sources electrically tied
18 together on the secondary (or low voltage) side to form one power source for one
19 or more customers.
- 20 (14) **Parallel operation** -- The operation of a DER while the DER is interconnected to
21 the distribution system.
- 22 (15) **Point of interconnection (POI)** -- The point where the electrical conductors of
23 the company's distribution system are connected to the customer's conductors and

1 where any transfer of electric power between the customer and the company's
2 distribution system takes place, such as switchgear near the meter.

3 (16) **Pre-interconnection study** -- A study or studies that may be undertaken by a
4 company in response to its receipt of a completed application for interconnection
5 and parallel operation with the company's distribution system. Pre-interconnection
6 studies may include, but are not limited to, service studies, coordination studies and
7 system impact studies; such studies are unlikely to be needed for DERs smaller than
8 50 kW.

9 (17) **Protective function** -- A function carried out using hardware and, potentially,
10 software that is designed to respond to unsafe operating conditions before, during,
11 and after the interconnection of a DER with a distribution system. For purposes of
12 this definition, unsafe operating conditions are conditions that, if left uncorrected,
13 would result in harm to personnel, damage to equipment, unacceptable system
14 instability or operation outside legally established parameters affecting the quality
15 of service to other customers connected to the distribution system.

16 (18) **Standard interconnection tariff** -- a tariff approved by the commission setting
17 forth processing requirements, planning procedures, terms and conditions in
18 providing interconnection and operational services to DERs, and forms that
19 companies shall adopt and implement for compliance with this section. The
20 standard tariff interconnection procedures and forms shall be developed and
21 maintained by the Commission.

22 (19) **Unit** -- A power generator or energy storage device.
23

1 (c) **Operational standards and stand-alone capabilities.** For a proposed facility under this
2 section, certified equipment and related certification and operational requirements shall
3 be applied by the company to allow the customer's facilities to operate in a safe manner
4 regardless of the operational status of the distribution provider's system.

5
6 (d) **Interconnection review, requirements and processing.**

7 (1) The following shall apply to applications for DER facilities up to and including 50
8 kW or with an export capacity up to 25 kW:

9 A. Interconnection Review -- Approval for interconnection shall be processed not
10 later than two weeks following the company's receipt of:

- 11 (i) a completed interconnection request including all supporting documents
12 and required fees set forth in the standard interconnection tariff;
13 (ii) a completed signed interconnection agreement; and
14 (iii) evidence of applicant's final electric inspection clearance from an
15 applicable local authority having jurisdiction over the proposed facility.

16 B. If the two week interconnection approval period cannot be met, the distribution
17 provider shall notify the applicant and the commission of the reason for the
18 inability to process the interconnection request and the expected completion date.

19 (2) Applicable screens:

20 A. The DER must use certified equipment including inverter-based protective
21 functions and equipment. A DER unit that is certified to be in compliance by an
22 NRTL must be installed on a company's distribution system in accordance with an

1 approved interconnection control and protection scheme without further review of
2 its design by the company.

3 B. Minimum load screen – The company must approve interconnection of a DER to
4 a radial distribution circuit if the DER's export capacity, aggregated with all other
5 generation capable of exporting energy on a line section, will not exceed 100
6 percent of the line section's minimum load as most recently measured at the
7 substation or calculated for the line section.

8 C. Alternate minimum load screen – If the company does not have minimum load
9 data for the circuit, then the company must allow DER interconnection if the total
10 feeder DER exports sum to less than 25% of feeder peak load.

11 D. Feeder total load -- A company must approve applications for a DER facility
12 whose total generation and storage is less than the local customer's load unless
13 total generation (including the new facility) on the affected feeder represents more
14 than 25% of the total load of the network under consideration.

15 E. DER applicant priority – If one or more DER applicants seek interconnection on
16 the same feeder at the same time and the aggregated addition of these DERs
17 would push the feeder DER capacity above one of the limits stated above, then
18 the company shall process and interconnect the DERs sized below 50 kW (in
19 chronological order of application receipt) before recalculating the screens for
20 new DER applications for facilities greater than 50 kW.

21 (3) A company may postpone processing an application for a DER facility under this
22 section if the total existing DER capacity interconnected to the targeted feeder
23 represents more than 25% of the total load of that feeder. In such an event, the

1 company must conduct interconnection and network studies to determine whether,
2 and in what amount, additional DER facilities can be safely added to the feeder or
3 accommodated in some other fashion. These studies must be completed within six
4 weeks from the date of application postponement, and application processing should
5 then resume. If an interconnection application is delayed, the customer must be
6 informed in writing within five calendar days of the delay and be provided an
7 estimated interconnection date. The company should then determine whether and how
8 soon the feeder can be upgraded to accommodate additional DER capacity.

