



**United States Energy Association**

**Request for Proposal: Digital Substation Technology – Kazakhstan Electricity Grid Operating Company (KEGOC)**

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## **REQUEST FOR PROPOSAL – Digital Substation Technology – Kazakhstan Electricity Grid Operating Company (KEGOC)**

**Closing date of RFP:** November 18, 2020

**Implementing Agency:** United States Energy Association

**Funding Agency:** United States Agency for International Development

The United States Energy Association (USEA) is inviting prospective organizations or individuals through this Request for Proposal (RFP) to submit proposals for implementing a project on Digital Substation Technology for the Kazakhstan Electricity Grid Operating Company (KEGOC).

Proposals are due by 17:00 hours EST of the closing date. Please submit all proposals with a read receipt to Ms. Marina N. Barnett, Senior Program Coordinator, at [mbarnett@usea.org](mailto:mbarnett@usea.org). Proposals must be in digital format (PDF).

As this is a USAID-funded program, the RFP follows USAID Procurement Regulations and Laws. All bidder details will be kept confidential.

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### **I. INTRODUCTION**

The United States Energy Association (USEA) is an association of public and private energy-related organizations, corporations, and government agencies. USEA represents the broad interests of the U.S. energy sector by increasing the understanding of energy issues, both domestically and internationally.

Through a cooperative agreement with the USAID Bureau for Economic Growth, Education and Environment (E3), USEA implements the Energy Utility Partnership Program (EUPP), available to all USAID-assisted countries and USAID Missions. EUPP supports the efforts in USAID-assisted developing countries to increase environmentally sustainable energy production and to improve the operational efficiency and increased financial viability of their utilities and related institutions, with the goal of increasing the access of these countries to safe, reliable, affordable and environmentally sound energy services.

In Central Asia, EUPP works to create an enabling environment for the regional transfer to cleaner, more reliable power supply and encourage establishment of an integrated power market.

### **II. BACKGROUND**

The currently installed power generation capacity in the Republic of Kazakhstan is approximately 22,936 MW with the available capacity of 19,329 MW. Coal is the dominant source of generation, accounting for 81.1% of total projected generation and 74% of thermal generation. However, the Government of Kazakhstan has an ambitious goal of 50% renewable generation by 2050, with intermediate targets of 3% by the end of 2020, 6% by 2025, and 10% by 2030.

Kazakhstan has over 44,490 miles of high-voltage transmission lines, mainly of 500 and 220 kV. The Kazakhstan Electricity Grid Operating Company (KEGOC) Joint Stock Company is the national transmission grid operator. KEGOC owns and operates 374 overhead power lines (16,715 miles), 80 electrical substations of 35-1,150 kV with an installed transformer capacity of 38,246 MVA. In 2019, KEGOC reported 43.97 billion kWh in electricity transmission, 97.06 billion kWh in technical dispatching of electricity production and consumption in the grid, and 188.77 billion kWh in balancing of electricity production and consumption.

The main asset of the company is the National Power Grid that provides connections between various regions of the country, as well as with the power systems of the neighboring states of Russia, Kyrgyzstan and Uzbekistan, and delivers electricity from power plants to major wholesale consumers.

### **III. IMPLEMENTATION AND APPROACH**

The purpose of this RFP is to solicit proposals from various candidate organizations or individuals, conduct a fair evaluation, and select the organization deemed most suitable to undertake the project.

#### **USEA Responsibilities**

USEA will be responsible for all logistical arrangements for the participants and consultants. This includes arrangements and associated costs for the following:

- Economy-class roundtrip airfare to Nur-Sultan, Kazakhstan for up to 2 consultants per trip;
- Per diem (meals and lodging) for up to 2 consultants to include all travel and meeting days and maximum of 1 full day of rest prior to start of activity (Note: Lodging to be provided according to U.S. government regulations);
- Reimbursement of visa fees;
- Reimbursement of vaccinations (if needed) and travel medication costs;
- International health insurance for the duration of the travel to Kazakhstan;
- Ground transportation to/from the airport;
- Local transportation to sites (if needed);
- Meeting space and A/V.

#### **Subcontract Agreement Management and Oversight**

A subcontract agreement between USEA and the Consultant shall be subject to all USAID Special Terms and Conditions, including all mandatory FAR Flow-Down clauses, where applicable, and the provisions included in 2CFR200 and 2CFR700. All bidders are strongly encouraged to review these provisions prior to submitting a proposal.

