



Request for Proposals
for
Renewable Energy Resources
("2019 Renewable RFP")

Issued: April 1, 2019
Proposals Due: May 15, 2019

2019 Renewable RFP Responses:

Tennessee Valley Authority
Pricing Strategy & Origination
RFP 2019
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Chattanooga, Tennessee 37402

Revision Log

Revision or Change Number	Effective Date	Affected Page Numbers	Description of Revision/Change

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1.0 INTRODUCTION

1.1 TVA Overview

The Tennessee Valley Authority (TVA) is a corporate agency of the United States that provides electricity for business customers and local power distributors, serving more than nine million people in parts of seven southeastern states. TVA receives no taxpayer funding, deriving its revenues almost exclusively from sales of electricity. In addition to operating and investing its revenues in its electric system, TVA provides flood control, navigation, and land management for the Tennessee River system and assists local power companies and state and local governments with economic development and job creation.

1.2 Description of Solicitation

This announcement constitutes a Request for Proposal (RFP) notice, soliciting proposals in supplying delivered energy, capacity, and environmental attributes to TVA. This RFP does not constitute a commitment, implied or otherwise, that TVA will take action in this matter. TVA will not be responsible for any costs Respondents incur in furnishing TVA responsive information.

Although a competitive bidding process is not legally required for TVA power purchases, in certain circumstances a process such as this presents on balance the most advantageous method of proceeding. TVA is interested in procuring up to 200 MW of new stand-alone renewable energy resources or renewable energy + battery energy storage systems (BESS), including all the associated environmental attributes (Renewable Energy Credits/Certificates, etc.). All resources must be located in the TVA service territory or delivered to TVA's interface with neighboring transmission systems. If any proposal is delivered to the TVA interface, it must have all of the cost components included for an all in energy price. Notwithstanding the above stated target, TVA reserves the right to vary from this target energy quantity based on evaluation of bids that are received. Any transaction resulting from the RFP will be in the form of a Power Purchase Agreement (PPA).

2.0 GENERAL TERMS

2.1 Product Definitions

- 2.1.1** Energy, Capacity, and Environmental Attributes proposed must be from new renewable energy sources.
- 2.1.2** All MW values discussed in this RFP will be measured at the revenue meter.
- 2.1.3** The minimum generation nameplate capacity at the point of interconnection for each site will be 2 MW. The maximum generation nameplate capacity at the point of interconnection for each site will be 200 MW. Solar generation

sites greater than 5 MW must utilize central-type inverters rated 500 kVA or higher.

2.1.4 Projects must follow and adhere to the TVA interconnection procedures. For additional information on TVA’s interconnection procedures, Respondents should contact Chris Methvin at wcmethvin@tva.gov.

2.1.5 Projects must be commercially operable and providing renewable energy no later than October 31, 2022.

2.1.6 All projects must be electrically connected to the TVA transmission system or a TVA Local Power Company’s distribution system, if inside the TVA service area. All projects must be able to support grid operation, including voltage regulation, frequency response, voltage and frequency ride-through in accordance with NERC PRC-024, and active power control (curtailment). Respondents may use the cost estimates for the TVA portion of the interconnection costs as shown below. Local Power Company (LPC) costs are not included in the table.

Interconnection Configuration	TVA Portion of Interconnection Cost (\$k)
LPC Connected < 5 MVA	Up to \$100
LPC Connected 5 - 25 MVA	Up to \$4,000
TVA Transmission Line Tap *	\$3,000 - 6,000
TVA New Breakered Station *	\$10,000 - 15,000

* Refer to TVA OASIS business practices for information on when a line tap may be utilized in lieu of a breakered station.

2.1.7 Respondents are requested to submit proposals for a delivery period of 12, 15, and 20 years. A standard PPA will be provided to all shortlisted Respondents and each Respondent will be required to provide a bid bond to be determined at the time of shortlisting.

2.1.8 TVA is a corporate agency and instrumentality of the federal government and accordingly must conduct or approve an environmental review under the National Environmental Policy Act (NEPA) for any federal action. The environmental impact of the proposed renewable facility and any connected actions (e.g., transmission system upgrades) will be evaluated in the NEPA review, which must be completed prior to any ground disturbance, tree clearing, or grading related to the construction of the proposed site. Additionally, as a federal agency, TVA has certain obligations under the Endangered Species Act (ESA), National Historic Preservation Act (NHPA), and other applicable environmental laws, which may require studies and

consultation with appropriate regulatory agencies such as the U.S. Fish and Wildlife Service and State Historic Preservation Office. The Respondent will be responsible for reimbursing TVA for all costs incurred by TVA for its obligations under NEPA, ESA, NHPA, and other applicable environmental review requirements, including the cost of implementing any mitigation measures necessary to comply with these requirements. The Respondent should be prepared to coordinate closely with TVA on any necessary reviews by providing information and schedules necessary to complete the environmental review and necessary federal consultations in a timely manner that supports the proposed facility construction timeline.

