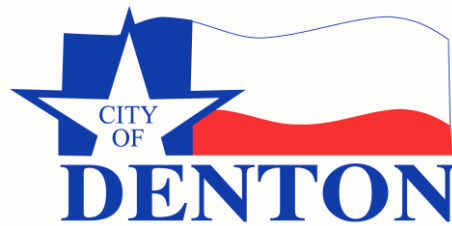

Distributed Generation Manual



October 1, 2019

3rd Edition

Introduction

This City of Denton (City) Distributed Generation Manual (Manual) has been prepared for use by both City personnel and potential Distributed Generation owners to connect and operate systems less than one megawatt (MW). Any Distributed Generation of one MW and over will be addressed on a case by case basis.

It is the intent of the City to allow all citizens to install Distributed Generation (DG), provided the DG facility does not adversely affect the safety of emergency personnel, the general public and those that may work on the electrical system. The safety goal also assures Denton Municipal Electric's (DME) distribution does not compromise reliability and the service quality of all DME customers. It is the responsibility of the DG owner to determine any economic benefits of DG operation.

The electrical requirements in this Manual apply only to citizens that have an electric account with DME serving the property where proposed DG is to be installed. All energy resources on the City's electrical distribution system require approval by DME prior to any other City department process and approval.

DG is an electrical generating facility located at a customer's point of delivery, which may be installed as a Stand-Alone Unit or Interconnected Unit:

Stand-Alone Unit – Distributed Generation that is not connected to the City's electrical system in any way. Stand-alone facilities shall be installed in a manner that no generated power will export to the City's electrical system.

Interconnected Unit – Distributed Generation that is physically connected to the City's electrical system so that parallel operation (on-site generation) can occur.

Examples of DG include, but are not limited to, systems that generate or store energy such as solar photovoltaic, wind, energy storage, combined heat and power, fuel cells, batteries, micro-turbines, reciprocating engines, gas and diesel generators.

DG is a large investment and requires research before making a decision. The City encourages all residents interested in buying DG to talk to several installers, receive as many quotes needed to feel confident about DG, and understand what to expect before, during, and after DG is installed. Remember: this manual and City staff are available to answer questions and help clear any confusion.

The City of Denton reserves the right to amend this Manual at any time. To download the latest edition of this Manual -visit the City of Denton website at: www.cityofdenton.com.



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Interconnected Distributed Generation System Process

**Complete Distributed Generation
Application and Agreement**



**Submit all documentation to
solar@cityofdenton.com**



**DME staff reviews and uploads
documents to TrackIt**



**DME General Manager approves
Agreement**



**DME staff sends Permit Release
notification to Building Inspections
via email**



**Building Inspections staff reviews
and approves permit**



**Customer or Contractor pays permit
fee and schedules inspection**



**Building Inspection staff perform
inspection**



**Metering Department staff performs
anti-islanding and disconnect testing**



**Distributed Generation system is
ready to be used by customer**

Solar Photovoltaic (PV) Interconnection

The City neither expressly nor implicitly warrants any work performed by a contractor, employees, or subcontractor. The City does not endorse any product, service, individual or company. Selection of an installer/contractor to perform work is the sole decision of the customer. The City makes no warranties whatsoever that participant will realize any energy savings as a result of any PV installs. In no event shall the City be responsible for any direct, special, incidental, consequential, punitive, exemplary or indirect damages in tort, contract, warranty, negligence, strict liability or under any indemnity provision or otherwise related to any installs. Customer assumes the risk of any loss or damage(s) that the customer may suffer in connection with its PV installation.

The City is committed to improving the process for solar installs, making it faster and more efficient. In these efforts, we call on our residents, businesses, non-profits, and others to get involved.

Inquiries related to the PV process and installs designation can be directed to solar@cityofdenton.com.

Zoning

All zones within the city of Denton allow on-site PV system installs. It is the right of the property owners to install solar and owners' right to sunlight on their property.

A Certificate of Appropriateness (COA) may be required for residents interested in installing PV within a Historic District which would be visible from the public Right of Way. If a COA is required, it must be approved prior to work being performed and a building permit issued. For more information on COAs, visit the Development Services Department page at www.cityofdenton.com or call (940) 349-8541.

Denton Municipal Electric

Customers requesting interconnection and parallel operation of PV must complete the City's approved Application for Interconnection packet located on page 10 of this Manual. Once DME has received and accepted all required documents, DME will upload the permit information to ETrakit, Building Inspections' project tracking dashboard, to begin the approval process.

DME will conduct internal studies that may include electric grid impacts, shading over proposed install location, and easily accessible disconnect and meter. For the purpose of this section, easily accessible requirement means City personnel are capable of quickly accessing DME's meter and/or the customer's disconnect for testing, service, inspections, disconnects, and connects, regardless of fence location. Doors, gates, or other barriers must be unlocked, unless City personnel is furnished with convenient means to bypass the barrier for full and safe access to equipment, i.e. keys to locks and gate codes. DME will also review the necessary documents to assure all installs meet current



National Electrical Safety Codes (NESC), DME Service Standards, UL 1741 Standards, and IEEE 1547 Standard.

PV installs over 500 kW will be subject to pre-interconnection studies by a third party engineering firm, as needed in compliance with PUCT Substantive Rules 25.211 and 25.212 or its successor(s); which may extend approval time by four to six weeks. In instances where such studies are deemed necessary, the scope of the studies shall be based on the characteristics of the particular distributed generation facility to be interconnected and the distribution system at the specific proposed location. The Customer is responsible for all costs associated with the pre-interconnection studies.

Upon DME approval of the interconnection, applicants will be sent an email indicating the start of the permit review. See below for permitting process. Contractor is expected to notify DME when inspection has passed and permit is final. DME personnel will schedule a site visit for final testing of anti-islanding and disconnect. The Distributed Generation from Renewable Sources Rider will not be applied to the Customer's rate until DME Metering has passed its testing.

If customer was approved for a PV rebate, DME will complete a check request in the amount provided in the Letter of Intent. See GreenSense Incentive Program Manual for more information on rebates at www.cityofdenton.com/residents/services/energy/lower-energy-bill.