9 (4) A company may reject applications for a DER facility under this section if the
10 company can demonstrate specific reliability or safety reasons why the DER should
11 not be interconnected at the requested site. In such an event, the company must work
12 with the customer to attempt to resolve such problems to their mutual satisfaction.

13 (5) Each application for interconnection and parallel operation must be processed by the
14 company in a non-discriminatory manner. An application must be processed in the
15 order that it is received, subject to the provisions of §25.211(d)(2)(e) above. In the
16 event an application requires minor modifications while the application is under
17 review by the company, such minor modifications may reset the interconnection
18 processing deadline but will neither render the application incomplete nor require the
19 application to be treated as a new or separate application.

20 (6) If the customer submits a new application seeking approval for an energy storage
21 device to be added onto an existing interconnected DER facility, review of the
22 application will consider only the impact of the incremental DER equipment on the

1 feeder rather than counting the existing DER equipment as new DER being added to
2 the system.

3
4 **(d) Terms of Service.**

5 **(1) Distribution line charge.** No distribution line charge will be assessed to a customer
6 for exporting energy to the distribution system.

7 **(2) Interconnection operations and maintenance costs.** No charge for operation and
8 maintenance of a distribution system's facilities will be assessed against a customer
9 for exporting energy to the distribution system.

10 **(3) Transmission charges.** No transmission charges will be assessed to a customer
11 for exporting energy. For purposes of this paragraph, the term "transmission
12 charges" means transmission access and line charges, transformation charges, and
13 transmission line loss charges.

14 **(4) Incremental demand charges.** During the term of an interconnection agreement a
15 company may require a customer to disconnect its DER unit or take the DER unit
16 off-line as a result of distribution system conditions described in subsection (-)(-)
17 and (-) of this section. Incremental demand charges arising from the disconnection
18 of the DER as directed by the company during such periods will not be assessed
19 by the company to the customer.

20 **(5) New or amended interconnection agreements.** A new or amended
21 interconnection agreement entered into 30 or more days after the commission's
22 approval of a company's compliance tariff filed in accordance with paragraph (5)
23 of this subsection must meet the requirements of this section.

1 (6) **Tariffs.** Not later than 30 days after the effective date of this amended section, a
2 company must file with the commission for approval tariff amendments to comply
3 with this amended section, including the interconnection agreement under
4 subsection (p) of this section and the interconnection application under subsection
5 (q) of this section. A company must include in its tariff the fees for interconnection
6 studies. A company that sells electricity must also include back-up, supplemental,
7 and maintenance power services for DERs in its tariff.

8
9 (e) **Disconnection and reconnection.** A company may disconnect a DER unit from the
10 distribution system under the following conditions:

11 (1) **Expiration or termination of interconnection agreement.** The interconnection
12 agreement specifies the effective term and termination rights of the company and
13 customer. Upon expiration or termination of the interconnection agreement with a
14 customer, in accordance with the terms of the agreement, the company may
15 disconnect customer's facilities.

16 (2) **Non-compliance with the technical requirements specified in §25.212 of this**
17 **title.** A company may disconnect a DER facility if the facility is not in compliance
18 with the technical requirements specified in §25.212 of this title. Within two
19 working days from the time the customer notifies the company that the facility has
20 been restored to compliance with the technical requirements of §25.212 of this title,
21 the company will have an inspector verify such compliance. Upon such verification,
22 the customer, in coordination with the company, may reconnect the facility.

1 (3) **System emergency.** A company may temporarily disconnect a customer's facility
2 without prior written notice in cases where continued interconnection will endanger
3 persons or property. During the forced outage of a distribution system, the company
4 will have the right to temporarily disconnect a customer's facility to make
5 immediate repairs on the distribution system. When possible, the company will
6 provide the customer with reasonable notice and reconnect the customer as quickly
7 as reasonably practical.

8 (4) **Routine maintenance, repairs, and modifications.** A company may disconnect a
9 customer or a customer's facility with seven working days prior written notice of a
10 service interruption for routine maintenance, repairs, and distribution system
11 modifications. The company will reconnect the customer as quickly as reasonably
12 possible following any such service interruption.

13 (5) **Lack of approved application and interconnection agreement.** In order to
14 interconnect DER to a distribution system, a customer must first submit to the
15 company an application for interconnection and parallel operation with the
16 distribution system and execute an interconnection agreement on the forms
17 prescribed by the commission. The company may refuse to connect or may
18 disconnect the customer's facility if such application has not been received and
19 approved.

