TETRA TECH

Request for Proposals

RFQ-PTF-2020-14

Activity Title: "Procurement of Equipment for Energy Innovation Showroom in MoID, Uzbekistan"

Issuance Date:	**August 03, 2020**
Deadline for Receipt of Questions:	**August 07, 2020 at 00:00 hours of Washington DC, USA.**
Proposal Closing Date and Time:	**August 14, 2020 at 00:00 hours of Washington DC, USA.**

Issuance of this RFP does not constitute an award commitment on the Tetra Tech ES, Inc., nor does it commit to pay for any costs incurred in preparation or submission of comments/suggestions of a proposal. Proposals are submitted at the risk of the Bidders. All preparation and submission costs are at the Bidder's expense.

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1. INTRODUCTION

The purpose of this RFP is the provision of multiple equipment items for the demonstration showroom in the Ministry of Innovative Development of Uzbekistan, in accordance with the Technical Specifications (TS) outlined in the Attachment A – under the Central Asia Power the Future Activity (Ptf) funded by USAID and implemented by Tetra Tech ES, Inc.

2. BIDDER'S QUALIFICATIONS

Bidder must provide the following information and references in order to be qualified for the procurement process:

1. Company's information, including official registered title, type of business, address, and contact person information.
2. A short description of the company and of past similar experience in providing similar components as those described in the Attached A.
3. Certification that company is not owned or controlled in total or in part by any entity of any government.
4. Certification by any subcontractor engaged by the company for this project that the subcontractor is not owned or controlled in total or in part by any entity of any government.
5. The Bidder shall complete and sign the Representation and Certifications found in Attachments C to this document and include them with the Bidder's proposal. Proposals that do not include these certifications will not be considered.

3. SOURCE, ORIGIN AND NATIONALITY RESTRICTIONS

The authorized geographic codes for procurement of goods and services under this Contract are 110 and 937 for the prime Contract and its subcontractors or as specified in task order.

Code 937 is defined as the United States, the cooperating/country, and developing countries other than advanced developing countries, and excluding prohibited sources.
Code 110 is defined as the United States, the independent states of the former Soviet Union, or developing country, but excluding any country that is a prohibited source.
Procurement of Agricultural commodities and related products, motor vehicles and pharmaceuticals are subject to the limitations in 22 CFR 228.19 and will require a waiver.

Firms and organizations not from the afore-referenced Geographic Code countries may nevertheless submit a proposal, as Tetra Tech will seek Geographic Code waivers from USAID, as appropriate.

4. SUBMISSION OF PROPOSALS

All proposals are due on August 14, 2020 by no later than 00:00 Washington DC, USA, local time. Proposals must be submitted via e-mail at the address PtFCarembids@tetratech.com in the following formats: Adobe Acrobat and Microsoft Word and/or Excel.

All proposals must fully respond to the Technical Specifications enclosed as **Attachment A** and must include quotes in the format provided in the **Attachment B** - **Table 1 – Budget**. Proposals received after the above-stated due date and time will not be considered for this procurement.

5. QUESTIONS AND CLARIFICATIONS

All questions or clarifications regarding this RFP must be in writing and submitted in English to PtFCarembids@tetratech.com no later than August 07, 2020 at 00:00, of Washington DC, USA.

Questions and requests for clarification, and the responses thereto, will be circulated to all RFP recipients.

Only written answers from Tetra Tech ES, Inc. will be considered official and carry weight in the RFP process and subsequent evaluation. Any answers received outside the official channel, whether received verbally or in writing, from employees or representatives of Tetra Tech ES, Inc., or any other party, will not be considered official responses regarding this RFP.

6. PROPOSALS PREPARATION INSTRUCTIONS

All Bidders must follow the instructions set forth herein in order to be qualified for the procurement process. If a Bidder does not follow the instructions set forth herein, the Bidder's proposal may be eliminated from further consideration or the proposal may be downgraded and not receive full credit under the applicable evaluation criteria.

Separate Technical and Cost Proposals must be submitted. All proposals should be submitted in English.

Elements to be supplied are divided into four groups (see Annex A).