Any connection to the City's electric grid without execution of interconnection agreement will result in the immediate disconnect of the PV system. The PV disconnect will be locked closed until any required studies are completed, the installation has been inspected and approved by the City, and an interconnection agreement has been executed.

For more information on DME requirements, the Electric Service Standards can be found at www.cityofdenton.com/CoD/media/City-of-Denton/Government/DME/Electric_Service_Standards.pdf.

Permits

No DG, stand-alone or interconnected, shall be installed without first obtaining a permit from Building Inspections. The permit application is combined with DME's Application for Interconnection packet. No permit shall be issued without prior approval by DME for interconnections within its service territory.

Building Inspections will contact the applicant if any additional information is needed. If application satisfies all requirements, applicant will need to schedule Electrical Rough and Electrical Final inspections after installing the PV system. Daily inspections must be scheduled before 7:00 AM for an appointment to be completed the same business day. Permit packets, City approved plans, and Contractor must be on-site for all inspections.

Fee for a Residential or Commercial Alteration Permit is \$130 and due to Building Inspections prior to permit finalization by City personnel. Permit payments may be made through ETrakit at www3.cityofdenton.com/eTRAKiT3/.

Please note: If additional updates need to be done to the service panel of the facility, an additional, separate electrical permit will be required prior to finalizing the Alteration Permit mentioned above.

Fire

No commercial PV shall be installed without first obtaining approval from the City's Fire Department. The Fire Department approval is included with Building Inspections permitting process. All PV shall be installed in accordance with Sections 605.11.1 through 605.11.2 of International Fire Codes, the International Building Code, and National Fire Protection Association.

Commercial PV disconnects shall be easily accessible by Fire personnel. For the purpose of this section, easily accessible shall mean that there must not be a barrier, including an unlocked fence, keeping City personnel from accessing customer's PV disconnect.

Fire will contact the applicant if any additional information is needed. If application satisfies all requirements, applicant will need to schedule an inspection with Fire, after PV is installed.

Penalties

Any PV system, stand-alone or interconnected, installed without prior approval or not installed according to approved plans provided through the City's interconnection process will be subject to a citation and disconnect or disassembly of PV system. Customer will be required to go through the City's approval process and pay double fees for work done without a permit.

Any person that tampers with, damages or illegally connects to the City's electric grid will be charged a minimum of \$310 per event.

Any customer that prevents access per easily accessible requirement mentioned in the Denton Municipal Electric section of this manual will be charged \$46 per event.

Electric Rate for Renewable Distributed Generation 50kW or Less

Any customer that owns renewable DG that has properly interconnected to the City's electric grid and qualifies under the Distributed Generation from Renewable Sources Rider (Schedule DGR) requirements will be automatically enrolled under Schedule DGR.

Schedule DGR is applied as follows:

Any generation delivered by the customer's system to the City's electric grid up to the amount of energy delivered by the City to the customer, the City shall credit the customer's account for the energy generated as follows:

$$\text{Generation Credit} = [(kWh \text{ delivered from the customer's approved system}) \times (\text{customer's base electric service rate})] + [(kWh \text{ delivered from the customer's approved system}) \times (\text{RCA Rate})]$$

For all energy delivered by the customer's system to the City's electric grid that exceeds the amount of energy delivered by DME to the customer, the City shall credit the customer's account for the energy generated as follows:

$$\text{Excess Generation Credit} = (kWh \text{ delivered from the customer's system}) \times \text{RCA Rate}$$

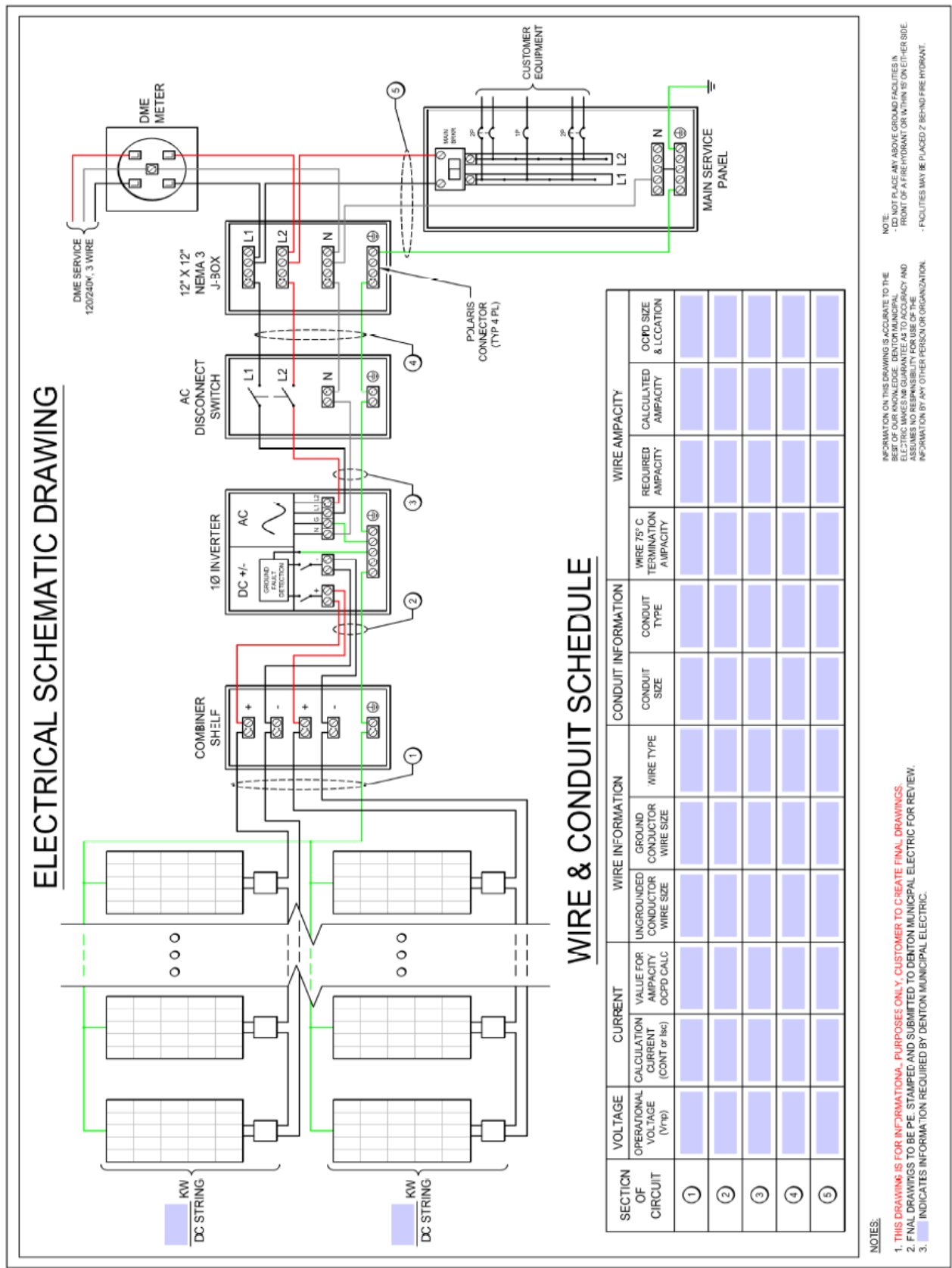
Any generation credit shall be applied to the utility charges due for that billing period.

