RESPONSE TO BIDDER'S QUERIES TO ENGAGING EPC CONTRACTOR FOR SETTING UP 6 MW GRID CONNECTED SOLAR PV PROJECT INCLUDING FIVE (5) YEARS OPERATION & MAINTENANCE ON TURNKEY BASIS AT DIU TENDER NOTICE NO. 02 OF 2015-16.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
1	Scope of work & Technical Specifications	4.1.4 / page 17	The proposal submitted by the bidder should be inclusive of O&M charges for 5 (five) years from the date of successful commissioning	As per clause 4.1.4 Bidder is liable to pay penal charges only if there is any shortfall in the NMGG value during the 5 years O&M period. We understand that NMGG From year 6 to 25 shall NOT be penalised for any shortfall in generation as per the clause 4.1.4 Kindly Confirm	Corrigendum Issued.
2	Scope of work & Technical Specifications	4.2.6 / page 21	The O&M contractor shall be responsible for achieving quoted NMGG. The NMGG shall be applicable for the financial year basis. Any shortfall in the NMGG needs to be compensated by depositing penal charges to ED-DD		
3	Introduction & Background	1.3.1/ Page 7	Not more than 24 Acres of Land bearing survey No. 85/1 is demarcated for 6 MW Solar Power Plant at Diu	Request you to increase the area available by 25% as land layout is not rectangular	No change

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
4	General			Provide guidance for uploading the cost at various heads in tender website, so that the supply and services works will be separated considering different type of tax applicability on these two categories	Installation and commissioning charges may be specified in *u)* of 6 MW Solar PV EPC of the price bid. Further, additional Service Items may be specified in other items clearly indicating that this is purely service charge or labour charge.
5	Scope of work & Technical Specifications	4.1.18 / page 19	Capacity Utilisation Factor: 19% or higher for the 1st year of operation.	As per tender requirement generation of 9.6 MU. CUF of 19% and PR of 76% doesn't match. Kindly allow Bidder to propose first year CUF and PR values in order to meet generation value of 9.6 MU.	Corrigendum Issued.
	Scope of work & Technical Specifications	4.1.19 / page 20	Average Performance Ratio (PR) achieved during 1st year of operation of the plant should be higher than 76%.		
6	Scope of work & Technical Specifications	4.1.7/ 18	ED-DD proposes to use Solar PV modules and other components manufactured in India provided the components meet the technical proposed in the	Shall Bidder be allowed to use Foreign modules? In case only Indian makes are allowed, can solar cells be imported for	Corrigendum Issued.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
			tender documents.	manufacturing Solar modules in India (Solar Cell conversion to Module)	
	Taxes & Duties	5.10.3/ 51	For goods supplied from outside the ED-DD"s country, the Supplier shall be entirely responsible for all taxes, duties, stamp duties, license fees, and other such levies imposed outside the ED-DD"s country		
7	General Terms & Conditions	5.20/ 57	No price escalation on account of any statutory increase in or fresh imposition of customs duty, excise duty, sales tax or duty levied in respect of the systems authorised to be installed, shall be applicable.	Since ED-DD is end customer, we request ED-DD to consider any change & variation in the taxes & duties payable.	Corrigendum Issued.
8	Financial Evaluation	3.3.2/ 17	Bid value = 6 MW Plant Cost including 5 years O&M charges/ Quoted NMGG	Denominator NMGG value is the value of yearly NMGG or 25 years cumulative NMGG	In the price bid, the bidder needs to quote NMGG only for first (1) year.
10	Preparation and submission of Bids	2.3.20/ 11	Power of Attorney as per FORMAT-III with the seal of the company for the person signing the bid document as also for the person attending	Kindly relax the requirement of Power of Attorney for the person attending the bid opening.	No change

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
			the bid opening meeting, should be furnished along with the bid.		
11	Scope of work & Technical Specifications	4.1.9/ 19	The contractor should maintain all necessary spares to minimize the breakdown time	Please provide the duration of maintaining Spares.	Corrigendum Issued.
12	-	-	-	Please Brief the Insurance Requirement for the Project and allocate respective Scope	Insurance for 6 MW Solar PV plant in total for entire contract period shall be in the scope of bidder.
13	-	-	-	The contractor's liability becomes Nil after 5 years of warrantee/O&M Period except for performance warranty of Modules. Please Confirm?	After contract period, the contractor shall be liable for module performance.
14	-	-	-	We request employer to provide the relevant documents in case of High Sea Sales (If applicable)	No
15	-	-	-	We request ED-DD to provide necessary support & documents to avail Excise Duty exemption/Customs	Corrigendum issued.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
				Duty exemption through MNRE.	
16	-	-	-	Request ED-DD to cap entire liquidated damages comprising of Delay and Shortfall in generation to 10% of the EPC contract value. Please confirm	As per tender documents only.
17	Scope of work & Technical Specifications	4.1.17 / page.19	The contractor shall be bound to demonstrate the installation capacity of 6 MW installation capacity on DC side of the inverter in the first year of installation	Our understanding 6MWp in DC side at end of the first year of installation, it means actual total plant capacity to be provided will be equal to 6MWp + module degradation of first year in percentage (2.5%). Kindly clarify	Corrigendum Issued.
18	Scope of work & Technical Specifications	4.1.18 / page 19	Capacity Utilisation Factor: 19% or higher for the 1st year of operation.	As per tender requirement generation of 9.6 MU, CUF of 19% and PR of 76% doesn't match. Bidder will propose first year CUF and PR values in order to meet NMGG.	Corrigendum Issued.
19	Scope of work & Technical Specifications	4.1.19 / page 20	Average Performance Ratio (PR) achieved during 1st year of operation of the plant should be higher than 76%.		
20	NMGG	4.2.2 / page.20	The NMGG amount mentioned in 4.2.1 shall be	Since NMGG is subjected to irradiance & temperature of	The contractor needs to ensure quoted