- Standard Provisions for U.S. Nongovernmental Organizations:  
<https://www.usaid.gov/sites/default/files/documents/1868/303maa.pdf>
- 2CFR200: <https://www.gpo.gov/fdsys/pkg/CFR-2014-title2-vol1/pdf/CFR-2014-title2-vol1-part200.pdf>
- 2CFR700: <https://www.gpo.gov/fdsys/pkg/CFR-2015-title2-vol1/pdf/CFR-2015-title2-vol1-part700.pdf>

Subcontract agreement management, oversight and payment will be carried out by USEA.

### **IV. SCOPE OF WORK**

**Purpose:** The purpose of this program is to enhance the capacity of KEGOC for reliable and efficient operation of Kazakhstan's national electric grid, improving reliability and efficiency of operations and reducing operational costs.

**Objective:** The objectives of this program shall include the following:

- 1) Provide KEGOC with a comprehensive review of currently available digital substation technologies, including best international practices and SWOT analysis, and suggest an optimal technology for implementation in Kazakhstan;
- 2) Provide KEGOC with a strategy roadmap for integrating a digital substation technology throughout its system, including:
  - Conducting a review of KEGOC's system and suggesting a KEGOC substation to host a pilot application of the technology;
  - Providing KEGOC with a comprehensive report on cost-benefits analyses of installing the technology throughout KEGOC's system;
  - Developing a draft Scope of Work for implementing the project on integrating the technology throughout KEGOC's system.

**Tasks:** The tasks to be performed by the Consultant under this Scope of Work shall include the following:

- Task 1:** Conduct technical meetings in country (if COVID-19 related international travel restrictions are lifted and it is safe to travel): Up to 1 week will be allowed for technical review meetings to present and discuss project methodology and approaches with KEGOC engineers and executives, and to collect and verify required data. If consultants are unable to travel to Kazakhstan due to COVID-19 related travel restrictions, these technical meetings shall be conducted remotely. USEA shall schedule these technical meetings in coordination with KEGOC with due notice of at least 2 weeks.
- Task 2:** Develop and submit a comprehensive report on currently available digital substation technologies. The report shall include the following:
- brief overviews of best available digital substation technologies;
  - international best practices and examples of successful implementation of these technologies in the U.S., Europe, South Korea, Japan and Australia, as well as in foreign power systems similar to the power system of Kazakhstan;
  - comparison of traditional and digital substations, including SWOT analysis, taking into consideration technical solutions, functional capabilities and required financial investment;
  - suggestion of an optimal technology, based on considerations of reliability, functional capabilities and required financial investment, for implementation in Kazakhstan.
- Task 3:** Conduct a review of KEGOC's system and suggest a KEGOC substation to host a pilot application of the suggested digital substation technology. Depending on data requirements, consultants might be requested to sign a Non-Discloser Agreement (NDA).
- Task 4:** Develop and submit a comprehensive report on cost-benefits analysis of installing the technology throughout KEGOC's system. The report must describe technical and financial benefits of installing the technology throughout KEGOC's system.
- Task 5:** Develop and submit a draft Scope of Work for implementing the project on integrating the technology throughout KEGOC's system. The Scope of Work must provide for maximum possible compliance with current requirements of industry regulations and the Economic Internal Rate of Return (EIRR) of KEGOC.
- Task 6:** Present findings of the KEGOC's system review, the cost-benefits report and a draft Scope of Work to KEGOC engineers and executives.

**Deliverables:** Based on the Scope of Work, the following deliverables and products shall be submitted:

**Task 1:** **Deliverable 1. Satisfactory completion of technical meetings** in country or technical meetings conducted remotely (if consultants are unable to travel to Kazakhstan due to COVID-19 related travel restrictions): Digital copies of a brief report on technical meetings in country – in English and in Russian – shall be submitted to USEA and KEGOC. The report shall include project methodology, brief summaries of meetings, describe challenges encountered and provide a description of the next steps.

**Task 2:** **Deliverable 2. Satisfactory submission of a draft report on currently available digital substation technologies, including a suggestion of an optimal technology for implementation in Kazakhstan:** Digital copies of a comprehensive **draft** report – in English and in Russian – shall be submitted to USEA and KEGOC for their review. The report shall include all items listed in Task 2.

**Deliverable 3.** Digital copies of the **final** report on available digital technologies – in English and in Russian – shall be submitted to USEA and KEGOC. The report shall incorporate updates and responses to USEA and KEGOC's comments.