The Respondent’s proposal and project must comply with all applicable federal and state laws, both during construction and during plant operation. All federal, state, and local approvals, permits, licenses, fees, emissions allowances, environmental reviews, and other environmental requirements are the responsibility of the Respondent for the entire term covered by each proposal. This should include any rezoning, land-use permits, and other discretionary approvals that may be required.

3.0 COMMUNICATIONS

3.1 Communications during RFP Process

3.1.1 TVA will utilize PowerAdvocate, a web-based sourcing platform, to organize all RFP documents and communicate with Respondents. Respondents shall view the RFP package, message TVA, and submit their proposals through PowerAdvocate.

4.0 RFP SCHEDULE

The following schedule is based on TVA’s expectations as of the release date of this RFP. TVA reserves the right to modify the schedule at its sole discretion.

RFP Schedule

Action	Date
RFP Release Date	April 1, 2019
Question Submittal Deadline	May 1, 2019
Proposal Submittal Deadline	May 15, 2019
Evaluation of Proposals	July 2019 (tentative)
Notification of Short List	August 2019 (tentative)
Selection of Proposals	October 2019 (tentative)
Contract Execution	November 2019 (tentative)

5.0 PROPOSAL PROCESS

5.1 General Requirements

- 5.1.1 Information regarding this RFP can be found on the TVA website under the “Doing Business with TVA” link. All technical information and documents will be placed on the Power Advocate website.

5.2 Proposal Expenses

- 5.2.1 Each Respondent will bear any and all costs and expenses required to prepare its proposal.

5.3 Proposal Submittal Fee

- 5.3.1 Each proposal shall be submitted with a \$125/MW net AC capability submittal fee to be capped at one thousand dollars (\$1,000.00) in the form of a wire transfer to the Tennessee Valley Authority. If the Respondent is providing a proposal on a combined renewable resource with battery storage at the same point of interconnection, only one submittal fee is required. Proposals submitted without the submittal fee will be returned to the Respondent and will not be evaluated by TVA. Wire transfers should be made to the following account:

Bank Name:	TREAS NYC (Official Abbreviation)
Bank Address:	New York Federal Reserve Bank 33 Liberty Street New York, New York 10045
ABA Number:	021030004
Account No.:	00004912
Beneficiary:	Tennessee Valley Authority
Taxpayer ID:	62-0474417
OBI:	Provide your organization name and Reference 2019 Renewable RFP

- 5.3.2 The submittal fee is non-refundable.
- 5.3.3 TVA requires a bid bond from all shortlisted Respondents. The bid bond will be 1% of the gross revenue of the project over the term of the proposal offered. TVA will return bid bonds for all Respondents that are shortlisted, but not ultimately selected by TVA for a project. For Respondent(s) selected, the bid bond will be required to be posted within fifteen (15) business days of notification in a form and substance acceptable to TVA by means of a (i) surety bond, (ii) cash, or (iii) a letter of credit. For Respondents that are satisfying the bid bond requirement with a surety bond, the bid bond must be issued by a surety listed in the Department of the Treasury listing of approved sureties. For Respondents satisfying the requirement with a letter of credit, the

letter of credit must be issued by a U.S. commercial bank domiciled in the United States, or from a U.S. branch of a foreign bank, with such bank having a credit rating on its long-term senior unsecured debt of (1) “A3” or higher from Moody’s or (2) “A” or higher from S&P, or if rated by both Moody’s and S&P, both (1) and (2).

5.4 Method for Submitting Proposals

- 5.4.1 Each proposal by a single Respondent must have a different proposed point of interconnection. Respondents may submit multiple proposals, each with a separate submittal fee.
- 5.4.2 All proposals submitted must be received by the submittal deadline. Proposals received after the deadline may be accepted by TVA in its sole discretion.
- 5.4.3 All proposals must be submitted through Power Advocate. The RFP is listed as solicitation event # 90130: 2019 Renewable RFP. The following link will allow Respondents to register and request access the event.
<https://www.poweradvocate.com/pR.do?okey=90130&pubEvent=true>
- 5.4.4 Proposals may be submitted in either of the following configurations:
- **Not configured with energy storage:** Where a proposed Facility is not coupled with energy storage, the maximum output of the Facility must not exceed the proposed amount as requested in the TVA Interconnection Agreement.
 - **Configured with energy storage:** Proposals may contain storage which may be charged during periods when full potential export is not being taken by TVA. The energy storage should be sized to provide sufficient storage capacity equal to the greatest amount of energy to be provided for a continuous four-hour discharge during a 4-hour period with 380 annual cycles. The project must specify either an AC-coupled or DC-coupled solution, bearing in mind that TVA is seeking the least-cost option. Flexibility in charging/discharging periods will be necessary due to uncertainty in demand profiles. The proposed storage may be charged by the renewable facility or through grid charging that would be configured in order to provide the most economic price to TVA.

