

24.04.2018.

Nr. 500300/2.5/2018/1613

Tenderers of the negotiated procedure

Subject: Negotiation procedure No AST2018/21 "The supply of a Phasor Measurement Unit (PMU)" - answers to the tenderer questions

Dear Sir/Madam!

Hereby the Customer answers to the tenderer questions.

Issue 1: Document "pr_AST2018_21 PMU Nolikums.pdf", page 3 section 13.1.6 the statement that the Tenderer has been operating last five (5) years in IEEC C.37.118 standard PMU equipment production and support business.

Question 1: Could you please explain if the Tenderer must be the PMU producer for more than 5 years based on the requirement 1.3.6? If this is the case then only PMU producers can participated this tender.

Answer: Both PMU and Data processing system producers can jointly participate in this tender, or represent one other. The company that produces the component and provides warranty and support services for the component (to the Purchaser) shall comply with this requirement.

Issue 2: Document "pr_AST2018_21 PMU Nolikums.pdf", Technical Specification (PMUs), page 12 requirements 1.4: Number of satellite time synchronization systems supplied: one complete kit including all necessary devices, software, cabling and accessories per substation PMU system.

Question 2: Usually PMUs have a built-in Global Positioning System (GPS) satellite receiver. Is in such case required additional external GPS clock for each substation and for what purpose will be used?

Answer: There is no GPS synchronization available on sites for PMU systems. Consequently, a new complete GPS system shall be supplied with PMUs one for each object. If some of the components are built in to the PMU, then the remaining components shall be supplied, like cable and antenna.

Issue 3: Document "pr_AST2018_21 PMU Nolikums.pdf", Technical Specification (PMUs) page 13-14 requirement 1.10: Incompatibility issues: Supplier is responsible for PMU system's data stream compliance with C37.118.

PMU units will connect and output C37.118 data stream to PDS server - a phasor measurement central data processing computer system (PDS). PDS server will be procured by Customer in a separate tender.

Question 3: In 1.10 you specified that PDC will be procured by the Customer in a separate tender. However in this tender is also required in Technical Specifications section 2 the PDS. Could you please clarify this?

Answer: This is an editing mistake we need to correct. Both PMU system and PDS servers are procured in this Tender.

Issue 4: Document "pr_AST2018_21 PMU Nolikums.pdf", Technical Specification (PDS system) page 20 requirements 2.13: Performance inputs: The PDS shall process input of C37 .118 compliant data streams.

Requirement: At least 20 concentrated streams, containing concentrated phasor data of at least 50 PMU streams.

All streams in total contain no more than 50 PMU streams

Question 4: Please confirm that in the PDS will be included already installed PMU devices (Simeas RPMU V40) and additional PMU devices purchased by this tender?

Please clarify if PMU stream means: 3 phase voltage phasors, 3 phase current phasors, frequency and deviation of the frequency?

All together how many circuits will be covered by PMU measurements?

If we understand correctly 50 PMU streams +22 new circuits. All together 72 X (3 phase voltage phasors, 3 phase current phasors, frequency and deviation of the frequency).

Answer: Yes, the existing Purchaser's PMU devices will be connected to PDS. As required by C37.118 standard, one stream means 3-phase phasors V, I, frequency, ROCOF or positive-sequence only phasors V, I, frequency, ROCOF at 50 measurements per second from one electrical connection. Binary signals are optional. The total capacity of PDS streams required is 50 or more.

Issue 5: Document "pr_AST2018_21 PMU Nolikums.pdf", Technical Specification (PDS system) page 20 requirement 2.14: Performance output: The PDS shall process and produce output of C3 7 .118 compliant Concentrated streams.

Requirement: At least 5 concentrated output streams, containing concentrated phasor data of at least 25 PMU streams.

Question 5: Please clarify if PMU stream means: 3 phase voltage phasors, 3 phase current phasors, frequency and deviation of the frequency?

Answer: See answer to question 4.

Yours faithfully

Member of the Management Board

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