

**Contract Category No. 961-M2
Electricity Sourcing Services Additional Services Provided by
TEA
Power Purchase Agreement**

Texas Energy Aggregation, LLC

Power Purchase Agreement	Response
<p>Various Designs and Terms for PPAs</p>	<p>Wind or solar generating facilities may be built by a third-party developer without customer cost for construction or maintenance, either on-site (behind the meter) or off-site, in utility-scale facilities whereby the power is fed into the grid. The primary advantages of a PPA is that a customer can contract to purchase wholesale renewable power, locking in fixed rates from 7-25 years for increased budget certainty for a portion of their anticipated load. Additionally, a third-party developer can take advantage of available tax credits and incentives, passing the discount through to public entities that do not pay taxes.</p> <p>On-site solar PPAs require available space (land, rooftop or carport) but have several unique benefits, including:</p> <ul style="list-style-type: none"> • eliminating delivery costs for power produced • peak load shaving to reduce delivery costs • enhanced reliability for emergency back-up power • ability to participate in demand response programs • functional teaching tools at parks, schools, and roadside rest stops • carport shade and protection for parking lots • off-the-grid applications • opportunities for clients with available limited use land such as TXDoT, TDCJ, and TP&WD to earn additional income from land leases <p>Off-site wind or solar PPAs can achieve a better economy of scale to produce power more cheaply, and can be located in areas of the state with abundant wind, sunshine, and inexpensive land. The power from off-site facilities must then be “wheeled” to the locations where it is consumed. The cost to deliver the power to various locations around the state varies greatly, and this cost may be passed through to the customer or hedged by the REP responsible for scheduling the remaining balancing load not provided through the PPA. These PPAs can be a bonus or a challenge to the REPs who bid to schedule the balancing load; this portion of the load can be bid in the traditional manner, every 1-7 years, at opportune times to capitalize upon fluctuations inherent in our volatile, fossil-fuel based marketplace.</p> <p>As with any contract in a quickly developing and highly competitive industry, these PPAs vary greatly in design, substance and term length. They may be as short as 7 years or as long as 25 years, depending on the goals of the developer, lender or client. Longer terms provide the most competitive pricing. Because the state cannot resell power, a PPA serving less than 50% of the total load negates the risk of overgeneration while adding long-term budget certainty. For example, if TXDoT uses most of its load for lighting, a wind PPA generating most of its load at night might be better suited, and for TDCJ, using much of its load for climate control, a higher percentage on a solar PPA might offer greater savings.</p> <p>TEA utilizes a nationally-standardized RFP and Term Sheet template customizable to the needs of each particular agency. While opportunities continue to evolve, more than 90% of the PPAs nationally have been negotiated using a recurring set of variables.</p>
<p>Procurement assistance and RFP development.</p>	<p>TEA will conduct a complete analysis of each agency’s needs and goals, along with load size, shape, hourly and seasonal fluctuations, and delivery points, helping agencies determine if a renewable PPA offers substantial benefits over traditional procurement methods. If potential benefits are identified, an RFQ will be prepared for each agency to further quantify current market offerings and to more accurately calculate any potential savings (if an agency chooses not to move forward with procurement of a PPA, or if no PPA is procured, agencies will pay no fee to TEA for this necessary part of the process).</p> <p>An appropriate RFP will then be developed for interested agencies, vetting developers, financial backers, terms, and a lengthy list of criteria. TEA sought out the most experienced organizations in the world to assist in this process. Responsible for more than 90% of all PPAs negotiated nationwide, the non-profit Rocky Mountain Institute (RMI) Business Renewables Center has the most comprehensive database of renewable energy developers (Live links are provided in our proposal in section A.15.11.c). TEA pays a substantial annual fee to utilize RMI’s PPA, Term Sheet, and RFP templates. Using established legal language, each section is a continually updated knowledge base, including new variables and options for consideration as they become available in the industry. Each section is customized for the needs of each customer to maximize success and minimize their risk. Membership includes access to an experienced team who have successfully negotiated hundreds of PPAs on behalf of public and private entities (including many Fortune 500 organizations).</p> <p>Free fuel from the wind or sun means that, unlike volatile commodity pricing, renewable PPA factors do not fluctuate by-the-minute like fossil fuel-based bids. This allows the agencies to drive the bidding terms, rather than frantically reacting to markets inside of a 30-minute window. Deliberate discussions may take place throughout the process to conduct further research, determine best value, or even allow the potential to piggyback aggregated PPAs across multiple agencies when appropriate and cost-effective for all parties.</p>