The customer operating the renewable distributed generation system indemnifies the City and holds the City harmless for all damages and injuries to the City, the customer, or others arising out of customer's use, ownership or operation of customer's DG in parallel with the City's electric grid. Customer is solely responsible for providing adequate protection for operating in parallel with the City's electric grid in such a manner that faults or other disturbances on the City's electric grid do not cause damage to the customer's distributed generation equipment.

Electric Rate for All Other Distributed Generation

Any customer that owns DG that is not considered to be from a renewable source will remain on their existing electric rate. Any potential generation delivered to the City's electric grid shall be provided at no charge to DME.

Electrical Schematic Drawing Example



Distributed Generation Interconnection Requirements Checklist

The City of Denton prohibits double lugging or pierce line taps for interconnections. Line side taps are only allowed through a junction box. Please see an example of an acceptable electrical schematic drawing on page 9 of this manual.

Any missing or unacceptable documents will delay the approval process for an interconnection and the reservation of rebate funds, if applicable.

- ☐ 1. Agreement for Interconnection and Parallel Operation of Distributed Generation completed and signed by Customer
- ☐ 2. Distributed Generation Interconnection and Permit Application completed and signed by customer and contractor
- ☐ 3. Site electrical with configuration and physical locations of DG facility, meter and disconnect
- ☐ 4. **One-line Electrical Schematic Drawing signed and stamped by a Texas Licensed Electrical Professional Engineer**
- ☐ 5. **Three-line Electrical Schematic Drawing signed and stamped by a Texas Licensed Electrical Professional Engineer**
 - a. Should include the following
 - i. Number of units and how units are connected
 - ii. What kind of conductor (must be labeled) i.e.: live, neutral, ground and size
 - iii. Size of breaker
 - iv. Size of inverter
 - v. Rating of sub panel
- ☐ 6. **Structural Certification with calculations signed and stamped by a Texas Licensed Professional Engineer**
- ☐ 7. Manufacturer spec sheets on inverter and panels, and PV label guide
- ☐ 8. Photo of proposed location of disconnect in relation to meter. Photo must also indicate that meter is Easily Accessible (See definition on page 5 of DG Manual)
- ☐ 9. Copy enclosed of project invoice with costs shown

Permit Application Fees:

Use the fee structure below to calculate approximate permitting fees. Final costs are based on application specifics. Additional permit fees will be required for service updates.

- ☐ Plan Review Fee = \$50
- ☐ Building = \$50
- ☐ Electrical = \$50

Daily Inspections must be scheduled by 7:00 AM to be completed the same business day. Permit Packets, City Approved Plans and Contractor must be onsite for all Inspections.



Permit Number
DME Service PPFID
Date

DISTRIBUTED GENERATION INTERCONNECTION AND PERMIT APPLICATION

All property must be properly platted, zoned and all required public improvements either installed or addressed with three-way contracts before a building permit may be issued. To ensure adequate review, the proper number of plans, site plans, and complete building application submittal is required.

Note that an engineer, when required by the Texas Engineering Practice Act, must seal plans.

All new commercial, residential, and irrigation permits must be submitted online. eTRAKiT allows the public to request inspections, apply for permits, obtain application status and pay fees online. For instructions on how to apply, pay for and schedule inspections for a permit, please see our eTRAKiT guide.

<https://www3.cityofdenton.com/etrakit3/>

APPLICANT INFORMATION

Property Owner:

Interconnection Point Address:

Phone Number:

☐ Single Family House

☐ Commercial Property

☐ Townhouse/Duplex

☐ Accessory Structure

Project Value: \$

Email:

Owner Address, if different:

Alternate Contact Person:

Phone Number:

DENTON UTILITIES ACCOUNT INFORMATION

Denton Municipal Electric Account Number:

Existing Meter Number:

INFORMATION PREPARED AND SUBMITTED BY:

Contractor/Sub-contractor Name:

Phone:

E-mail:

Fax:

Address:

City:

State:

Zip:

☐ Registered with City

License Number:

Electrical Contractor:

Phone Number:

Email:

Consultant:

Phone Number:

Email:

SIGNATURES

Property Owner:

Date:

Contractor:

Date:

This permit becomes null and void unless a City inspection is performed within six months from the date of issuance. The granting of a permit does not presume to give authority to violate or cancel the provisions of any law or ordinances regulating construction. No inspection will be performed unless this permit is displayed on the jobsite and the City approved plans are available to the inspector on the jobsite at the time of inspection. Applicant is responsible for all work done under this permit, and must follow all applicable codes.

