NIB No. 129 dtd. 11/03/2015 for EPC contract for setting up of 2MWp Grid interactive Solar PV Power Plant employing poly crystalline technology complete in all respect with O&M for a period of 5 years at Lanka, Nagaon, Assam.

Clarifications to queries raised by prospective bidder

	Bidder's queries	NEEPCO's reply
1.	**Volume 1, Section ii (A)** **Clause no 22.1.1(b)** Bidder offering installed capacity less than 2MWp shall not be considered. Bidder offering an installed capacity of 2MWp but total guaranteed annual energy generation less than 3.3288 MU shall not be considered. **Query:** The energy guarantee require above are without any correction factors which means if the radiations are low (due to weather changes etc) or any power cut at substations (grid down time), we cannot be made responsible for the same as we do not have any direct control on the above. Typically, as followed by other government department/PSUs and also internationally, the Performance Guarantee is calculated as per international standard IEC 61724 as follows. **Performance Guarantee Calculation:** PR = Actual energy produced in a year (kWh) (Global inclined insolation in kWh/sqm measured for same period X Plant capacity in kWp X Grid uptime %) As an example, If energy recorded in meter is thirty (30) lakh units at the end of year one (1) from commissioning and the actual solar insolation measured at site during this period aggregates to 2100 kWh/sqm for a plant capacity of 2MWp with a grid uptime of 98%, then PR achieved for the first year is: PR = 3000000 / (2100*2000*98%) = 72.88% **Therefore you are requested to amend the clause by taking in to consideration the correction factors as mentioned above.**	Bid stipulations shall prevail.
2.	**Volume 4 of VICINITY MAP** **Observations regarding SLD: ETRE031/DPR/E-02**	
a)	We understand that only one Transformer shall be in 'SERVICE' at a time and either of the one Transformer shall be in 'IDLE' position.	
b)	If both the Transformers shall be put on 'SERVICE' at a time, Bus-Coupler has to be provided in the 33kV Bus of Indoor Switchgear.	

c) No HV side CT's considered in the 33kV Station Feeder, without which protection scheme will not work. **Kindly clarify on the above point.** **3. Volume 2, Part ii, Section iii** **Technical Specification of Transformer** a) Vector group of the Power Transformer shall be provided (Probably Star-Delta). b) NCT not considered in the HV side of the Power Transformer, without which Restricted Earth fault (REF) protection will not work. **Kindly clarify on the above point.** **4. Volume 5, Part ii Section iv** **Technical Specification of 33kV Indoor Switchgear** **a) Clause No.: 1.03.00** CT Ratio considered as 50/1-1-1A for Incomer Protective Relay considered as: - Numerical non directional relay for over current & earth fault. Transformer protection relay Non-directional single pole numerical earth fault relay **But in Clause No.: 2.02.01** One number of Numerical integrated multi-functional Transformer protection Relay providing the following Protection Functions/ features. i) Transformer differential protection suitable for two winding – 87 T ii) Restricted earth fault protection for HV winding of transformer– 64 REF iii) Over fluxing protection - 99T **Please specify the actual requirement of Relays in the Protective scheme of Transformer feeders as well as outgoing feeders (Because in Outgoing feeders Transformer Differential relay, Over fluxing relay, REF is not required.** **5. Volume 2, Part ii, Section iv** In 300kVA Transformer feeder panel PS core CT provided. But in SLD there is no provision of CT's in that feeder. However, PS protection is not recommended for less than 1MVA Transformer. Also please specify the correct requirement of protective relays for protection scheme of Station Transformer. **Kindly clarify on the above point.** **6. Volume 2, Part ii, Section v** **33kV Overhead lines and accessories** Clause 2.0: SLD Drg. No. LANKA/SOLAR/SLD Rev 00 -------- SLD not provided. Horizontal double break motorised Isolator with remote operation recommended	

As there is no provision for Control & Relay panel and Outdoor Breaker, remote operation is not possible. **It is understood that a separate 33kV outdoor Bus has to be constructed, but the purpose of the same to be clarified.** **Kindly clarify on the above point.** **7. Volume 2, Part ii, Section xii** **LTAC-Auxiliary distribution system specification** As the LT switchgears generally drive supply from the 300KVA Auxiliary transformer, in that case PS core CT is not required in the Panel has recommended in Clause no.: 7.00 Current Transformer (Page 7 of 12) **Kindly clarify on the above point.** **8. Volume 2, Part ii, Section viii** **Battery & Charger Specification** Capacity of the Battery Bank (AH) and charger is not there and the same has to be provided. **OVERVIEW** It is understood that incoming voltage for the Generator Transformer shall be available from the DC source available in Solar PV Module through inverter. In that case a separate LTAC Breaker panel is required in between inverter and Generator Transformer. The same is required for necessary protection (PS) of the Transformer.	