6.0 PROPOSAL ORGANIZATION

Proposal must contain:

6.1 Cover Letter

- 6.1.1 The cover letter shall include an “executive summary” of the highlights of the proposal.
- 6.1.2 The cover letter shall include contact information for the primary point of contact, including name, title, address, phone, and email.

6.2 Company Data and Experience

- 6.2.1 Please include the company name, address, and telephone number.
- 6.2.2 Identify the legal form of the company (corporation, partnership, limited liability company, etc.), date formed, jurisdiction of organization, and any relevant affiliates.
- 6.2.3 Include the company history and experience in the areas of development, financing, construction, and operation of renewable generation facilities.
- 6.2.4 Describe the company’s familiarity and experience with TVA and its requirements.
- 6.2.5 Identify any existing renewable generation facilities owned or operated.

6.3 Project Description

- 6.3.1 Provide a map of the proposed Project footprint, as well as a complete description of the proposed Project including technology, nameplate capacity, location, size (acreage), nearby structures or facilities, and current site environmental conditions. TVA requests that all Respondents provide a description of the site with the combination of the intermediate renewable resource + BESS, as well as the stand-alone intermediate renewable resource configuration.
- 6.3.2 Respondent shall provide adequate evidence of site control.
- 6.3.3 Each Respondent’s proposal shall provide copies of any permits that have already been obtained. If no permits have been obtained, then the Respondent should provide a plan for obtaining all required permits.
- 6.3.4 All Respondents shall state the expected annual generation output from the project and include the expected 8760 generation shapes. If a Respondent submits an intermittent resource combined with a BESS the 8760 shapes should include the output of the intermittent resource as well as the charging and discharging shape of the BESS.

6.3.5 Respondent shall provide a comprehensive one-line diagram describing the electrical equipment and the point of interconnection at which the project will connect to the TVA transmission system or the power system of a TVA Local Power Company. The Respondent shall also provide latitude and longitude coordinates for its Point of Interconnection. The point should reference the location on the line segment or station at which the Respondent proposes to interconnect its generator, the voltage level, and whether interconnecting to TVA, the LPC, or another system.

6.4 Project Execution Plan

6.4.1 Respondent should provide a description of how it intends to complete the project and deliver renewable energy to TVA.

6.4.2 Respondent will be required to keep TVA informed of Project progress during development. A description of the process that would be used to update TVA on project progress, including any changes to the schedule, should be included in the proposal.

6.4.3 As required by Section 6.4.1, each Respondent shall attach its project development plan and associated schedule to complete the project by its expected delivery date.

6.5 Financial Plan

6.5.1 The proposal must include sufficient financial information regarding the developer and investors to establish creditworthiness satisfactory to TVA in TVA's sole discretion. The proposal should include as a minimum the following information regarding the Respondent and the proposed developer:

- Audited financial statements for the three (3) preceding years that include balance sheets, income statements, statements of cash flows, and notes to the financial statements.
- Bank name, address, phone number, and officer contact.
- Credit references from three (3) sources that include name, address, phone number, and contact.
- Annual report or company brochure, if available.

6.5.2 TVA requires secure and reliable physical delivery of the capacity and associated energy corresponding to all purchase power agreements. Security (credit assurance) covering both the physical delivery of capacity and energy will be provided in the form of either a:

- (1) Letter of Credit issued by a U.S. commercial bank domiciled in the United States, or from a U.S. branch of a foreign bank, with such bank having a credit rating on its long-term senior unsecured debt of (1) “A3” or higher from Moody’s or (2) “A” or higher from S&P, or if rated by both Moody’s and S&P, both (1) and (2).
- (2) Parent guaranty issued by an entity located in the United States and that is satisfactory to TVA and has a long-term senior unsecured debt rating (not supported by third-party credit enhancements) of (1) “Baa2” or higher by Moody’s or (2) “BBB” or higher by S&P, or if rated by both Moody’s and S&P, both (1) and (2).
- (3) Various combinations of the foregoing, as TVA determines to be acceptable.