Solar Distributed Generation Systems less than one (1) megawatt (MW)

SOLAR PHOTOVOLTAIC

System DC kW:	System Continuous AC kW:
Number of Strings:	Panels per String:
Total Number of Panels:	Total Number of Inverters:
Panel Manufacturer and Model:	
Inverter Manufacturer and Model:	
Power Factor:	CEC Efficiency:
Voltage Rating:	Ampere Rating:

BATTERY STORAGE (IF APPLICABLE)

Battery Manufacturer and Model:	
Continuous Power Rating:	Usable Capacity:
Maximum Solar Charger Efficiency:	Lifetime Cycles:

NORMAL OPERATION OF INTERCONNECTION (PLEASE DESCRIBE)

(Examples: provide power to meet base load, demand management, standby, back-up) :

WILL GENERATION DATA BE GIVEN BY:

- ☐ Adding solar@cityofdenton.com to online profiles
- ☐ Emailing generation data to solar@cityofdenton.com monthly

PROJECT TRACKING (CITY USE ONLY)

Date Submitted:	Date Accepted:
Permit Final Date:	Completion Date:
Engineering Approval and Date:	
Notes:	



THE STATE OF TEXAS §

 §
COUNTY OF DENTON §

AGREEMENT FOR INTERCONNECTION AND PARALLEL OPERATION OF DISTRIBUTED GENERATION

THIS INTERCONNECTION AGREEMENT (“Agreement”) is made and entered into this _____ day of _____, 20____, by the City of Denton, with its electric utility department operating an electric system, referred to for Public Utility Commission of Texas and ERCOT purposes as DENTON MUNICIPAL ELECTRIC (“DME”) and _____ (“Customer”), a _____ [specify the name of any entity, if any; the type of entity, if any; and the address of any entity] hereafter sometimes referred to individually as “Party” or both parties sometimes referred to collectively as the “Parties.”

WHEREAS, DME desires to permit electric customers having electric generating facilities located within its service territory, to offset a part of their electrical requirements by utilization of customer’s electric power generation facilities or to produce energy for sale on the DME electric utility system or in accordance with the City’s Electric Rate Schedule DGR or ancillary contract; and

WHEREAS, Customer desires to interconnect the electric generating facilities to the City’s Electric Utility System; and

WHEREAS, Customer has completed and submitted the Application for Interconnection and Parallel Operation of Distributed Generation with the City’s Electric Utility System to the City, which is incorporated herein as Exhibit A, and the City has conducted its pre-interconnection studies to determine whether the City can make available and Customer is qualified to enter into such an arrangement for such distributed energy resource interconnection with the City’s Electric Utility System; and

WHEREAS, both the City and Customer desire to enter into this Agreement, under the terms, conditions, and subject to the limitations set forth below,

NOW THEREFORE, in consideration of the premises and the mutual covenants set forth herein, the City and Customer hereby **AGREE** as follows:

1. Scope of Agreement. City shall permit Customer to interconnect and operate an electric generating facility, on Customer’s premises, in parallel with the City’s Electric Utility System in accordance with the terms of this Agreement. PROVIDED HOWEVER, that this Agreement is applicable to conditions under which the City and the Customer agree that one or more generating facility or facilities operating less than 60 kilovolts (kV) (“Facility” or “Facilities”) may be interconnected to the City’s Electric Utility System AND Customer provides the City with generation data either through web link access or monthly reports.

2. Definitions.

- a. “Agreement” shall mean the “Agreement for Interconnection and Parallel Operation of Distributed Generation.”



- b. “Customer” shall mean an entity interconnecting a Power Producing Facility to the City’s Electric Utility System.
- c. “General Manager” shall mean the General Manager of Denton Municipal Electric, or their designee.
- d. “Electric Utility System” shall mean all generation, transmission and distribution facilities owned or used by the City in connection with its delivery of electric energy to the City’s electric utility customers.
- e. “Points of Interconnection” shall mean the point at which the Power Producing Facility physically ties to the Electric Utility System as is more fully described in Exhibit A, attached hereto and incorporated herewith.
- f. “Power Producing Facility” or “PPF” shall mean an electric generating facility, operating less than 60 kilovolts, which will be interconnected and operated in parallel with the City’s Electric Utility System. This shall include any and all related equipment necessary, as determined by the City, for the safe operation and interconnection of the electric generating facilities to the Electric Utility System.
- g. “PPFID” shall mean the identification number assigned by the City to a Power Producing Facility.
- h. “PUC” shall mean the Public Utility Commission of Texas, or any successor agency.

3. Identification of Power Producing Facility. The Power Producing Facility referred to herein shall refer solely to the Power Producing Facility identified, located and described in this section:

- a. Type: _____
- b. PPFID: _____
- c. PPF Rating: _____
- d. Site Address: _____

4. Establishment of Point of Interconnection. The City and Customer agree to interconnect the Customer’s PPF at the Points of Interconnection specified in this Agreement, in accordance with the provisions of the City of Denton, Texas Code of Ordinances; and any applicable Public Utility Commission of Texas Substantive Rules (including §25.211 relating to Interconnection of Distributed Generation and §25.212 relating to Technical Requirements for Interconnection and Parallel Operation of On-Site Distributed Generation, hereafter the ”PUC Rules”) or any applicable successor rule addressing distributed generation, and as described in the attached Exhibit A.