21 (f) **Pre-interconnection studies for non-network interconnection of DERs.** If a company
22 anticipates that the addition of multiple new DERs under 50 kW in size to a single feeder
23 may cause that feeder to exceed the interconnection limits described in subsection xx

1 above, the company shall conduct a service study, coordination study or system impact
2 study to determine potential feeder impacts and identify any upgrades needed to
3 accommodate anticipated small DER interconnections before interconnecting enough
4 DERs to reach that feeder limit. These studies should also distinguish between the impacts
5 of adding multiple DERs under 50 kW versus new DERs exceeding 50 kW. In instances
6 where such studies are deemed necessary, the scope of such studies must be based on the
7 characteristics of the particular DER facilities to be interconnected and the company's
8 distribution system at the specific proposed location. Studies related to the interconnection
9 of on-site DER on the customer's premises may be conducted by a qualified third party.

10 **(1) DER facilities for which no pre-interconnection study fees may be charged.**

11 (A) A company may not charge a customer a fee to conduct a pre-
12 interconnection study for a DER using certified equipment that exports not more
13 than 15% of the total load on a single radial feeder and contributes not more than
14 25% of the maximum potential short circuit current on a single radial feeder.

15 (B) A company may not charge a fee for pre-interconnection studies to DERs
16 under 50 kW nameplate capacity using certified equipment.

17 **(2) DER facilities for which pre-interconnection study fees may be charged.** Prior
18 to the interconnection of a DER facility not described in paragraph (1) of this
19 subsection, a company may charge a customer a fee to offset the company's costs
20 incurred in the conduct of a pre-interconnection study. In those instances where a
21 company conducts a pre-interconnection study the following must apply:

22 (A) The conduct of such pre-interconnection study must take no more than four
23 weeks;

1 (B) A company must prepare written reports of the study findings and make
2 them available to the customer;

3 (C) The company must consider both the costs incurred and the benefits realized
4 as a result of the interconnection of the DER to the company's distribution
5 system; and

6 (D) The customer must receive an estimate of the study cost before the
7 company initiates the study.

8
9 (g) **Network interconnection of DERs.** In instances where a customer requests
10 interconnection to a secondary network system, the company and the customer must use
11 reasonable efforts to complete the interconnection and the company must utilize the
12 following guidelines:

13 (1) A company must approve applications for DER facilities that use inverter-based
14 protective functions unless total generation (including the new facility) on affected
15 feeders represents more than 25% of the total load of the secondary network under
16 consideration.

17 (2) A company must approve applications for other on-site generation facilities whose
18 total generation is less than the local customer's load unless total generation
19 (including the new facility) on affected feeders represents more than 25% of the
20 total load of the secondary network under consideration.

21 (3) A company may postpone processing an application for a DER facility under this
22 section if the total existing generation on the targeted feeder represents more than
23 25% of the total load of the secondary network under consideration. In such an

1 event, the company must conduct interconnection and network studies to
2 determine whether, and in what amount, additional DER facilities can be safely
3 added to the feeder or accommodated in some other fashion. These studies must
4 be completed within six weeks from the completion of the additional studies, and
5 application processing should then resume. If an interconnection application is
6 delayed, the customer must be informed in writing within ten calendar days of the
7 delay and be provided an estimated interconnection date.

8 (4) A company may reject applications for a DER facility under this section if the
9 company can demonstrate specific reliability or safety reasons why the DER
10 should not be interconnected at the requested site. In such an event, the company
11 must work with the customer to attempt to resolve such problems to their mutual
12 satisfaction.

13 (5) A company must make all reasonable efforts to seek methods to safely and reliably
14 interconnect DER facilities under 50 kW that will export less than 25 kW of power.

15
16 (h) **Pre-Interconnection studies for network interconnection of DERs.** Prior to charging a
17 pre-interconnection study fee for a network interconnection of a DER, a company must
18 first advise the customer of the potential problems associated with interconnection of a
19 DER with its network system. For potential interconnections to network systems there will
20 be no pre-interconnection study fee assessed for a facility with inverter systems under 20
21 kW. For all other facilities the company may charge the customer a fee to offset its costs
22 incurred in the conduct of the pre-interconnection study. In those instances where a
23 company conducts a pre-interconnection study, the following requirements apply:

- (1) The conduct of such pre-interconnection studies must take no more than four weeks;
- (2) A company must prepare written reports of the study findings and make them available to the customer;
- (3) The studies must consider both the costs incurred and the benefits realized as a result of the interconnection of the DER to the company's distribution system; and
- (4) The customer must receive an estimate of the study cost before the company initiates the study.

(i) **Equipment certification.** A DER unit that is certified to be in compliance by an NRTL must be installed on a company's distribution system in accordance with an approved interconnection control and protection scheme without further review of their design by the company.

(j) **Communications concerning proposed DER projects.** In the course of processing an application for interconnection and parallel operation and in the conduct of pre-interconnection studies, the customer must provide the company detailed information concerning proposed DER facilities. Communications concerning the nature of proposed DER facilities must be made subject to the requirements of §25.84 of this title (relating to Annual Reporting of Affiliate Transactions for Electric Utilities), §25.272 of this title (relating to Code of Conduct for Electric Utilities and their Affiliates), and §25.273 of this title (relating to Contracts between Electric Utilities and their Competitive Affiliates). A company and its affiliates must not use such knowledge of a proposed DER project

submitted to it for interconnection or study to prepare competing proposals to the customer that offer either discounted rates in return for not installing the proposed DER project, or offer a competing DER project.