6.5.3 The cost of such credit assurance must be borne by the Respondent. TVA will provide the initial performance assurance schedule to the shortlisted Respondents.

6.6 Pricing

- 6.6.1 All contract pricing must be firm from the time of submittal through the term of the PPA.
- 6.6.2 Firm pricing shall be provided in a \$/MWh price for the renewable resource that will include all energy, capacity, transmission, ancillary services, and environmental attributes from the facility. TVA prefers seasonal and time of day pricing that escalates through the term for all intermittent renewable resources and a fixed \$/kw-mo capacity charge + O & M for the BESS. TVA requests that all Respondents provide pricing as shown in the following example table:

Proposal	Technology	Pricing (Esc. 2% annually)	COD
1	Renewable	\$/MWh –Year 1	
1	Renewable + Storage	\$/MWh for renewable resource + \$kw-mo + O&M for BESS-Year 1	

Note: See the Exhibits section for pricing ratios for time of day pricing.

- 6.6.3 Pricing shall be all-inclusive, including any necessary development, design, procurement, permitting, financing, and construction costs.

6.7 Schedule

6.7.1 Proposals shall include a proposed Project development schedule. The following is a non-exclusive list of required information:

- Timing for all permits
- Financial milestone dates
- Engineering and design timing and dates
- Environmental review milestone dates
- Major equipment purchase dates
- Contracting dates and milestones
- Construction timing
- Commercial operation date

7.0 PROPOSAL EVALUATION

7.1 Evaluation Process

7.1.1 TVA may select none, one, or more than one proposal for contract award.

7.1.2 TVA will use least-cost planning approaches in all evaluations. However, upon review, TVA may choose, in its sole discretion, to work with a Respondent on a potential facility in a certain area of TVA's service territory if that is to TVA's benefit.

7.2 Contract Approval

7.2.1 TVA's selection of the successful Respondent(s) shall not be implied as a commitment until a suitable contract has been approved by the TVA Board of Directors, or its designee, and the power purchase agreement has been executed by TVA.

8.0 RESERVATION OF RIGHTS

8.1 General

8.1.1 This RFP is an invitation to submit a proposal and does not create a binding offer or agreement.

8.1.2 All material submitted in response to the RFP will become the property of TVA.

8.1.3 Following selection, a Respondent may be required to participate in negotiations and to submit any price, technical, or other revisions to its Proposal that may result from such negotiations.

- 8.1.4 TVA reserves the right to procure renewable resources through other means instead of, or in addition to, this RFP.

8.2 Right to Reject

- 8.2.1 This RFP does not commit TVA to award a contract, pay any cost associated with the preparation of a proposal, or purchase power from any project. TVA reserves the right to accept or reject any or all responses to this RFP or cancel this RFP in whole or in part at any time.

8.3 Limitations

- 8.3.1 TVA may ask Respondents to clarify the information in their proposals, but the Respondents may not alter their proposals or otherwise submit any additional information after the proposal due date unless requested by TVA to do so.

8.4 Confidentiality

- 8.4.1 TVA recognizes that certain information contained in proposals submitted may be considered confidential and, as permitted by applicable law, will treat as confidential any information clearly labeled as such. TVA reserves the right to share proposal information, on a confidential basis, with any of its existing or future customers. If TVA is formally requested and required by any regulatory or judicial authority, or is otherwise required by law, to disclose information with regard to a proposal, TVA will disclose such information in accordance with applicable laws and regulations.

9.0 Exhibits

Price Ratios for Renewable Energy

Months		Time of Day (CPT)	
	July & August	Mon-Fri 2pm-7pm	159.49%
		Mon-Fri 6am-2pm and 7pm-12am; Sat & Sun 6am-12am	135.06%
		Everyday 12am-6am	112.98%
	June & September	Mon-Fri 12pm-8pm	104.91%
		Mon-Fri 6am-12pm and 8pm-12am; Sat & Sun 6am-12am	86.54%
		Everyday 12am-6am	72.06%
	January & February	Mon-Fri 6am-10am and 7pm-10pm	119.28%
		Mon-Fri 10am-7pm	97.98%
		Mon-Fri 10pm-12am; Sat & Sun 6am-12am	91.43%
		Everyday 12am-6am	99.38%
	December & March	Mon-Fri 6am-10pm	82.39%
		Mon-Fri 10pm-12am; Sat & Sun 6am-12am	79.28%
		Everyday 12am-6am	93.74%
	April, May, October & November	Mon-Fri 6am-10pm	85.46%
		Mon-Fri 10pm-12am; Sat & Sun 6am-12am	80.69%
		Everyday 12am-6am	73.13%