5. Interconnection.

- a. Energy transferred from the PPF to the Electric Utility System under this Agreement shall be deemed delivered at the City's selected metering point on the premises identified in Section 3 above.
 - b. It is expressly understood and agreed by the parties hereto that the interconnection and monitoring of electric flow contemplated by this Agreement shall be accomplished by appropriate metering facilities owned and installed by the City. The PPF shall be responsible for all expenses associated with the purchase and installation of specialized metering facilities, including but not limited to dual metering arrangements and/or bi-directional meters.
6. Testing and Approval of Facility.
- a. The Customer shall install and maintain protective devices for the PPF as required by the City's Electric Utility Engineering. The protective devices shall be tested and approved by the City's Electric Utility Engineering prior to commencing parallel operations with the Electric Utility System. Further testing of the protective devices shall be conducted any time that modifications are made to the PPF. The City shall have the right to have representatives present at any testing of the PPF's protective devices. Customer shall notify the General Manager at least five (5) days prior to the testing of the PPF's protective devices.
 - b. The PPF shall not commence parallel operations with the City until written approval of the interconnection facilities has been granted by the General Manager of the City's electric utility. Such approval shall not be unreasonably withheld, provided that Customer has complied with all City requirements.
7. Access and Premises. The City may enter the PPF's premises (a) to inspect, at reasonable hours, the PPF's protective devices; or (b) to read or test meters; or (c) to disconnect, without notice whenever necessary, the PPF from the Electric Utility System if, in the City's opinion, a hazardous condition exists and such immediate action is necessary in order to protect persons, City facilities, or property of others from damage or interference caused by the PPF, or lack of properly operating PPF protective devices.
8. Maintenance and Permits. The Customer shall: (a) maintain the PPF in a safe and prudent manner, and in conformance with all applicable laws and regulations, including, but not limited to, those set forth in Exhibit A to this Agreement and the PUC Distributed Generation Interconnection Manual; and (b) obtain any governmental authorizations and permits as required for the construction and operation of the PPF and interconnection facilities. The PPF shall reimburse the City for any and all losses, damages, claims, penalties, or liability it incurs as a result of the PPF's failure to obtain or maintain any governmental authorizations and permits required for the construction and operation of the PPF.
9. Representations of Customer. Customer further agrees and represents to the City that the distributed generation equipment of Customer shall be designed, installed, connected, operated and maintained, to the best of Customer's knowledge and belief, in accordance with the applicable ANSI standards now in force; the applicable UL standards that are in force at the time of the execution of this Agreement; the applicable IEEE standards [particularly IEEE 929-2000 and IEEE 1547-2003] that are in force at the time of the execution of this Agreement; the applicable National Electrical Code (the "NEC") standards in force at the time of the execution of this Agreement; the applicable ERCOT Operating Guides in force at the time of the execution of this Agreement; as well as any other applicable local, state, or federal codes, statutes, and regulations in force at the time of the execution of this Agreement .
10. Responsibilities of Customer. The Customer will, at its own cost and expense, operate, maintain, repair, inspect, and shall be fully responsible for the PPF which it now or hereafter may own unless otherwise

specified on Exhibit A. Customer shall conduct operations of its PPF(s) in compliance with all applicable local, state, or federal codes, statutes, and regulations. The maintenance of the PPF shall be performed in accordance with the applicable manufacturer's recommended maintenance schedule. The Customer agrees to cause their PPF to be constructed in accordance with specifications equal to or greater than those provided by the National Electrical Safety Code (the "NESC"), approved by the American National Standards Institute (the "ANSI"), in effect at the time of construction. The Customer covenants and agrees to design, install, maintain, and operate, or cause the design, installation, maintenance, and operation of the PPF so as to reasonably minimize the likelihood of a disturbance affecting or impairing the Electric Utility System, or other systems with which the Customer is interconnected. The City will notify Customer if there is evidence that the PPF operation causes disruption or deterioration of service to other customers served from the same grid, or if the PPF operation causes damage to the Electric Utility System. Customer will immediately notify the City of any emergency or hazardous condition or occurrence with the PPF that could affect safe operation of the Electric Utility System.

11. Interruption or Reduction of Deliveries.

a. The City's Authority. The City shall not be obligated to accept or pay for produced energy from a generating unit unless in accordance with the City's Electric Rate Schedule DGR or a separate agreement has been entered into between the Customer and the City. The City may require the Customer to interrupt or reduce deliveries of available energy in the following instances:

- (1) When the General Manager determines that it is necessary in order to construct, or install, or maintain, or repair, or replace, or remove, or investigate any of the City's equipment or any part of its Electric Utility System;
- (2) If the General Manager determines that curtailment, interruption, or reduction is necessary because of emergencies, or forced outages, or *force majeure*, or compliance with prudent electrical practices;
- (3) Notwithstanding any provision of this Agreement, the City shall have the right to disconnect the PPF from the Electric Utility System if it determines that either: (a) the PPF or its operation may endanger City personnel, or (b) the continued operation of the PPF may endanger the integrity of the Electric Utility System. The PPF shall remain disconnected until such time as the City is satisfied that the objectionable conditions have been corrected or no longer exists; or
- (4) The City discovers or learns of PPF manufacturer defects or deficiencies that may have adverse operational impacts on the Electric Utility System.

Customer and the City clearly understand and agree that the City will not accept nor assume any liability for interrupting the interconnection between the PPF and the Electric Utility System. The City is authorized to, but not liable for, any effects as a result of opening up and padlocking open the Customer's external disconnect switch, disconnecting the PPF at the Electric Utility System's Points of Interconnection or taking any other action that physically separates the PPF from the Electric Utility System. The City will attempt to provide sufficient Customer notice prior to interconnection disconnection, but Customer notice is not necessary for immediate PPF isolation should a condition warrant immediate interconnection disconnection as determined by the City.

12. Limitation of Liability and Indemnification.

- a. Neither the City nor Customer shall be liable to the other for damages for any act that is beyond such party's control, including any event that is a result of an act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, a curtailment, order, or regulation or restriction imposed by governmental, military, or lawfully established civilian authorities, or by the making of necessary repairs upon the property or equipment of either party.
- b. Notwithstanding the other provisions of this Agreement, Customer agrees to indemnify, defend, and hold harmless the City of Denton, as well as all of their present, future and former elected officials, agents, employees, officials and representatives in their official, individual and representative capacities from and against any and all claims, demands, causes of action, judgments, liens and expenses (including attorney's fees, whether contractual or statutory), costs and damages (whether common law or statutory, and whether actual, punitive, consequential or incidental) of any conceivable character, due to or arising from injuries to persons (including death), or to property (both real, personal and mixed) created by, arising from, or in any manner relating to the PPF, including (a) engineering, design, construction, maintenance, repair, operation, supervision, inspection, testing, protection or ownership of; or (b) the making of replacements, additions, betterments to, or reconstruction of the Customer's PPF, and expressly including those arising through strict liability and those arising under the constitutions of the United States and of the State of Texas.
- c. The City and Customer shall each be directly responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their respective sides of the point of delivery. The City does not assume any duty of inspecting the Customer's lines, wires, switches, or other equipment and will not be responsible therefore. Customer assumes all responsibility for the electric service Customer supplies hereunder and the facilities used in connection therewith at or beyond the point of delivery, the point of delivery being the point where the electric energy first leaves the wire or facilities provided and owned by the City and enters the wire or facilities provided by Customer.
- d. For the mutual protection of the Customer and the City, only with the City's prior written authorization, are the connections between the City's service wires and the Customer's service entrance conductors to be energized.
- e. The provisions of this Section 12 shall not be construed to relieve any insurer of its obligation to pay any insurance claim in accordance with the provisions of any valid insurance policy.
- f. If the Customer fails to comply with the insurance provisions of this Agreement, the Customer shall, at its own cost, defend, save harmless and indemnify the City of Denton, its elected officials, officers, employees, agents, assignees, and successors in interest from and against any and all loss, liability, damage, claim, cost, charge, demand, or expense of any kind or nature (including attorney's fees and other costs of litigation) resulting from the death or injury to any person, or damage to property, including the personnel and property of the City of Denton, to the extent the City of Denton would have been protected had the Customer complied with all such insurance provisions required hereunder. The inclusion of this section is not intended to create any express or implied right in the Customer to elect not to provide the required insurance in Section 13 hereof. The provisions of this subsection shall survive the termination of this Agreement.
- g. If the Customer applied and received an incentive from the City, Customer shall comply with all guidelines acknowledged in the GreenSense Incentive Program Manual. If the Customer fails to