Bidders are encouraged to source and/or collaborate from third parties and aggregate to his proposal all those elements that are not catered in their usual range or portfolio. Alternatively, bidders can opt to supply only certain listed items.

Technical Proposal

The suggested outline for the technical proposal is stated below:

A. Organization's Information

1. Organization's information, including official registered title, type of business, list of offices if applicable, address, telephone, fax and website.
2. Organization's DUNS number if proposed price is more than USD $30,000
3. Authorized point of Contact with phone number(s) and email address

B. Company Technical Capability

Description of the equipment, capacities, tolerances, and warranty. Bidder may highlight any aspect of the proposed equipment which bidder considers relevant.

C. Company Past Performance

Bidders should provide a summary of relevant works or assignments including the Type, Client, Date and a brief description. The qualifications section is limited to 5 of the most relevant assignments performed in the last 5 years, presented in the following table format. If the client is confidential, simply list "confidential".

Type of work or title of assignment	Description of services and/or goods provided	Client name	Completion date

D. Logistics solution

Bidder shall provide detailed information regarding the various stages and times associated with the process of delivering the equipment, which may include customs clearance, agent, insurance, freight company, and others. Goods shall travel fully insured to allow immediate replacement and delivery without any further costs.

Bidder be aware that proposed delivery time at final destination will be a contractual obligation and bidder may be levied with penalties for any delays.

Financial Proposal

A. Detailed Budget

Bidder shall complete the **Table 1 of the Attachment B "Detailed Budget"** in order to allow Tetra Tech ES, Inc. to compare all quotes and make a competitive selection. The budget should be provided in Excel format with unlocked cells.

Bidder shall include in separate data sheets, brochures and certifications, the relevant detailed description of each element and the information that supports the compliance of each element with the requirements defined in Annex A.

Tetra Tech ES, Inc. reserves the right to request additional cost information if the evaluation committee has concerns of the reasonableness, realism, or completeness of the Bidder's proposals.

Bidder shall provide all unit pricing in USD. Prices quoted in this document shall be valid for a 180-day time period, including but clearly separated all taxes, duties, logistics, insurances, other costs and the VAT originated in destination, if applicable.

For this procurement the beneficiary institutions in country have obtained a customs and taxes exemption, but VAT and other taxes associated with logistics and other services or products procured in-country by bidder may be subject to taxes, which shall be detailed as requested.

B. Representations and Certifications

These documents can be found in Attachments C of this RFP and must be submitted as part of the Proposal.

7. EVALUATION CRITERIA

Award will be made to the bidder representing the best value in consideration of equipment exceeding the technical requirements, supply of all requested items, shorter delivery time, previous clients and total price. Bidders are encouraged to provide a discount to their standard commercial rates.

Tetra Tech ES, Inc. reserves the right to conduct discussions with selected bidder(s) in order to identify the best value offer. Award of any resulting Subcontract Agreement shall be made by Tetra Tech ES, Inc. on a best value basis.

Proposals will be scored on a 100-point scale. Available points for each evaluation factor are given below.

#	Evaluation factor or criteria	Maximum points
1	Exceed technical requirements	10
2	Complete delivery of all items requested	25
3	Previous experience	5
4	Total price, inclusive transport	60
	Total	100

Bidders are encouraged to aggregate items or collaborate with third parties to supply the complete list of requested items under a single proposal.

8. TERMS OF PAYMENT

Payment terms for the awarded Subcontract Agreement shall be net forty-five (45) days after satisfactory completion and acceptance and of services and deliverables. Payment shall be made by Tetra Tech ES, Inc. via bank wire transfer. No advance payments will be provided.

9. DUNS NUMBER AND SAM.GOV REGISTRATION

If the proposed fixed price is above $30,000, the successful bidder will be required to furnish a DUNS number and proof of SAM.gov registration within 24-48 hours of notice of award. Information regarding obtaining a DUNS number may be found here: https://fedgov.dnb.com/webform

10. NEGOTIATIONS

Best offer proposals are requested. It is anticipated that a subcontract will be awarded solely on the basis of the original offers received. However, Tetra Tech ES, Inc. reserves the right to conduct discussions, negotiations and/or request clarifications prior to awarding a contract. Furthermore, Tetra Tech ES, Inc. reserves the right to conduct a competitive range and to limit the number of Bidders in the competitive range to permit an efficient evaluation environment among the most highly rated proposals. Highest-rated Bidders, as determined by the evaluation committee, may be asked to submit their best prices or technical responses during a competitive range.