<p>PPA agreements previously executed in the last 3 years and if with public entities</p>	<p>TEA uses interlocal purchasing agreements to provide the safety and structure public customers require to validate that energy contracts have been legally bid in a transparent manner. Interlocal agreements in Texas have not kept pace with rapid developments in the energy industry, only allowing negotiations filtered through REPs and not wholesale energy developers. Working within the confines of these terms, TEA has successfully structured and executed two PPAs within retail energy contracts when requested by the client. One was for Rapoport Academy, a public charter school, and the other was for Texas Parks and Wildlife (Live links are provided in our proposal in section A.15.11.c). In both cases, this was within the confines of the terms of the CCG contract and included an upcharge within the energy rate to provide on-site solar generation. Prior to affiliating with the non-profit Rocky Mountain Institute, TEA has also entered into other PPA negotiations with for-profit entities which are currently bound by the terms of non-disclosure agreements, as has become standard in the industry.</p> <p>TEA has expanded our resources to include in-house legal counsel. As past counsel for more than one REP, our Vice President Kevin McAlpin has written and negotiated multiple PPAs. His qualifications are included with this RFP response. Additionally, Matthew Held has joined our team with experience in negotiating PPAs, while also designing, developing and constructing utility-scale solar and other generating plants. He is ideally suited to understand the needs of wholesale developers “on the other side of the fence” in preparing the most attractive proposition for the state. Mr. Held’s qualifications are also included here.</p>
<p>Commissioning Process</p>	<p>Our PPA requires that the generator demonstrate:</p> <ul style="list-style-type: none"> • Seller has completed testing required by the financing documents, permits, interconnection agreement, seller’s operating agreement, seller’s engineering, procurement and construction agreement along with any manufacturers’ warranties; • Seller has certified that the equipment installed at the facility has output equal to the agreed contracted amount • An independent PE has verified facility is complete in all material respects with the PPA; • Facility has achieved initial synchronization with the interconnection provider’s system; • Communications systems reliably communicate with the purchaser’s systems; • Facility is performing under interconnection agreement at the level acceptable to the interconnection provider • Separate agreement in place to deliver energy for turbine start-up and shut down and maintenance; • Security arrangements in place; • Adequate insurance obtained • Date to have project running at capacity; if less than 100% is acceptable and for how long. • Permits, licenses, approvals and authorizations required by government authorities have been obtained.
<p>Purchase and Sale of Energy</p>	<p>Purchase of energy can be managed through the PPA at a set rate, on an escalating rate, or sometimes indexed to wholesale rates over certain periods of time from as short as 15-minute increments in “contract for difference” agreements. For the purposes of the state’s needs, the minimized risk of a fixed rate is most often recommended. It is our understanding that the State of Texas does not allow for the sale or resale of energy by state agencies. Overgeneration at any given moment would be reconciled at the end of each billing month to show a complete delivery of all contracted quantities. The deficit is filled by power sources outside of the PPA with a conventional contract. It is for this reason that a maximum of 50% of the agency’s needs should be contracted on a PPA. This allows for the possibility of consumption reduction strategies in the future, or conversely, allows for additional concurrent PPAs.</p>
<p>Curtailment Agreements (who bears the risk for losses that arise when Customer, transmission and distribution provider exercise a curtailment right.)</p>	<p>A properly written PPA provides for instances when a generator may be required to curtail production and who will bear the cost of any lost revenue because of it. It is unlikely that the state agency would call for curtailment, because it would only be contracted for a small portion of its load, therefore should be willing to accept this risk. The regulated delivery company or ERCOT could also call for curtailment. Passing the financial risk to the generator will result in increased pricing but it may be preferable for the generator to absorb this risk. After review of the project, its location and interconnect guidelines, it must be determined if this risk is negligible enough or if any increase in cost is worth the customer accepting it. PPAs differ regarding conditions under which the purchaser must pay for available capacity that was not actually delivered.</p> <p>Most commonly, in the event of curtailment, parties agree to calculate available capacity based on wind or solar data available during the curtailment period and the power curve data for the wind turbines. The seller must be required to construct and maintain a meteorological station to measure and record representative solar or wind data that can be used to calculate the payment for any curtailed mWh. Curtailment provisions are important because they can directly impact the required pricing or profitability of the project. There are several more pertinent variables pertaining to either wind or solar PPAs, which have been addressed and considered in the PPA we use.</p>