meet any ongoing Program requirements stated in the GreenSense Incentive Program Manual, Customer shall repay to the City the incentive related the system. The refund amount is calculated as: [incentive received] x [5 – number of full years the system was operational] x 0.2.

13. Insurance Required. Customer represents that, at the time of the execution of this Agreement, Customer has currently in force and effect property insurance on the premises described in Section 3 hereof, in the amount of the current value of the premises, and comprehensive personal liability insurance covering the premises in a minimal amount of not less than \$100,000 per occurrence. Customer further represents that Customer shall maintain such insurance in force for the duration of this Agreement. Customer agrees to provide a copy of the insurance policy or a valid certificate issued by the insurer (in a form satisfactory to the City) to the City prior to any interconnection with DME's electric grid, and shall provide proof of continuing coverage upon reasonable request given to Customer. The insurance herein provided in Section 13 shall, by endorsement to the policy or policies, provide for thirty (30) days written notice to the City prior to cancellation, termination, alteration, or material change of such policy or policies of insurance.

14. Right of Access, Equipment Installation, Removal & Inspection. Upon reasonable notice, the City may send qualified representatives to the premises of the Customer at or immediately before the time the PPF first produces energy to inspect the interconnection, and to observe the Facility's commissioning (including any testing), startup, and operation for a period of up to no more than three (3) days after initial startup of the unit. Following the initial inspection process described above, the City may send an employee to the premises, at reasonable hours, or at any time without notice, in the event of an emergency or hazardous condition, as determined by the City. The City shall have access to Customer's premises for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement or if necessary to meet its legal obligation to provide service to its other customers.

15. Disconnection of Unit or Termination of Agreement. The City or Customer may terminate this Agreement, at will and without cause, by giving written notice of termination to the other party not less than thirty (30) days prior to the date of termination. PROVIDED HOWEVER, this Agreement shall automatically terminate upon (1) the disconnection of electric utility service to the premises due to the delinquency of payment of Customer (that is the same rules regarding late payment and disconnection that all other ratepayers of the City have); or (2) the closing of Customer's electric utility account; or (3) a change in the ownership of the premises by Customer; or (4) the failure to maintain the insurance coverage required under Section 13 above; or (5) the failure to comply with all terms of this Agreement.. All PPF equipment shall be completely disconnected and isolated from the Electric Utility System upon termination of this Agreement by either Party. The Customer shall demonstrate to DME's satisfaction that the PPF has been disconnected. The City reserves the right to disconnect the PPF equipment itself or hire a local qualified electrician to perform such work at the sole expense of the Customer, if Customer fails to properly perform such work within seven (7) days of the date of the Agreement termination.

16. Notices. Notices given under this Agreement are deemed to have been duly delivered if hand delivered or sent by United States certified mail, return receipt requested, postage prepaid, to:

(a) If to the City:

General Manager
Denton Municipal Electric
1659 Spencer Road
Denton, Texas 76205

With a copy to:

City Attorney's Office
City of Denton
215 E. McKinney Street
Denton, Texas 76201

(b) If to Customer:

As provided in Exhibit A

The above-listed names, titles, and addresses of either Party may be changed by written notification to the other Party.

17. Entirety of Agreement and Prior Agreements Superseded. This Agreement, including Exhibit A, which is expressly made a part hereof for all purposes, constitutes the entire agreement and understanding between the Parties with regard to the interconnection of the facilities of the Parties at the Points of Interconnection expressly provided for in this Agreement. The Parties are not bound by or liable for any statement, representation, promise, inducement, understanding, or undertaking of any kind or nature (whether written or oral) with regard to the subject matter hereof not set forth or provided for herein. This Agreement replaces all prior agreements and undertakings, oral or written, between the Parties with regard to the subject matter hereof. It is expressly acknowledged that the Parties may have other agreements covering other services not expressly provided for herein, which agreements are unaffected by this Agreement.

18. Governing Law and Regulatory Authority. This Agreement was executed in the State of Texas and must in all respects be governed by, interpreted, construed, and shall be exclusively enforced in accordance with the laws thereof. The provisions and obligations of this Agreement are performable in the City of Denton, Denton County, Texas. Venue shall lie for any lawsuit dealing with this Agreement in the courts of Denton County, Texas.

19. Attorney's Fees. Should either Party to this Agreement commence legal proceedings against the other to enforce the terms and provisions of this Agreement, the Party who does not substantially prevail in the proceeding(s) shall pay a reasonable amount of attorney's fees and expenses (including, but not limited to expert witness fees and deposition expenses) incurred by the prevailing Party.

20. Severability. If any term or provision of this Agreement is held by a court to be illegal, invalid, or unenforceable, the legality, validity or enforceability of the remaining terms or provisions of this Agreement shall not be affected thereby, and in lieu of each illegal, invalid or unenforceable term or provision there shall be added automatically to this Agreement a legal, valid or enforceable term or provision as similar as possible to the term or provision declared illegal, invalid, or unenforceable.

21. Amendment. This Agreement may be amended only upon mutual agreement of both of the Parties hereto, which amendment will not be effective until it is reduced to writing and executed by the Parties.