11. MULTIPLE AWARD/NO AWARD

Tetra Tech ES, Inc. reserves the right to issue multiple awards. Tetra Tech ES, Inc. also reserves the right to issue no awards.

ATTACHMENT A – TECHNICAL SPECIFICATIONS

Scope of work and/or services :	Provision of equipment.
Place of performance :	Tashkent, Uzbekistan.

Bidder shall provide the requested units and services at destination, inclusive of all operational components.

Subscription-based software and telecommunications solutions, which initial period may be included by bidder in his proposal, must be clearly detailed and his cost detailed. In the case of subscription-based software solutions, bidder shall propose alternatives to his preferred or proposed option.

Quantity of Units	Item description
1	Hydrogen generator: H2 Purity: ≥ 99.9999% (≤ 35 C deg ambient temperature). H2 Flow: ≥ 120 cm3/Min. Outlet pressure: ≥ 1 Bar. Cell type: PEM technology. H2O Flow: ≥ 120 cm3/Min. H2O Quality: Deionized ASTM II. Internal H2O tank: ≥ 1.0 L with autorefill and option for external tank. Data ports: RS485/RJ11, RS232, USB, Ethernet optional (please quote). H2 Outlet: 1/8” compression fitting. Operation at 230 V 50 Hz. Complete with valves, connectors and operational required accessories.
1	Water distiller / purifier: H2O flow: ≥ 0.2 L / Min. H2O Quality: ≥ ASTM II, Deionized. Internal H2O tank: ≥ 3 L. Operation at 230 V 50 Hz. Complete with valves, connectors and operational required accessories.
1	H2 Fuel Cell: Rated power: > 500 W. Voltage: > 12 V and < 48 V. Amperage: < 35 A. H2 Pressure: > 0.45 Bar. H2 Flow: < 8 L/Min. Humidification: Self-humidified. Cooling: Integrated air cooling. Start up time: < 30 s. Ambient temperature: < 35 C deg. Complete with valves, connectors and operational required accessories.
1	Hydrogen storage tank: ISO rated for application or equivalent certification Capacity: ≥ 50 L H2. Complete with valves, connectors and operational required accessories.

1	Power quality analyzer: Rating: 1 kV. Phases: 3+N. Measure and record: V, A, kW, THD, crest V & A, kVA, kVAR (Inductive & Capacitive), PF, Hz, flicker. Quality measurement standard: EN 50160 and IEC 61000-4-30.
2	Metering units, single phase, DIN Rail (EN 60715): Class 1 for active energy by EN 62053-21 and B by EN 50470-3. Class 2 for reactive energy according to EN 62053-23. Maximum current 65 A (Imax). 230 V rated system voltage input (Un). Voltage operating range (-20 % ... +15 %) Un. Reference frequency 50 Hz and 60 Hz. Pulse output by EN 62053-31 Serial communication. Tariff input.
2	Metering units, three phase, DIN Rail (EN 60715): Bidirectional energy measurement (import/export). Maximum current 65 A (Imax). 3x230 V/400 V (Un). Voltage operating range (-20 % ... +15 %) Un. Reference frequencies 50 Hz and 60 Hz. Display with 100 Wh resolution. Multifunctional front red LED. LED constant 1000 imp/kWh. Pulse output according to EN 62053-31 Measurements of: Power (active/reactive/apparent). Energy (active/reactive/apparent, each phase and total). Voltage and Current for each phase. Phase to phase voltage and phase to phase angle. Frequency. Power factor (for each phase and total) and power angle (for each phase and total). Active tariff. THD of voltage, and THD of current. Tariff input. IR serial communication. RS485 Serial communication (Modbus). M-bus Serial communication (option).
2	Metering unit, three phase, for cabinet or wall mount (IP54, UV Resistant): Active energy and demand meter Accuracy class 1 or 2. Reactive energy meter Accuracy class 2 or 3. Apparent energy meter. Modes of energy measurement and registration: For one-way energy flow direction, equipped with an electronic reverse running stop. For two-way energy flow direction, algebraic sum of energies of phases. For one-way energy flow direction, energy is sum of absolute values of phases. The three-phase meter can function as a single phase or a two-phase meter Meter functions: Current measurement in a neutral conductor via the fourth measuring system: Detection of missing/broken neutral conductor. Detection of phase and voltage unbalance. Measurement and registration of under- and over-voltage.