<p>Take-or-pay agreements (Purchaser will pay the generator not only for energy actually delivered to the point of delivery but also for “available capacity,” or energy that would have been delivered but for the curtailment.)</p>	<p>PPAs structured as “take-or-pay” agreements pay the seller not only for energy actually delivered to the point of delivery but also for “available capacity,” or energy that would have been delivered even under conditions of curtailment. In most take or pay agreements the customer pays an output charge which permits the power producer to cover its fixed costs, including debt service, fixed operating costs, and an agreed equity return. Texas does not have a capacity market and we are mostly seeing “Take-and-pay” agreements for renewables whereby the State must pay for all energy delivered along with tariffs for delivery to either to the nodal point of delivery or at the hub where it is fed into the grid.</p>

<p>Transmission Issues (Who is responsible for the costs of all transmission upgrades necessary to deliver the energy from the generation facility to the point of delivery. What is the common point of delivery? What are some examples of the risk of loss the Customer assumes beyond the point of delivery?)</p>	<p>Transmission provisions include allocating responsibility for transmission access along with costs for any required transmission upgrades. The generator is usually responsible for transmission upgrade costs to deliver power from the generation facility to the delivery point. The seller or purchaser may negotiate for the option to terminate the agreement if costs for any needed transmission upgrades exceed estimates. Most developers have completed interconnect studies before seeking a PPA. Once interconnect studies have been conducted, further issues have been rare in the ERCOT market.</p> <p>The longer-term the contract, the increased potential for unforeseen events which could potentially increase transmission costs. Depending on the customer's delivery points and location of the generating facility, these variable transmission costs may be hedged in the contract by the REP or even hedged by a third party, if they are not passed through at increased risk to the customer. For this reason, this risk must be added as a separate variable and as part of the REP's balancing load bid. Including this cost in the shorter-term, conventional contract makes more sense as the risk can be recalculated with each renewal on the shorter-term contract, resulting in a lower nodal risk cost to the customer.</p>
<p>Defaults</p>	<p>PPAs, like most all good contracts, will mitigate risk for the State by including provisions in the event of default. Events of default are situations where the action or inaction of one of the parties significantly jeopardize the overall project. Many events of default are curable, which means there is an opportunity to resolve the issue early on. When one party is held in default, the other party is entitled to damages if the default is not resolved. Incurable issues grant either party the right to terminate the contract.</p> <p>In the event of an uncured default, the non-defaulting party may be entitled to actual damages and/or the right to terminate. If the seller defaults, this will usually mean the purchaser can recover costs for purchasing replacement energy in addition to any other costs incurred. Liability for damages due to a delay or event of default are often capped, and sellers and purchasers negotiate over what the appropriate caps should be depending upon the circumstances.</p> <p>Most developers are in the business of contracting, financing and building generation with the goal of selling these developments to an REP or generator who is contractually bound to the terms of the agreement. Often, PPAs are sold to the REP serving the balancing load, giving them increased predictability, consolidation, and streamlining of the entire process.</p> <p>Total default on the part of the agency seems unlikely, and we are aware of laws which address public entities in Texas being liable to pay for any product not delivered. This law once prevented many REPs from serving public entities, but this is now identified as a relatively low risk, non-issue based upon historical performance by Texas public entities.</p>
<p>Penalties</p>	<p>As with all energy contracts, penalties assessed against customers are for: 1. overage or shortfall in usage, also known as "bandwidth," which is a non-issue since a renewable PPA should only be contracted for a small percentage of the load; 2. material changes in usage, which is not affected when contracting a small portion of the load; and 3. materially changing how they use power, which is unlikely for a government agency without some change in law. Change of law is a unilateral "out" for most all contracts; and lastly, penalties are normally assessed for late payment, and by law, government agencies cannot be charged for late payment.</p> <p>In the case of penalties against the generator for non-performance, this is covered in the PPA which allows any additional costs incurred by non-performance on the part of the generator to be recouped by the state agency. An additional clause in the PPA requires an adequate amount of insurance to be carried by the developer to cover penalties for such things as non-performance, late startups, downtime, or weather-related damages.</p>