22. Invoicing and Payment. Invoicing and payment terms for services associated with this Agreement shall be based upon and consistent with the applicable Ordinances of the City of Denton, Texas.

23. Assignability. Customer and the City agree that this Agreement may not be assigned due to the special nature of the Agreement. Any sale or disposition of the real property and the PPF covered hereby in whole or in part, by Customer will require that the PPF be disconnected from the Electric Utility System until DME has communicated with the new owner about relevant safety issues and until such time as the new owner signs a new Interconnection Agreement with the City.

24. No Waiver. The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered to waive the obligations, rights, or duties imposed upon the Parties. No waiver of any breach or violation of any term of this Agreement shall be deemed or construed to constitute a waiver of any other breach or violation, whether concurrent or subsequent, and whether of the same or of a different type of breach or violation.



25. Entire Agreement. It is understood and agreed that this Agreement contains the entire Agreement between the Parties and supersedes any and all prior agreements, arrangements or understandings between the parties relating to the subject matter. This Agreement cannot be changed or terminated orally and no written modification of this Agreement shall be effective unless executed and signed by both Parties.

26. No Third-Party Beneficiaries. This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein undertaken and assumed are solely for the use and benefit of the Parties, their successors-in-interest and, where permitted, their assigns.

27. Paragraph Headings and Construction of Agreement. The descriptive headings of the various articles and sections of this Agreement have been inserted for the convenience of reference only, and are to be afforded no significance in the interpretation or construction of this Agreement. Both Parties hereto have participated in the negotiation and preparation of this Agreement, which shall not be construed either more or less strongly against or for either Party.

28. Gender. Within this Agreement, words of any gender shall be held and construed to include any other gender, and words in the singular number shall be held and construed to include the plural, unless the context otherwise requires.

29. Exhibits. All Exhibits to this Agreement are incorporated herewith by reference for all purposes, wherever reference is made to the same.

30. Binding Effect. Except as limited herein, the terms and provisions of this Agreement shall be binding upon and inure to the benefit of the Parties hereto and their respective heirs, devisees, personal and legal representatives, successors, or assigns.

31. Multiple Counterparts. This Agreement may be executed in multiple counterparts, each of which is deemed an original, but all of which constitute but one and the same instrument.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be signed by their respective duly-authorized representatives on this the day of , 20 .

CITY OF DENTON,
a Texas home-rule municipal corporation

[CUSTOMER]

By: _____

By: _____

Title: _____

Title: _____

Date: _____

Date: _____

GreenSense Solar Photovoltaic (PV) Incentive

The incentive for qualifying interconnected PV system is as follows:

PV ONLY		PV with Battery Storage	
3.0 kW to 5.0 kW	80¢ per AC Watt	3.0 kW to 5.0 kW	\$1.20 per AC Watt
5.1 kW to 10.0 kW	60¢ per AC Watt	5.1 kW to 10.0 kW	90¢ per AC Watt
Above 10.1 kW	40¢ per AC Watt	Above 10.1 kW	60¢ per AC Watt

All incentives are to be an amount up to \$30,000, not to exceed 50% of total project cost.

AC Watt will be calculated as follows:

If DC input is equal to or greater than the micro-inverter continuous rated AC output =
(Number of inverters) x (Continuous rated AC output)

If DC input is equal to or greater than the string inverter continuous rated AC output =
(Nominal AC output)

If DC input is less than the inverter continuous rated AC output =
(Standard Test Condition rating of total system panels) x (California Energy Commission rated inverter efficiency)

The City makes no financial commitment to applicants until an application is accepted and a Letter of Intent (LOI) is issued. The LOI is valid for 90 days for a PV system to be installed. Under extenuating circumstances, applicants may request extensions to their LOI. Requests for LOI extension must be submitted prior to LOI expiration, in writing, accompanied by a detailed explanation of the reason for the delay. Contractor must demonstrate that the cause of the delay is out of their control along with substantial progress toward project completion. Extensions will be granted at the sole discretion of the City. Participants forfeit their incentive reservation once the LOI has expired. Any project not completely installed by September 30, will lose its funding.

Incentives are given in the form of a check to the rebate participant. Customers do not have the option to have rebate sent directly to the contractor. Incentive payment will be issued within four (4) weeks after the system passes final inspections.

Individually metered structures will only qualify for the rebate once per 12 month period and may not exceed \$30,000 in its lifetime. Additional PV installs are subject to the same terms as new installs with updated documentation. Any application for which funding is not available will be returned to the applicant. The City does not have a waiting list or queue.

Rebate participant may be subject to refund any incentive given by the City related to the PV system if the customer fails to meet ongoing program requirements or fails to ensure that the incented equipment is properly maintained and interconnected to the electric grid or any applicable national, local, manufacturer and the City's Electric Service Standards violations are discovered.



The refund amount is calculated as: [incentive received] x [5 – number of full years the PV system was operational] x 0.2.

PV Rebate Requirements

- Minimum PV install of 3 kW.
- Minimum battery install of 3 kW or reasonably sized to PV install
- No direct meter connections or double lugging.
- 24/7 Meter Access. Costs related to giving the City meter access will be at customer's expense
- All PV installations must meet all applicable national, local and manufacturers' codes and specifications and the City's Interconnection Guidelines.
- Installed PV systems shall carry a 5-year warranty from the installer in addition to a minimum 10-year manufacturer warranty on inverters and 20-year manufacturer warranty of solar panels.
- Licensed electrical contractors shall obtain appropriate permits and perform all electrical interconnections.
- All inverters and solar modules must be new.
- Panels must face South, East, or West.
- Panels must be unobstructed and non-shaded. Tree removal and any tree trimming will be at customer's expense.
- If re-roofing is required, PV system removal and reinstallation is at customer's expense.
- Contractor shall include any required service upgrade costs, and permit fees in the original bid.
- PV system shall be interconnected to the City's electrical grid at customer's expense.
- PV system shall comply with current City guidelines governing interconnection with the City's electric system and any subsequent revisions to these guidelines.
- Customer must give the City access to view PV system generation by adding solar@cityofdenton.com to online profiles or emailing monthly generation data.