	Generation of alarms and their transmitting via the DLC modem and low voltage network or via GSM/GPRS modem or the RS485 communication interface, if any alarm is active and enabled, it tries to notify the center. Time-of-use registration (up to 4 tariffs), tariffs change-over; internal real-time clock. Load-profile recorder, two load-profile recorders (i.e. daily and hourly values). Communication: Infrared optical port in compliance with IEC 62056-21. DLC modem or GSM/GPRS modem. RS485 or M-Bus comm. LCD In compliance with the VDEW specification LCD with indicators of: Presence of phase voltages L1, L2, L3 Phase currents flow direction Actual tariff indication Status of switching device Meter status and alarms 3-state GSM signal level indicator LED1: Imp / kWh LED2: Imp / kVArh Communication protocols: Optical port: IEC 62056 – 21, mode C or DLMS (in compliance with IEC 62056 – 46). DLC modem, DLMS by IEC 62056–46. GSM/GPRS modem by IEC 62056 – 46. RS485 Interface by IEC 62056 – 46. Identification system by IEC 62056 – 61. COSEM organization of data by IEC 62056-53. M-Bus by EN 13757-2 and EN 13757-3. OBIS data identification code by IEC 62056–61. Auxiliary inputs / outputs: Output for load control with a 6 A relay Output for load control with an Optomos relay Alarm input (low voltage) M-Bus interface to which up to 4 input channels and two impulse outputs or an output for control of a switching device. Automatic configuration of an AMR system (Intelligent Network Management) Automatic meter setting into bi-directional DLC repeater mode. Call-back and send a message to the center: After installation. If a pre-defined alarm condition exists (e.g. after Power Down/Up event). If a signal appears on the alarm input. Programming: OTA programming of the meter as well as Firmware. Detection of meter and terminal cover opening.
1	<u>Sample Fuel Cell modules:</u> Sample fuel cells assembly for display purposes only. PEM technology These units may be not functional or defective ones.
2	<u>Solar inverter 5 kW:</u> Grid connected. Three phase (3+N), range 218 V to 415 V. Frequency range: 45 Hz to 65 Hz.

	MPPT x 1 (or more). Shading management algorithms, inclusive within one MPPT. DC Connectors: MC4 and others. Power factor adjustable -0.8 to +0.8. Euro efficiency: ≥ 97%. Protections: DC breaker. Ground fault monitor. Grid monitor. Anti-Islanding. DC Reverse polarity. AC Short circuit current. RCCB - Differential and residual current monitoring. Protection class I by IEC 61140. Surge category III by IEC 60664-1. Enclosure rated IP65 by IEC 60529. Climate category ≥ 4K4H by IEC 60721-3-4. Communications module: WLAN, RJ485, Ethernet, others optional. Protocols, Modbus for wired and TCP/IP for WLAN. Integrated Webserver. Real-Time Remote monitoring and management by web platform. Certificates: DIN EN 62109-1/IEC 62109-1. DIN EN 62109-2/IEC 62109-2. EN 50438, EN 62116, IEC 61727, IE-EN 50438. Warranty: 5 years with option to extend to 15 years. **NOTE:** One of these 2 units may be deleted if the Wind Generator includes his own inverter.
1	Battery Inverter 5 kW: Grid connected. Single phase (1+N), range 172.5 V to 264.5 V. Frequency range: 45 Hz to 65 Hz. Power factor adjustable -0.8 to +0.8. Grid Forming Capacity and Anti-Islanding selectable. Euro efficiency: ≥ 97%. DC Input: Voltage: 600 V MAX. Range: 100 V to 550 V. Rated: 360 V. DC Start Voltage: 100 V. DC Current: 3 x 10 A. DC Max short circuit: 40 A. BESS type: Li-Ion. Protections: DC breaker. Ground fault monitor. Grid monitor. Anti-Islanding / Grid Forming – Selection Manual or Automatic as option. DC Reverse polarity. AC Short circuit current. RCCB - Differential and residual current monitoring.