<p>Termination Terms</p>	<p>All unilaterally good PPAs cover termination of the contract by either party. Termination of a PPA would most likely only occur if the terms or the contract were not well executed on behalf of either party, stressing the need to work only with experienced professionals to negotiate a good contract which proactively addresses potential reasons for termination.</p> <p>A secondary market is developing largely for commercial business with a PPA that is moving, selling, or changing operations, but these scenarios are highly unlikely unnecessary for state entities. Such choice may entail the customer selling out their PPA at a lower rate (or in some cases at a profit), but it reduces the penalty of fully liquidating contract damages for the power they would have used. A sample contract addressing variables and other concerns may be provided upon request if TEA receives a post bid interview.</p>
<p>Insurance Requirements</p>	<p>Developers must maintain specific insurance policies at their own expense. In some cases, the seller is required to list the purchaser as an additional insured under the policy. Policies typically required include: commercial general liability insurance; worker's compensation insurance for seller's employees; automobile liability insurance; builder's risk insurance; all-risk property insurance; and business interruption and extra expense insurance. The business interruption and extra expense insurance covers lost revenues or increased expenses needed to resume operations after a claim under the property insurance policy.</p> <p>Insurance requirements are a standard line in RMI's PPA and the limits of this requirement will be sized based upon anticipated consumption. A sample contract addressing variables and other concerns may be provided upon request if TEA receives a post bid interview.</p>
<p>Credit Requirements</p>	<p>Just as a homeowner could pay \$250,000 over the mortgage life of a \$100,000 house, the single most significant factor in obtaining the lowest rate over the life of the PPA rate is the cost to construct the solar or wind generating facility. Few end users qualify for a lower rate than Texas state agencies because of our State's credit rating. For the developer or lender, state agencies are in the position to command the most favorable financing terms available. The developers' credit profile is also in the PPA and even earlier in the RFQ vetting process. Developers will find few lenders without a PPA with a creditworthy customer. These terms are addressed in our PPA. A review by members of SECO or any other qualified agency is invited prior to contracting.</p>

<p>Environmental Credits</p>	<p>The sale of RECs (Renewable Energy Credits) are another potential way to reduce the total energy cost of a PPA. The resale value of RECs in Texas is currently nominal, and as we are aware, Texas state agencies are required to retire the RECs from any such project rather than resell them (for instance, to coal generating unit). For this same reason, it is recommended that the balancing load for the remainder of any energy contract is accompanied by the purchase of offsetting RECs, at little extra cost, both for “bragging rights” and to set the precedent of purchasing 100% renewable contracts. The state is well on its way as TXDoT and TP&WD have both purchased 100% green for their last two contracts. These are among the many essential concerns addressed in our standard PPA.</p>
<p>Typical Length of Agreements</p>	<p>Renewable PPAs may range from as little as 5 years up to as long as 30 years. We have seen attractively priced agreements for as few as 7 years on risky developments already under construction, but to meet or beat current fossil fuel generated pricing, the PPA typically needs to be 10+ years for wind and 20-25 years for solar. These dynamics will continue to change along with technology, competition, available tax incentives or changes in federal regulations.</p>
<p>Potential and current Locations</p>	<p>As mentioned, we have been able to secure incentives for TP&WD to have on-site solar added to their energy rate. It was not a standard wholesale PPA. One solar site is in operation and more are in the planning stages. TEA has also been in discussions regarding potential sites with TXDoT across the state, as well as potential sites identified along the tollway in the regulated Austin area. We have identified specific opportunities for TDCJ at the Gatesville women’s prison unit, and what is perhaps the most lucrative potential site in Texas, near TDCJ’s Montford Unit just south of Lubbock. This single piece of state-owned land sits outside of the prison’s fences, directly on an ERCOT feed-in point and is capable of generating enough power to supply the power needs of many, if not all of the 4 largest state agencies. We are optimistic about the opportunity to conduct further in-depth studies of the site. Solar projects are currently in use on state-owned prison land in several states.</p> <p>Many of the sites which we have studied are on state-owned land along roadways, on brownfield sites, or on land surrounding prisons, which is likely not useable for other commercial purposes. Many sites have the added convenience of being located in or along electric transmission easements. In addition to increasing the functionality of this land, long-term leases could also potentially generate income for state agencies. TDCJ and TP&WD can sign long term land leases, and TXDoT has similar options under the state transportation code.</p>
