Date: 6/1/2014

Subject: Vocational and Operational center for Photovoltaic Applications in Tubas City

Reference No.: PEA-TU 02/2013

To all Buyers of the Bid No. PEA-TU 02/2013

With reference to the above mentioned subject, PEA has received request for clarification on the above Bid and would like to clarify the following:

Q1: Does the potential induced degradation(PID) is required?

A1: In the technical specifications of the PV modules it was mentioned that tests should be According to IEC 61215 and IEC 61730 and TUV Safety class II certifications, certified by a reputable independent testing institute (e.g. UL, TUV, KEMA or the like). The IEC standards have so many types of tests and we can't name them all in here So the PID examination could be one of them.

Q2: According to the weather/environmental conditions, is humid, hail, dust, rain fall, etc. Is the compliance of the PV with the "Salt Mist Corrosion" Test, IEC61701 required?

A2: The main target of the site visit was to clarify for all the contractors that it will be the bidder's sole responsibility and on his own expenses to understand the site nature (as it will be handed over to him as it is), environment and all requirements that are related to the tender or that may influence its pricing, So the requested IEC standard for the PV modules in the bidding document are enough.

Q3: The minimum temperature states 5 oC, however, that is not always the case and temperatures do drop below zero, please clarify?

A3: The weather conditions for the site were given from Department of Meteorology and are those in section 2.1.2 page 57 (The Table of Sites Conditions).

Q4: Regarding Table 4.1.1.a (Photovoltaic Panel), item No. 5 which refers to "Frame material is Aluminum" without any reference to requiring it to be"Anodized Aluminum-Alloy", please clarify?

A4: It shall be Anodized Aluminum-Alloy.

Q5: Regarding Table 4.1.1.a Photovoltaic Panel, item No. 8, it is mentioned that "PV panels have a max. DC system voltage of 600V or more", Photovoltaic panels produce voltages in the range of 20-40 V, what is 600 V?

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A5: The Photovoltaic modules produce 20–40 V whereas the Photovoltaic panels produce 600 V DC or more. So the Maximum system voltage is equal to the sum of the rated Voc of the series-connected PV modules, corrected for the lowest-expected ambient temperature.

Q6: Is the "PV anti-shock " Pass 5400pa Mechanical load test declaration required?

A6: The required tests shall be according to the IEC standards as stated in question 1, and the PV anti-shock it could be included under those standards.

Q7: Please confirm whether the land shall be flat or not. how shall the PV be distributed?

A7: The land is required to be flatten similar to phase I where it was exactly the land nature, it could be different levels but each level should be flatten and for each string of modules should be Referred to : "4.3.a PV Module mounting structures, No. 2 and No. 3 (The bases of the mounting structure should be made of M12 steel or more and implanted in concrete bases of 80 cm depth with 40 cm width. The distance between two bases of the structure legs should not be more than 2 meters. All the bases should joint then with a mattress of concrete (15-20 cm height) using a net of steel. ..."). So, You could submit in parallel your own suggested design for overview.

Q8: The quote above does not mention the 2 meters between structure legs that was mentioned in Ref: "4.3.a PV Module mounting structures, No. 3", please clarify?

A8: The appropriate distance shall be 2 meters.

Q9: Regarding the Post qualification Requirements (ITB 38.2), (a) Financial capability in case the bid is submitted by a joint venture please clarify the following:

i. To fulfill the requirements, one of the Joint Venture members has to be compliant and that is sufficient, while the rest are not required. Is that correct?

A9.i: Yes, and both members of the joint venture shall submit their financial capabilities and the compliance will be determined based on the financial capabilities of the joint venture's members together. This means that the financial turnover of the two members will be added and evaluated. So, either one of the two members will meet the financial requirements (turn over), if not, the financial turnover of the two members will be added together and evaluated.

ii. Refers to Q9 (i), it could be anyone of the Joint Venture members, is that correct?

A9.ii: Yes.

iii. Is correct that only the Joint Venture member fulfilling this requirement needs to submit the required financial documentations while the other members do not submit such documentations.?

A9.iii: No, both members of the joint venture shall submit their financial capabilities.