	Protection class I by IEC 61140. Surge category III by IEC 60664-1. Enclosure rated IP65 by IEC 60529. Climate category ≥ 4K4H by IEC 60721-3-4. Communications module: CAN, WLAN, RJ485, Ethernet, others optional. BESS Communication by CAN bus. Protocols, Modbus for wired and TCP/IP for WLAN. Integrated Webserver. Real-Time Remote monitoring and management web platform. Certificates: DIN EN 62109-1/IEC 62109-1. DIN EN 62109-2/IEC 62109-2. EN 50438, EN 62116, IEC 61727, IE-EN 50438. Warranty: 5 years with option to extend to 10 years.
1	Battery Inverter 2 kW: Grid connected. Single phase (1+N), range 180 V to 280 V. Frequency range: 45 Hz to 65 Hz. Power factor adjustable -0.8 to +0.8. Euro efficiency: ≥ 96%. DC Input: DC Power: 3 kWdc MAX. Voltage: 600 V MAX. Range: 160 V to 550 V. Rated: 360 V. DC Start Voltage: 80 V. DC Current: 10 A. DC Max short circuit: 18 A. BESS type: Any non-Li-Ion. Protections: DC breaker. Ground fault monitor. Grid monitor. Anti-Islanding / Grid Forming – Selection Manual or Automatic as option. DC Reverse polarity. AC Short circuit current. RCCB - Differential and residual current monitoring. Protection class I by IEC 61140. Surge category III by IEC 60664-1. Enclosure rated IP65 by IEC 60529. Climate category ≥ 4K4H by IEC 60721-3-4. Communications module: WLAN, RJ485, Ethernet, others optional. Protocols, Modbus for wired and TCP/IP for WLAN. Integrated Webserver. Real-Time Remote monitoring and management web platform. Certificates: DIN EN 62109-1/IEC 62109-1. DIN EN 62109-2/IEC 62109-2. EN 50438, EN 62116, IEC 61727, IE-EN 50438.

	Warranty: 5 years with option to extend to 10 years.
1	DC Source selection board: 4 inputs, MC4 10 mm. 1 x CU BusBar. Protections: 4 x 10 A DC Breakers. 4 x Surge arresters. 4 x 10 A Ultra-Fast DC Fuses. Output: 1 x MC4 10 mm. 1 x 10 A Fused. 1 x 10 A DC breaker. Total Oh: < 0.5 Oh. Enclosure: PVC UV Resistant self-extinguish Lockable door.
1	Modbus/Ethernet Fiber Optics Equipment Pack: 10 units x Generic Compatible 10GBASE-SR SFP+ 850nm 300m DOM Transceiver Module. 10 units x Mini 1x 10/100/1000Base-T RJ45 to 1x 1000Base-X SFP Slot Gigabit Ethernet Media Converter, AC 100V~240V. 1 unit x S3150-8T2FP 8-Port Gigabit Managed PoE+ Switch with 2 1Gb SFP Uplinks, 150W. 5 units x 5m LC UPC to LC UPC Uniboot Duplex OM3 Multimode PVC (OFNR) 2.0mm BIF Fiber Optic Patch Cable. Please note these items are used as reference and don't intend to specify any manufacturer.
1	Weather Station: Compact type, all sensors integrated. IEC 61724-1:2017 Class C. Measurements: Temperature by NTC, -50 to +60 C, ± 2% accuracy. Humidity (Relative), by Capacitive, 0 to 100% RH, ± 2% RH accuracy. Air pressure, by MEMS capacitive, 300 to 1200 hPa, ± 0.5 hPa accuracy. Wind direction, by Ultrasonic, 0 to 359.9 Deg, ≤ 3 Deg RMSE. Wind speed, by Ultrasonic, 0 to 75 m/s, ± 3% RMS accuracy. Precipitation intensity and quantity, 0 to 200 mm/h, ± 20% accuracy. Solar radiation, by pyranometer, 0 to 1400 W/m2, ± 5% accuracy. Enclosure: IP67 Communications: Plug for 1 additional analog sensor as remote temperature probe. RS485/UMB/Modbus/XDR and SDI-12. Warranty 1 year.
1	Battery Energy Storage System (BESS): Li-Ion technology. 5 kWh Usable (5.5 kWh nameplate) or bigger. BMS inclusive. Capacity, 40 to 50 Ah. Nominal voltage, 48 V. Max discharge current, 100 A. Round-trip efficiency, >95%.