**Tasks 3-5:** **Deliverable 4. Satisfactory submission of a Strategy Roadmap:** Digital copies of a **draft** Strategy Roadmap – in Russian and in English – shall be submitted to USEA and KEGOC for their review. The report shall include the following:

- suggestion of a KEGOC substation to host a pilot application of the recommended digital substation technology based on the results of a review of KEGOC's system;
- cost-benefits analysis of installing the recommended digital substation technology throughout KEGOC's system. The report must describe technical and financial benefits of installing the technology throughout KEGOC's system;
- draft Scope of Work for implementing a project on integrating the recommended digital substation technology throughout KEGOC's system. The Scope of Work must provide for maximum possible compliance with current requirements of industry regulations and the Economic Internal Rate of Return (EIRR) of KEGOC.

**Task 6:** **Deliverable 5: Satisfactory submission and presentation of the Strategy Roadmap.** Digital copies of the **final** Strategy Roadmap – in English and in Russian – shall be submitted to USEA and KEGOC and presented to KEGOC engineers and executives. If the pandemic situation allows it, the presentation shall take place in Nur-Sultan, Kazakhstan, over the course of 1-2 days. If consultants are unable to travel to Kazakhstan due to COVID-19, this presentation shall be conducted remotely.

**Reporting:** The consultant will report to USEA.

**Schedule:** The project is expected to begin in January 2021 and take approximately 6 months to complete.

Task(s)	Deliverables	Target Completion Date
Technical Meetings in country	Brief report	February 28, 2020
Report on Digital Substation Technologies	Draft report	March 31, 2021
	Final report	April 30, 2021
Draft Strategy Roadmap, incl. review of KEGOC's system, selection of a substation to host the technology, cost-benefits analysis, draft SoW	Draft report	May 31, 2021
Presentation of the Strategy Roadmap	Final report	June 30, 2021

These tentative assignment dates are provided solely for information purposes and the benefit of bidders. Modification of these assignment dates will not constitute a change in scope.

## V. PROPOSAL CONTENT

The proposal must contain the following:

- a) A cover letter to the proposal, including a bidder's Data Universal Numbering System (D-U-N-S) number and proof of a current registration in the System of Award Management (SAM). **Proposals without a DUNS number or proof of SAM registration will not be considered.**
- b) A technical proposal, including:
  - a. Demonstration of an understanding of the issues to be addressed under the proposed scope of work specified above by providing a summarized technical approach (not to exceed 3 pages). This section should include the bidder's general approach to implementing different tasks and activities described in the SoW above;
  - b. Proposed project schedule to perform the tasks under this project highlighting any deviations from the scope of work specified above;
  - c. Bio sketches of personnel, including at least 1 – 2 subject matter experts one of which will be a team leader that will be dedicated to the project;
  - d. Summary of relevant experience of each proposed team member for (not beyond) the past 10 years. Relevant experience should be listed chronologically (starting with the most recent). Not to exceed 3 pages for each proposed team member;
  - e. Summary of the work to be performed by each employee proposed for this project.
- c) A financial proposal, including:
  - Detailed justification (i.e. line item budget), including direct and indirect costs (translation (if applicable), interpretation (if applicable), printing, administrative supplies, etc.);
  - Labor costs (detailed structure of man-hours) and level of effort for each employee proposed for this project.
- d) Completed USAID Contractor Employee Biographical Data Sheet forms for each employee proposed for this project (<https://www.usaid.gov/forms/aid-1420-17>).

## VI. EVALUATION CRITERIA

**All bidders are required to provide a DUNS number and maintain a current SAM registration. Proposals without a DUNS number or proof of SAM registration will not be considered.**

Selection of an offer for a subcontract award will be based on an evaluation of proposals against qualifications, subject matter expertise, technical approach and budget justification. Proposals shall first be evaluated from a technical standpoint (qualifications, subject matter expertise and technical approach) without regard to proposed budget justification. For those proposals determined to be technically acceptable, budget justification will be evaluated.

Evaluation Criteria:	20%:	Experience with similar projects (for each consultant & the organization in general)
	25%:	Subject matter expertise (education and professional experience)
	25%	Technical approach
	30%:	Cost

## VII. QUESTIONS AND CLARIFICATIONS

All questions and clarification requests related to this RFP should be submitted via email to Ms. Marina N. Barnett, Senior Program Coordinator, at [mbarnett@usea.org](mailto:mbarnett@usea.org) no later than **November 4, 2020**. All questions and answers will be provided to all prospective bidders.

END OF RFP