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Q10: Regarding the Post qualification Requirements (ITB 38.2), (b) Experience and Technical Capacity (Point 1: Local bidders/contractors must be classified by the National Classification Committee in Electrical or Electromechanical field -Second-Class or higher.) , in case the bid is submitted by a joint venture, do all members shall be classified?

A10: In case of local bidders All members of joint venture shall be classified by the National classification committee, but one of them shall be classified Electrical field Second- Class or higher or classified in Electromechanical field. While in case of International members the classification is not required.

Q11: Regarding the Post qualification Requirements (ITB 38.2), you have mentioned some conditions about the Local bidders, what are the International requirements?

A11: The International companies or international Partners shall submit a documentations meet all the post qualification requirements except the classification certificates which is specified in Experience and Technical Capacity.

Q12: Regarding Section III, Evaluation and Qualification Criteria, in Quality Evaluation you mentioned the "Converters" while it should be Inverters, please clarify.

A12: It shall be Inverters.

Q13: There is no mention what are the criteria of each component is evaluated against, i.e. what is the bases of the evaluation?

A13: The evaluation criteria will be according to the standards and technical specifications of the component as stated in the bid document.

Q14: Regarding Section III, Evaluation and Qualification Criteria ,For each criteria what is the scoring criteria?

A14: The Evaluation Criteria will be as determined in the bid document in section III, Evaluation and Qualification Criteria.

Q15: Is there a high-bandwidth internet connection available at the site?

A15: Yes, available in the nearby site (The transformers factory)

Q16: Does the internet connection provide a fixed IP address?

A16: Yes, the provided IP address will be fixed.

Q17: If no bandwidth internet connection is available the purchaser will provide one or pay for one?

A17: The contractor should pay for one year line access.

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Q18: Regarding "Monitoring System contains " , point No. 3 , you asked about Web box , Is there any internet connection available ? Who will pay for this service?

A18: No internet available in the specific site, but it could be supplied from nearby(The Transformers factory) and a one year line access should be on the contractor's expense.

Q19: In page 81 , point number 3 " "The Bidder shall – either directly or in cooperation with a local partner – provide local service or support capacity. This capacity must include at least the following: A telephone hotline which must be available on working days from 9 am to 6 pm". What do you exactly mean by this?

A19: In case of breakdown in the period of warranties , the contractor should support that by solving the troubleshooting directly or by local partner using a telephone hotline.

Q20: Regarding the mechanism of Monitoring System, where shall the data be stored? and who shall provide the line access?

A20: It was identified that the data should be stored on Tubas Electricity Company servers using the internet, which means that the data collection and control should locally managed and the contractor should provide the line access services for one year at his own expenses.

Q21: For the DC side cables, the required size is 16 mm2, while it should be 4 or 6 mm2, can we correct it in the documentation?

A21: Regarding DC side cables, It was noted that there is a typographical error regarding the cable size, it should be 6 mm2 copper cables or appropriately sized copper cables instead of 16 mm^2.

Q22: Is a switchgear is required? if yes, and what are the required technical specifications for the switchgear?

A22: No, The required is " Switch Disconnector" not a switchgear. and the technical specifications for the Switch Disconnector is attached.

Q23: Regarding item 1.4 (Structure) in Price Schedule, is the galvanizing depth should be minimum 2 mm?

A23: The required is minimum 2 mm2 thickness of the steel in addition to a certificate from a mechanical engineer showing that the galvanized steel structure is capable to handle the proposed load.

Q24: Regarding Electrical Panels items (1.5 a and 1.5 b) in Price Schedule, the required number of inventers and junction boxes is fixed and equal 24 pcs, while the number of inverters and junction boxes shall be according to the calculations and design submitted by the supplier, and may exceed 24 pcs. please advise?

A24: The required capacity of the inverter in minimum 15 kVA, that's why they will be 24 inverters for the whole system, in case your design uses more than 15 kVA then the number

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will be less than 24 and accordingly the DC junction boxes ,and also the main junction boxes, so it will be up to your design.

Q25: Does the new monitoring system depends on the old monitoring system in the first stage?

A25: The required is a new monitoring system or unit not depending on the one in the first phase, we will deal with that phase as a new project and the requirements of the new monitoring system will be as described above in question No. 20.