I, _____, property owner of _____, Denton, TX 762____ hereby attest that I have read and understand the information provided in Denton Municipal Electric's (DME) Solar Photovoltaic Incentive portion of the Distributed Generation Manual. I have read and understand DME's Interconnection Agreement, Interconnection Application and all attachments included. I have been given ample time to review and consider all documents in this packet. I have chosen to execute this on the date below.

(Signature)

(Date)

** This page is to be submitted with the Interconnection and Parallel Operation of Distributed Generation Agreement and Application. **

Stand-Alone Distributed Generation

A Stand-Alone Distributed Generation facility is considered to be DG that is not connected to the City's electrical system in any way. Stand-alone facilities shall be installed in a manner that no generated power will export to the City's electrical system.

The City neither expressly nor implicitly warrants any work performed by a contractor, employees, or subcontractor. The City does not endorse any product, service, individual or company. Selection of an installer/contractor to perform work is the sole decision of the customer. The City makes no warranties whatsoever that participant will realize any energy savings as a result of any DG installs. In no event shall the City be responsible for any direct, special, incidental, consequential, punitive, exemplary or indirect damages in tort, contract, warranty, negligence, strict liability or under any indemnity provision or otherwise related to any installs. Customer assumes the risk of any loss or damage(s) that the customer may suffer in connection with its DG installation.

Inquiries related to the DG process or installs can be directed to solar@cityofdenton.com.

Zoning

Most zones within the city of Denton allow on-site DG installation without restrictions or requiring a Specific Use Permit (SUP). For a full list of zoning districts and limitations, see Subchapter 5 in the City of Denton Development Code at <https://www.cityofdenton.com/business/development-review/code-criteria-manual>.

- **Solar:** All zones within the city of Denton allow on-site photovoltaic (PV) system installs.
- **Wind:** Wind Energy Conversion Systems (WECS) installs either have restrictions or require a Specific Use Permit (SUP).
- **Storage:** All zones within the city of Denton allow on-site battery storage system installs.
- **Gas/Diesel:** All zones within the city of Denton allow on-site gas and diesel generation installs.

A Certificate of Appropriateness (COA) may be required for residents interested in installing DG within a Historic District which would be visible from the public Right of Way. If a COA is required, it must be approved prior to work being performed and a building permit issued. For more information on COAs, visit the Development Services Department page at www.cityofdenton.com or call (940) 349-8541.

Denton Municipal Electric

Customers interested in Stand-Alone DG must complete the City's approved application process. Any connection to the City's electric grid without execution of interconnection agreement will result in the immediate disconnect of the DG system. The DG disconnect will be locked closed until

any required studies are completed, the installation has been inspected and approved by the City, and an interconnection agreement has been executed.

Permits

No DG shall be installed without first obtaining a permit from Building Inspections. The permit application is combined with DME's application. No permit shall be issued without prior approval by DME.

Building Inspections will contact the applicant if any additional information is needed. If application satisfies all requirements, applicant will need to schedule Electrical Rough and Electrical Final inspections after installing the DG system. Daily inspections must be scheduled before 4:00 PM for an appointment to be completed the next business day. No same day appointment schedules are available. Permit packets, City approved plans, and Contractor must be on-site for all inspections.

Fee for a Residential or Commercial Alteration Permit is \$130 and due to Building Inspections prior to permit finalization by City personnel. Permit payments may be made through ETrakit at www3.cityofdenton.com/eTRAKiT3/.

Fire

No commercial DG shall be installed without first obtaining approval from the City's Fire Department. The Fire Department approval is included with Building Inspections permitting process. All DG shall be installed in accordance with appropriate standards of International Fire Codes, the International Building Code, and National Fire Protection Association.

Commercial DG disconnects shall be easily accessible by Fire personnel. For the purpose of this section, easily accessible shall mean that there must not be a barrier, including an unlocked fence, keeping City personnel from accessing customer's DG disconnect.

Fire will contact the applicant if any additional information is needed. If application satisfies all requirements, applicant will need to schedule an inspection with Fire, after PV is installed.

Penalties

Any DG system installed without prior approval or not installed according to approved plans provided through the City's application process will be subject to a citation and disconnect or disassembly of the DG system. Customer will be required to go through the City's approval process and pay double fees for work done without a permit.

Any person that tampers with, damages or illegally connects to the City's electric grid will be charged a minimum of \$310 per event.

Wind, Storage, Gas or Other Distributed Generation (DG) Interconnection

DG is a large investment and requires a bit of research before making a decision. The City encourages all customers interested in buying DG to talk to several installers, receive as many quotes needed to feel confident about DG, and understand what to expect before, during, and after DG is installed.

The City neither expressly nor implicitly warrants any work performed by a contractor, employees, or subcontractor. The City does not endorse any product, service, individual or company. Selection of an installer/contractor to perform work is the sole decision of the customer. The City makes no warranties whatsoever that participant will realize any energy savings as a result of any DG installs. In no event shall the City be responsible for any direct, special, incidental, consequential, punitive, exemplary or indirect damages in tort, contract, warranty, negligence, strict liability or under any indemnity provision or otherwise related to any installs. Customer assumes the risk of any loss or damage(s) that the customer may suffer in connection with its DG installation.

Inquiries related to the DG process or installs can be directed to solar@cityofdenton.com.

Zoning

Most zones within the city of Denton allow on-site DG installation without restrictions or requiring a Specific Use Permit (SUP). For a full list of zoning districts and limitations, see Subchapter 5 in the City of Denton Development Code at <https://www.cityofdenton.com/business/development-review/code-criteria-manual>.

- **Wind:** Wind Energy Conversion Systems (WECS) installs either have restrictions or require a Specific Use Permit (SUP).
- **Storage:** All zones within the city of Denton allow on-site battery storage system installs.
- **Gas/Diesel:** All zones within the city of Denton allow on-site gas and diesel generation installs.

A Certificate of Appropriateness (COA) may be required for residents interested in installing PV within a Historic District which would be visible from the public Right of Way. If a COA is required, it must be approved prior to work being performed and a building permit issued. For more information on COAs, visit the Development Services Department page at www.cityofdenton.com or call (940) 349-8541.

Requirements

All wind and other DG interconnections are subject to the same approval procedures stated under the Solar PV Interconnection section in this manual.