(k) Designation of company contact persons for matters relating to DER interconnection.

(1) Each company must designate a person or persons who will serve as the company's contact for all matters related to DER interconnection.

(2) Each company must identify to the commission its DER contact person.

(3) Each company must provide convenient access through its internet web site to the names, telephone numbers, mailing addresses and electronic mail addresses for its DER contact person.

(l) Change of customer.

(1) If the premises containing an approved interconnected DER change ownership, but the technical characteristics and operation of the DER do not change in any material way, the DER interconnection and all associated provisions between the customer and the company shall remain in effect.

(2) The owner of a DER facility that is interconnected in accordance with this section must report to the company any change in ownership of the facility or the cessation of operations of a facility within 14 days of such change.

1 (m) **Time periods for processing applications for interconnection and parallel operation.**

2 To apply for interconnection the customer must provide the company a completed
3 application for interconnection and parallel operation. The interconnection of a DER must
4 occur in accordance with the following schedule:

5 (1) For a DER facility with certified equipment, interconnection must occur within
6 two weeks of the company's receipt of a completed application.

7 (2) For a DER facility without certified equipment, interconnection must occur within
8 four weeks of the company's receipt of a completed application.

9 (3) While it is unlikely that any DER under 50 kW would ever trigger this provision,
10 if interconnection of a particular DER facility will require substantial capital
11 upgrades to the company's distribution system, the company must provide the
12 customer an estimate of the schedule and cost attributable to the customer for the
13 upgrade. If the customer desires to proceed with the upgrade, the customer and the
14 company will execute a contract for the completion of the upgrade. The
15 interconnection must occur no later than two weeks following the completion of
16 such upgrades, except in situations in which a customer is not able to connect within
17 two weeks following the completion of such upgrades, this time may be extended
18 by agreement of the company and the customer. The company must employ best
19 reasonable efforts to complete such system upgrades in the shortest time reasonably
20 practical.

21 (4) A company must use best reasonable efforts to interconnect facilities within the time
22 frames described in this subsection. In the event a company determines that it cannot
23 interconnect a facility within the time frames prescribed by this subsection, the

1 company must notify the applicant in writing. The notification must identify each
2 reason interconnection could not be performed in accordance with the schedule and
3 provide an estimated date for interconnection.

- 4 (5) Each application for interconnection and parallel operation must be processed by the
5 company in a non-discriminatory manner. An application must be processed in the
6 order that it is received. In the event an application requires minor modifications
7 while the application is under review by the company, such minor modifications will
8 neither render the application incomplete nor require the application to be treated as
9 a new or separate application.

10
11 (m) **Reporting requirements.**

- 12 (1) Each company must maintain records concerning applications received for
13 interconnection and parallel operation of DERs. Such records will include:
- 14 (A) the name of the applicant;
 - 15 (B) the business address of the applicant;
 - 16 (C) the location of the proposed facility by county;
 - 17 (D) the capacity rating of the facility in kilowatts;
 - 18 (E) whether the facility is a renewable energy resource as defined in §25.173
19 of this title (relating to Goal for Renewable Energy);
 - 20 (F) the date each application is received;
 - 21 (G) documents generated in the course of processing each application;
 - 22 (H) correspondence regarding each application; and
 - 23 (I) the final disposition of each application.

1 (2) The owner of a DER facility that is interconnected in accordance with this section
2 must report to the company any change in ownership of the facility or the cessation
3 of operations of a facility within 14 days of such change.

4 (3) By March 30 of each calendar year, every company must file with the commission
5 the form prescribed by subsection (m) of this section. The form must be filed in a
6 format native to Microsoft Excel and must permit basic data manipulation
7 functions, such as copying and pasting of data. The report must list:

8 (A) each new DER facility interconnected with the system since the previous
9 year's report;

10 (B) any change in ownership or the cessation of operations of any DER that
11 has been reported to the company and not included in the previous report;

12 (C) the capacity of each facility and whether it is a renewable energy resource;

13 (D) the feeder or other point on the company's distribution system where the
14 facility is interconnected; and

15 (E) all applications for interconnection received during the previous one-year
16 period, and the disposition of such applications.

17
18 (o) **DER Interconnection Agreement.** Figure: 16 TAC §25.211(p)

19
20 (p) **Application for Interconnection of DERs.** Figure: 16 TAC §25.211(q)

21
22 (q) **Annual DER Report.** Figure: 16 TAC §25.211(r)