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
			applicable on net MUs injected into the grid. Provided, in cased of grid outage or inability of ED-DD to evacuate power shall be excluded from NMGG. The evacuation lost during such instance shall be based on the average generation of the previous week, calculated for each hour on pro-rata basis.	particular instance & time, considering pro-rata basis will not be feasible, it has to be calculated based on radiation & temperature of that time. However monitoring is possible for such parameters. please confirm.	NMGG for each contract year. The deficit in NMGG is to be compensated by penalty.
21	NMGG	4.2.7 / page 21	There will be no relaxation in NMGG.	However provided NMGG will be subjected to calculate by actual radiation, temperature measured, grid & plant availability condition of site. Kindly consider	
22	NMGG	4.2.7 / page 21	The contractor may also go for manual or automatic tracking modules to meet the NMGG.	Since there is conflict in two sections as provided, We request to provide more clarity on which kind of arrangement to follow in options such as Fixed tilt, seasonal tilt & tracking. Kindly clarify	Bidders may propose the solution along with their expertise to achieve 6 MWp and NMGG as per tender documents.
23	PV Arrays	4.6/ b / page 23	PV modules to electronics and the grid, maximization of power generation by enhancing incident radiation by optional methods like seasonally changing tilt angles etc.)		

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
24	AJB	4.13 / page.28	Each PV string has to be equipped with a blocking diode which avoids the circulating currents to flow from the healthy strings to unhealthy strings. To place these string blocking diodes along with their heat sinks, Array Junction Boxes are being used, in which additionally protective fuses with fuse blown indicators,	We will provide the fuses in string monitoring boxes as reverse blocking diodes cause losses. We request you to accept the same. Reverse blocking diodes will increase voltage drop in DC system and reduce energy efficiency. Energy efficient solar PV power plants do not use blocking diodes.	No change
25	AJB	4.13 / page.28	Generally, all the positive outputs of series strings are taken into AJBs through 6 sq. mm cabling and MC4 quick connectors are used for connecting these 6 sq. mm cables with quick connectors of PV modules	In general string to AJB/SMU, 4 sq.mm Cu cable of solar grade, with TUV certified will be more enough w.r.t current. Kindly consider	No change
26	AJB & SMU	4.13 & 4.14/ page 28	AJB & SMU	Instead of considering AJB, Y connector (for every two strings) will be considered and same output can be combined in string monitoring unit(SMU) directly. Please confirm	No change

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
27	SMU	4.14 / Page 28	In this 10 Input 1 output SMU, 10 strings enter the SMU box and in that, every two strings gets paralleled and hence the five strings will pass through each current sensor connected around each string and at the end of the SMU box	Inputs of String monitoring unit will be subjected to max no of inputs possibility for selected inverter. Pls confirm	Bidders may suggest design based on sizing of inverter as per tender documents or better.
28	Power & control cables	4.16/ ii / page 28	The cable shall be 1.1 grade, heavy duty, stranded copper / aluminum conductor, PVC type. An insulated, galvanized steel wire / strip armored, flame retardant low smoke (FRLS) extruded PVC type ST-1 outer sheathed. The cables shall, in general conform to IS-1554 P+1 & other relevant standards.	DC cables from string to junction box shall be Tinned Copper cable as per TUV 2 Pfg 1169 and from junction box to inverter shall be armoured aluminium cable FRLS as per IS 7098 which is usual practice in PV plants. please confirm	As per tender documents only
29	Lightning Protection for PV Array	4.17.3 / Page 30	Lightning Protection for PV Array	ESE type LA will be provided for PV array which complies NFC standard as per section 4.15.Please confirm	Corrigendum Issued.
30	Various other standards / Synchronization	4.25 / Page 36	It shall not cause voltage fluctuation greater than +/- 5% at point of connection.	In normal practice most of inverter manufactures will provide operating o/p voltage range will be at least +/- 10 %. Kindly consider	No change