<p>Copies of permits, consent licenses, approvals and authorization required by any governmental authorities</p>	<p>Permits and licenses are specific to each area and development. TEA holds a Class II-a Aggregator’s license to aggregate municipalities and public entities (supplied). TEA hopes to receive governmental authorization through this contract to help state agencies benefit from PPAs which the private sector and regulated utilities are currently investing in at an accelerating rate. Other necessary permits and licenses are addressed more specifically under “Commissioning Process” and also in our PPA specific to the ERCOT market.</p>
<p>Production Tax Credits (Typical structure of PTCs, assignments, and monetizing value of PTC)</p>	<p>Wind systems commencing construction after December 31, 2016 receive a production tax credit of \$0.0184/kWh for first 10 years of operation, making 10-year wind deals extremely cost competitive. PTCs are not currently available for solar. Many generators can turn a profit without a PPA, but are locking in deals for 2-3 cents/kwh, a rate which no other state agencies have been able to achieve. In cases where an agency has on-site wind, it is advisable to lease the project to a developer who can take the PTC, as state agencies would not qualify.</p>
<p>Various additional Tax Benefits/Incentives</p>	<p>One of the important aspects to understand about the PPA structure is that the system owner can take advantage of federal tax incentives that a tax-exempt entity, such as the state, cannot. The two most significant tax benefits are the investment tax credit (ITC) and accelerated depreciation. The ITC offers tax-paying entities a 30% tax credit on the total cost of their solar system now until 2020 and then begins stepping down to smaller percentages, so the best rates are anticipated on PPAs for new developments which utilize the newest technology when they begin power flow before Jan. 1, 2020. This deadline is presently achievable for all of the state clients whom we serve.</p> <p>It may also help to understand the accounting practice of accelerated depreciation, which is used to allocate the cost of wear and tear on a piece of equipment over time; in this case, more quickly than the expected life of the system. The Internal Revenue Service (IRS) allows a five-year modified accelerated cost recovery system (MACRS) for commercial Photo Voltaic systems. Although a solar array may produce power during the entirety of a 20-year PPA, the system owner can take advantage of the entire tax benefit within the first five years. Both incentives alleviate a great deal of financial risk for system owners, encourage project development, and help make renewable energy an affordable alternative to fossil fuel energy sources.</p> <p>Texas is #2 in the nation in terms of the amount of tax dollars which we send to Washington. Capitalizing on available incentives that return a portion of those dollars to Texans will stimulate our economy, reduce energy expenditures for Texas taxpayers, diversify our dependence upon fossil fuels, offer the opportunity to retrain displaced oilfield workers in a quickly growing, high-tech industry, increase budget certainty for state agencies, and increase grid reliability through distributed generation, while increasing long-term energy security.</p>
<p>Compensation model for PPA services provided by Respondent.</p>	<p>TEA currently has contracts with developers eager to pay us a “success fee” of 1.5 to 2.5 cents per generated watt of capacity for any contract on our existing commercial clients. These commissions are often considerably higher, especially to obtain contracts on municipal clients. In the same spirit with which we entered the last contract, TEA would like to offer our services at the lowest rate of 1.5 cents per watt as a success fee.</p> <p>TEA staff has consulted with dozens of the most respected renewable energy experts around the country, spending hundreds of hours researching opportunities available to public entities in renewables. Few PPAs have been completed with public entities in Texas due to a lack of clear direction from the State regarding whether agencies have the authority to enter into such contracts. Renewable energy marketers need a highly-specialized skill sets and industry knowledge, while frequently encountering a long sales cycle, high expenses, and a limited ratio of success in deals started vs. completed. The process is far more complicated than bidding traditional energy contracts, with many more details, variables, expertise and site visits required.</p> <p>Commission example: 10% of the success fee is paid to TEA after the PPA has been signed and financing has been secured, and the remainder of the fee is paid during the month when power flow has begun to the client. This cycle usually spans a year or more. Using TP&WD as an example: a proposed solar PPA accounting for 25% of their peak load of 11,228 kilowatts = 11,228,000 watts. 25% = 2,807,000 watts X .015 (1.5 cents) per watt = \$42,105. This fee is equal to about 1/4th of 1% of TP&WD’s energy expenditures. The accompanying electricity contract which must be procured for the balancing load would also need to be built around the PPA, requiring a greater deal of TEA’s time and expertise to procure than a standard fossil fuel contract. TEA’s additional time and expense will be covered by our fee to procure the PPA, and at no additional cost for balancing load contract procurement.</p>