



National Power Corporation

CLARIFICATION NO. 01

DESIGN, SUPPLY AND INSTALLATION OF 7 X 1.0 MWp GRID-TIED SOLAR FARMS FOR LUZON VISAYAS & MINDANAO ELECTRIC COOPERATIVES (PH-NPC-279934-GO-RFB)

18 July 2022

All prospective bidders for the above project are hereby advised on the clarifications in specific provisions of the Bid Documents (BDs), to wit:

Item No.	Ref. Section	Page	Bidders Queries	Response
1.	VII. 3.0, 3.2	177-178	Please clarify if there is specific requirement for the type of PV mounting pole foundation, such as screw pile, concrete pile, prefabricated pipe pile, concrete placing pile etc.	The BDs has no specific foundation requirement for the fixed-axis ground mounted pole mounting as long as the mounting shall conform to the applicable wind and seismic loading in the area
2.	VII. 2.2.1	175	What is the voltage of PV inverter?	Maximum Input Voltage is 1000 to 1500 VDC while the AC output is \geq 400V
3.	VII. 5.,6.& 7.	182-186	Is there specific cable core requirement? Such as 3+2 type, or 4+1 type, or 3+1 type etc.	There is no specific cable core configuration required in the BDs. The bidder shall submit design based on his/her offer.
4.	VII. 5.3, 7.3	182, 185-186	Is there specific requirement for the wiring type of those cable above ground? Cable pipe or cable tray? The life of cable pipe is usually 5 to 10 years exposed to sunshine.	The above ground DC cables shall be of sunlight resistant, double sheath high grade, cross-linked insulation. Cables connecting strings to string combiner box are required to be installed in conduit, with portion above the ground sleeved in hard UV resistant pipes. The low voltage AC cables shall also be in sleeve pipes or trays in accordance with IEC standards.
5.	VII. 2.9	177	Can the pv inverter be installed hanging on the PV mounting structure? Or, the inverter has to be installed separately with independent mounting structure?	There is no explicit location for the installation of the Inverters, but winning bidder shall submit manufacturer's installation guide after award of contract.
6	VII.4.2, 4.3	180-181	Is there specific requirement for the material of combiner box and its mounting structure?	It shall be preferred to be supplied/compatible from the same Inverter Manufacturer and shall be suitable for mounting on the PV mounting structure. Minimum protection at all glands is IP68.
7.	VII. 2.4.11.4 & 4.2	125, 180	Is DC combiner box mandatory? Can it be cancelled or not? The PV module connects to string inverter directly, then inverter connects to AC combiner box. The inverter includes all the functions of DC combiner box.	The combiner box, DC combiner box or junction box is basically called the String Combiner Box as indicated in Item Clause 4.0. It should not be cancelled out primarily due to its design/purpose



REPLY TO CLARIFICATIONS
 DESIGN, SUPPLY AND INSTALLATION OF 7 X 1.0MWp GRID TIED SOLAR FARM FOR LUZON, VISAYAS AND MINDANAO
 ELECTRIC COOPERATIVES / PH-NPC-279934-GO-RFB

Item No.	Ref. Section	Page	Bidders Queries	Response
				being equipped with string fuses and monitoring hardware.
8	VII. 2.14.13.10, 2.14.13.11	134	Please confirm if the Gate House (Guard House) will be constructed by EC or winning bidder?	The Gate (Guard) House adjacent to the gate shall be the responsibility of the winning bidder (EPC). The security fence and gate only shall be constructed by the ECs
9.	VII. Site Details No. 6 & 7	210, 212	Please rectify the construction site coordinates, because there are inconsistencies between the bid document coordinates and actual site coordinates.	The inconsistencies on the site coordinates, if there should be any shall be corrected at site per actual coordinates during construction with the ECs final check and survey plan.
10.	VII. 3.3	178	Please confirm that the minimum thickness of galvanization should be 120 microns? The common thickness of mounting bracket is 65-80 microns.	Yes, the minimum thickness of galvanization is 120 microns as stated in Item Clause 3.3.
11.	VII. 2.4.7, 2.4.12	121, 128	Please confirm the voltage level of low voltage side of the EC provided 15 kVA step-down transformer. Is it 3-phase 220V or 3-phase 400V?	Although it is not explicitly specified, the Voltage Rating at low side of the 15KVA station service transformer for general lighting and other loads is 220V.
12.	VII. 2.1 Table 3	174	On page 174, there is requirement about IEEE1547. This is specifically for American standard. Can it be cancelled or not?	The IEEE 1574 is an internationally accepted standard used in electrical power system. It should be rightfully observed not cancelled.
13	VII. 2.2.1	175	On page 175, please further explain "Frequency-dependent active power limitation and grid management service".	This means that the Inverter has a setting/function that enables the active power limitation be dependent on the grid frequency.
14.	VII. 2.8	176	On page 176, bid docs mentioned "DC and AC isolation switchgear - all the inverters must be equipped with standard isolation switchgear at the input and output". However, only the large inverter has AC isolation switchgear, the smaller inverter under 75kW has no AC isolation switchgear. Please confirm and clarify.	As indicated in Item Clause 2.8, all the inverters should be individually installed with means of isolation at the input and output side.
15.	VII. 3.0	177	Based on site survey of SOCOTECO II, the EC staff requires that the layout of PV plant should be parallel with current existing substation, that is the PV plant layout should be 26°facing east. If this is required, then the PR value can not be guaranteed. Please confirm if this is the bid requirement.	Consistent with the BDs, array orientation of due south and tilt angle as determined by Contractor as the optimal degrees from horizontal for optimal annual energy production suitable for the selected PV technology per Item 3.0 shall prevail.
16.	I.ITB 4.3 (e)	9	We would like to clarify, if our company is going to with a	Not allowed. The non-limit of participation being mentioned in the




REPLY TO CLARIFICATIONS
 DESIGN, SUPPLY AND INSTALLATION OF 7 X 1.0MWP GRID TIED SOLAR FARM FOR LUZON, VISAYAS AND MINDANAO
 ELECTRIC COOPERATIVES / PH-NPC-279934-GO-RFB

Item No.	Ref. Section	Page	Bidders Queries	Response
			company as joint venture, we are at the same time allow to participate the bid as subcontractor. for another company or firm?	clause provision is clearly stated as in another bid and not in another company or firm.
17.	Sec III. 1.2 Sec. X. Appendix 8	144, 390	Further, clarificatory question on the peak capacity of the solar plant whether in AC or DC. May we be clarified on this also?	The minimum peak capacity of 1.0MWp as Total Output of the Solar PV Plant (based on STC rating) is on the DC side as further clarified during the pre-bid.

For the information and guidance of all prospective bidders.

Thank you.

Very truly yours,
 For the Bids & Awards Committee:


RENE B. BARRUELA
 Vice President, Corporate Affairs Group
 and Chairman, Bids and Awards Committee