Q26: Regarding Design Description table, point 6 which states that " The PV system will consist of a plurality of identical PV modules with a power rating of a minimum 250 Wp", Can we use panels with 240Wp instead of 250Wp?

A26: No, the required power rating shall be minimum 250 Wp.

Q27: Regarding Structures and Foundations, the required shall be only deep galvanized structure steel, do you still insist just on steel structure? as We would like to design shoring from steel and crossbar from Aluminum.

Foundations can be done in different ways , can we offer alternative foundation according to our best experience and an according to lay out of the land ?

A27: Even with Aluminum structure, the photovoltaic panels AL frame had to be mounted ,in somehow, on steel in addition to that in phase 1 the structure was not solid enough. And we have several experience with galvanized steel structure for small capacities and is working very well, so the required is still galvanized steel structure.

You can offer your alternative regarding the foundation in addition to the required one and both will be reviewed.

Q28: Regarding Training, Announcing 30 days before the start of Training is a by us unnecessarily long in advance. 7 up to 14 days should be enough.

A28: You can set up the date while you are still installing the system even two months before the training date in which we consider not an issue, but if you wait until you finish the installation 14 days could be enough in case your material and agenda is ready.

Q29: Regarding Warranties, Paragraph 1 where it says that the panel had to withstand 10 years of mechanical and structural defects , is nonsense . We cannot be held responsible for it if someone throws a stone or not properly maintained.

A29: If someone throws a stone and if the defect is purposed it will be obvious to anyone and it is not your responsibility to replace, but if the malfunction of the PV module is due to natural fault, then it will be the contractor's responsibility to fix the damage. This should be taking in consideration in the training course on how to replace the fault module as there are spare parts requested in the bidding.

Q30: Regarding General Condition of Contract (GCC 24.1). Insurance, It has to a cover war and strikes – it is not possible., Because it belongs to force majeure.

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A30: The insurance shall be as specified in the General Condition of Contract (GCC 24.1) in the bid document.

Q31: Can we set aside the corridor in the middle of plant? We think that there is not necessary for installation and future maintenance and we can use this space for better lay out of solar panels .

A31: Yes, we can set a side the corridor in the middle of the new proposed plan between the proposed phase two and three according to the sent site plan where the two phases now been joined in one plant. In the meanwhile spaces between strings have to be taken in consideration (east-west) for cleaning purposes and walk through visitors.

Q32: Is it possible to have as built documentation of the first stage of the solar plant?

A32: No, those documents are confidential.

Q33: Regarding Section III, Evaluation Criteria (ITB 36.3 (d)) in Price Evaluation, the formula which stated in the bid document is: PRICE * wc1+QUALITY*wc2+ QUALIFICATION *wc2, while it should be PRICE * wc1+QUALITY*wc2+ QUALIFICATION *wc3, please advise?

*A33: Yes, the formula shall be corrected to be: PRICE * wc1+QUALITY*wc2+ QUALIFICATION *wc3.*

With Best Regards,

State of Palestine Palestinian Energy Auth. سلطة الطاقة الفلسطينية

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A22: Technical guarantees for Switch-Disconnecters 36 KV with load breaking head, 3-phase, complete. For top and mounting.

Item	Particulars	Unit	Required Specifications	Offered Specifications
1	Rated Voltage		33	
2	Maximum Service Voltage	KV	36	
3	Rated Frequency	Hz	50	
4	Rated continuous current by 45 oC ambient temperature	A	630	
5	Breaking Capacity	A	200	
6	Rated short-circuit current 1 sec.	kA	16	
7	Impulse withstand voltage (a) To earth (b) Across the isolating distance	 KV KV	 170 195	
8	Maximum temperature rise over current carrying parts	oC	90	
9	Creepage distance across insulator	mm	1050	
10	Maximum bending torque at base of support insulator	KN	4	
11	Equipped with Top and side mounting accessories	Yes/No	Yes	
12	3 separate, single pole	Yes/No	Yes	
13	Arch champer	Yes/No	Yes	
14	Tap connectors for jumpering (AL/Cu)	Yes/No	Yes	

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