

QUESTIONS AND RESPONSES

October 18, 2021

RFP – FACTS for Reactive Power Compensation – Kazakhstan Electricity Grid Operating Company (KEGOC)

QUESTION: Task 1. Subtask 1.1. Please advise if the system data listed is available in a computer format, and if so, in which computer model format?

ANSWER: Yes, the system data is available in a computer format, as a network model developed in DIgSILENT PowerFactory.

QUESTION: Task 1. Subtask 1.2. Please advise if the proposed feasibility study requires reactive power study for the underlying system (power system below 500kV or 220 kV network of KEGOC). Please advise if the proposed feasibility study requires electromagnetic transient (EMT) and harmonics analyses.

ANSWER: The objective of Task 1 is three-fold:

1. to figure out the cause (or causes) of increased voltage and change in transit flows at the substations and overhead power transmission lines described in Subtask 1.1.;
2. to figure out a solution to these issues, whether by application of a FACTS or any other technology;
3. if an application of a FACTS technology presents the best solution, suggest an optimal FACTS technology to implement.

It will be up to the consultant to decide what studies and/or analyses they will need to employ to reach this three-fold objective.

This said, we think that it is unlikely that the consultant will have to do sub transmission reactive power studies. We also think that transient and harmonic studies will probably be needed to complete the Scope of Work.

QUESTION: Task 3. Would KEGOC provide the labor cost for the FACTS equipment installations?

ANSWER: KEGOC will not need to provide labor costs for the FACTS equipment installations. The Scope of Work requires costs of FACTS equipment and supporting materials only, excluding labor costs.

QUESTION: Is the cost for translating the reports into Russian within the noted maximum budget or is it considered out of pocket expenses to be paid directly by USEA?

ANSWER: All translation and interpretation costs must be included in the proposed budget with other anticipated labor costs to be incurred by the consultant. USEA will **not** pay any translation or interpretation costs.

QUESTION: What target years should be analyzed for this study? As a rule, 5- and 10-year horizons are used for prospective grid planning.

ANSWER: That will depend on the planned grid data KEGOC will provide to the consultant. If KEGOC provides prospective grid data for 5-year horizons, studies should be performed for that timeframe. The studies will not exceed 5-year horizons.

QUESTION: Will the KEGOC Grid Model in DIgSILENT PowerFactory format be provided to the consultant?

ANSWER: Yes.

QUESTION: Subtask 2.3. is dedicated to Static and Dynamic stability assessment. Could you please determine the scope of these stability calculations? KEGOC operates more than 10 different boundaries. How many boundaries should static stability be calculated for? Also, KEGOC system includes more than 40 power plants. How many power plants should dynamic stability be calculated for?

ANSWER: The study should include all the 500kv and 220kv transmission system that is owned and operated by KEGOC up to the point where KEGOC-owned facilities connect with generators, lower voltage substations and interties with the neighboring countries. As for the generators, ideally all the generation plants should be included in the study, although some generators are so small that their effect on the stability of the system should be minimal.

QUESTION: The project requires the calculation of electrical modes of the Kazakhstan interconnected system (KZ+UZ+KG systems), and the RFP states that KEGOC utilizes PowerFactory software. Will experience performing system stability studies of Central Asian power systems, done in PowerFactory software, be considered as Experience with similar projects?

ANSWER: Yes.

QUESTION: Will KEGOC provide the complete and working grid model in DIgSILENT? Is it also available in PSS/E?

ANSWER: A working grid model in DIgSILENT PowerFactory will be provided. It is not available in PSS/E.

QUESTION: The RFP states that KEGOC will provide data, diagram and information about the Grid and that KEGOC utilizes DIgSILENT software. Will the data we will receive from KEGOC be the Kazakhstan's power system modeled in a DigSilent file or will we receive the data and need to create a power system model of KEGOC's network in DigSilent software?

ANSWER: No, the consultant will **not** be required to develop a model of KEGOC's network.

QUESTION: Will a DIgSILENT PowerFactory license be provided? If not, could we use other software such as PSCAD/EMTDC in our analysis?

ANSWER: No, a DIgSILENT PowerFactory license will not be provided. The consultant will be allowed to use alternative modeling software for their analyses; however, all deliverables must be submitted in digital formats that KEGOC will be able to access and utilize. This issue will be specified in the subcontract agreement between USEA and the winning bidder.

QUESTION: Regarding the technical proposal and the required reports, is there any template we must use?

ANSWER: There is no specific template for the technical proposal or any of the required reports.

QUESTION: Is it acceptable if the SAM procedure was officially initiated or is it required to show a finalized SAM registration?

ANSWER: As it is specified in the RFP, we will accept a proposal that does not have finalized SAM registration as long as the proposal includes proof that the entry registration request has been submitted. Please refer to the RFP (Article 5. Proposal Content. Annex 1) for more information.

QUESTION: We intend to bid via our (international) entity. Are there any withholding taxes to be considered? Which VAT [%] need to be considered?

ANSWER: USEA will not withhold any taxes from payments to the consultant. It is the consultant's responsibility to determine their tax liability in their country of origin. All costs, included in the financial proposal, must be inclusive of taxes of the consultant's country of origin.

QUESTION: Please confirm that the scope of the analysis is covering the devices to be installed in the current system to solve the voltage and other operative problems of the existing system.

ANSWER: We are confirming that the Scope of Work covers devices to be installed in the existing system.

QUESTION: Please confirm that the DigSilent model of the actual power system is to be transferred to the Consultant to perform the required simulations and analysis.

ANSWER: Please see our answer to a similar question above.

QUESTION: Please confirm that the Consultant is to execute the analysis working on the DigSilent models provided and is not in the scope of the work the development by the Consultant of the DigSilent modelling of the existing power system.

ANSWER: It is **not** in this Scope of Work to develop a model of the Kazakhstan's existing power system.

QUESTION: Subtasks 1.3, 2.6 and 3.4. Please confirm that the counterpart of the Consultant for contractual, administrative, and technical aspects of the execution of the project are English speakers, and the language of execution of the project is English. Please confirm the language of execution of the meetings. Please confirm that, if needed, the cost of translation and interpretation is to be a separate reimbursement expenses item additional.

ANSWER: The counterpart for contractual and administrative aspects of the project – a USEA Senior Program Coordinator – is a bilingual speaker (English and Russian). KEGOC counterparts for all technical issues are Russian speakers only. Translation into Russian (simultaneous will be strongly preferred, but consecutive will be acceptable) must be provided for all online meetings with KEGOC and the consultant's direct written communications with KEGOC. All translation and interpretation costs must be included in the proposed budget with other anticipated labor costs to be incurred by the consultant. USEA will **not** pay any translation or interpretation costs.