	Operation temperature, -10 to +45 C. Communications, CAN 2.0B DC Disconnectors, Breaker, Contactor and Fuse. Cell, conform UL1642 at least. Battery Pack, CE / RCM / FCC / TUV (IEC 62619) / UL1973, at least. Enclosure, IP55
1	<u>EV Charger Wallbox:</u> Type 2 or 3. Menekes connector. Wireless communications for metering and transaction approval (optional – separate cost item).
1	<u>Solar Panels:</u> 6 kWp. PERC Type. LID Immune. Frameless. MC4 connectors. Junction box IP67 with bypass diodes and reverse flow protection.
1	<u>Wind Generator:</u> Rated power: 5 kW. Generator type: Direct drive. Kick in speed: <u>≤</u> 3 m/s. Rated speed: <u>≤</u> 10 m/s. Survival speed: <u>≥</u> 45 m/s. Directional guide: Tail vane. Emergency break: As by proposed unit. Tower type: Propose free standing or guy wired. Energy output: As by proposed unit. NOTE: If grid inverter is proposed, delete 1 (one) of the 2 (two) Solar Inverter 5 kW.
1	<u>Non-Functional Samples for display:</u> 1 x Defective or old solar panel, 1/4 Cut Out. 1 x Solar cell or wafer (can be extracted from the previous panel). 1 x Defective or retired wind turbine, small size (< 2 kW) blades hub included but no blades. 1 x Defective or replaced Solar inverter (> 2 kW). 1 x Defective or retired BESS (< 2 kW).

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ATTACHMENT B – DETAILED BUDGET

DETAILED BUDGET

List and cost of equipment for

Group #	Item	Units	Price, USD (VAT incl)
	TOTAL (VAT INCLUDED)		
	TOTAL LOGISTICS		
	TOTAL INSURANCE		
	TOTAL DUTIES		
	OTHER COSTS		
	TOTAL COST DELIVERED		

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ATTACHMENT C – REPRESENTATIONS AND CERTIFICATIONS

Bidder Representations and Certifications

1. Organizational Conflict of Interest Representation

The Bidder represents, to the best of its knowledge and belief, that this award:

does [ ] or does not [ ] involve an organizational conflict of interest.

Please see FAR 52.209-8 for further explanation.

2. Data Universal Numbering System (DUNS) Number *(required if cost proposal is more than USD $30,000)*

(please use one box per number or dash)

3. Source and Nationality of Goods and Commodities

(i) This is to certify that the Bidder is:

a. an individual who is a citizen or legal resident of _____.

b. a corporation of partnership organized under the laws of _____.

c. a controlled foreign corporation of which more than 50% of the total combined voting power of all classes of stock is owned by United States shareholders; or

d. a joint venture or incorporated association consisting entirely of individuals, partnerships or corporations. If so, please describe separately the citizenship or legal status of the individuals, the legal status of the partnership or corporations, and the percentage (%) of voting power of the corporations.

(ii) This is to certify that the **Source** (the country from which a commodity is to be shipped from) of the Equipment to be supplied under this Order is:

name of country or countries

By signing below, the Bidder certifies that the representations and certifications made, and information provided herein, are accurate, current and complete.

Signature: _____ Date: _____

Name of and title of authorized signature: _____