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
31	NMGG	4.2.1 / page 20	Reduction of maximum of 1% per year on quoted NMGG for 1st year subject to cumulative reduction of not more than 10% at the end of 12 years and not more than 20% at the end of 25 years.	In practice most of module manufacturers will provide limited power warrantee of 97.5 % at first year, 90% at the end of 10 years and 80% at the end of 25 years. Kindly consider	No change
32	Warrantee	4.4.1 / page 22	PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 12 years and 80% at the end of 25 years.		
33	Operation & maintenance	4.35.4 / Page 43	Cleaning of Solar Module on weekly basis or as and when required	In general practice module cleaning will be maximum twice in a month. please confirm	No change
34	Other accessories	4.34 / Page 41	All terminations of the cables will be done with proper routing, through CPVC pipes/cable trenches where	Cable routing will be provided through HDPE - DWC type conduit. Pls confirm	As per tender documents only.
35	General			Request DIU to share the auto cad copy of the site/layout & contour drawing	Auto CAD copy of the site is not available. However, bidder may visit site for collecting

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
36	General			As per google map provided in tender, located site is closer to sea. Pls also the share distance/data from plant area to sea.	necessary information.
37	Scope of work & Technical Specifications	4.1.7 / page 18	Figure:3 Single line diagram	As per SLD 500KW inverter specified. Please confirm whether we need to consider same rating of inverters or better can propose?	500 KW inverter with better specifications will be acceptable
38	General			Kindly confirm the voltage / frequency variation of the grid side	As per grid standards notified by respective regulatory commission from time to time.
39	General			Voltage level, Battery backup time & type of battery bank shall be provided. Float cum Boost charger with no redundancy shall be considered. (We are considering 1 hour back up time.) Kindly confirm	Bidder may propose the solution in project proposal. If the solution does not perform as desired during the O&M period, the EPC contractor needs to replace the same with better alternative without any extra cost.
40	4.1.5 Scope of Work and Technical Specificatio	4.1.5 / 17	Indicative single line diagram of proposed 6 MW plant is shown in Figure 3. The schematic diagram is	Kindly clarify the clear battery limit of the bidder in this project. And kindly confirm that metering shall	Bidder may propose the solution in project proposal. If the solution does not

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
	ns Page no. 17		provided for the reference purpose with bare minimum requirements. The bidder is expected to consider all necessary equipment and accessories for successful commissioning and operation of the grid connected solar PV project. Power evacuation from the Solar plant shall be responsibility of ED-DD.	be at plant end.	perform as desired during the O&M period, the EPC contractor needs to replace the same with better alternative without any extra cost. Metering for NMGG purpose shall be at Plant switch yard with ABT meter.
41	4..22 LT Panel Page no. 33	4.22/ 33	LTPDB is having EDO ACBS (Electrically operated Draw Out Air Circuit Breaker) for ensuring necessary isolation between PCU and transformer. ACB is microprocessor based electronic trip (ET) systems with thermal memory, over load, short circuit protection and also has protection against earth leakage faults	Inverters have inbuilt ACB in enclosure which are all fixed type. Kindly confirm.	As per tender documents only

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
42	4.1.5. Figure 3 Schematic Diagram of 6 MW Plant at Fudam, Diu. Page no. 19	4.1.5/ 17		Kindly clarify that shall we go for three winding transformer (Two inverters are connected in one transformer) and inverter are placed in the inverter room. And also kindly confirm that shall we proceed for radial scheme. However transformer rating shall be selected based on the inverter rating.	Transformer: 3 winding, 630 KVA each inverter: 500 KW each
43	4.23 HT Panel Page no. 34	4.23/ 33	Remote Annunciation Panel (RAP): RAP is provided to monitor and control the HT panels remotely i.e., from control room to ensure the reliability and safety for the operating personnel. This cubicle will have number of windows for displaying all types of faults and those windows turns red on fault. Out of these windows, there will be separate indications meant for Incomer -1, Incomer -2, for outgoing panel, for Bus PT and some left as spare.	HT panel have annunciation windows, hence no separate RAP shall not required.	As per tender documents only

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
44	4.16 Power and Control Cables Page no. 28	4.16/ 28	The cable shall be 1.1 grade, heavy duty, stranded copper / aluminum conductor, PVC type. An insulated, galvanized steel wire / strip armored, flame retardant low smoke (FRLS) extruded PVC type ST-1 outer sheathed. The cables shall, in general conform to IS-1554 P+1 & other relevant standards.	Copper cable shall be used up to 6 Sq.mm and above which Al. cables will be used. FRLS cables requirements is not required. Kindly confirm.	As per tender documents only
45	4.24.5 Solar LED lighting Page no. 36.	4.24.5/ 35	Solar lights needs to be installed in area of the solar PV project. The developer needs to carryout survey and propose appropriate number of solar LED lights to meet required illumination.	Kindly provide the plant illumination system. (Like Lux level, back up time, wattages,) percentage of normal and emergency lighting for indoor / Outdoor.) For indoor CFL lamps shall be used.	Corrigendum Issued.
46	SCADA	4.7 / Pg.No:26	ii)SCADA system shall perform following control operations: Inverter ON/OFF Set point editing through a proven password mechanism Mimic control through PC key board operation	The control operations of Inverter will be based on Inverter manufacturer provision for SCADA.	As per tender documents only

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
47	HT Panel	4.23 / Pg.No:34	In addition to these HT panels, a Remote Annunciation Panel (RAP) is provided for remote monitoring and control of HT panels which is located inside control room.	For Remote Monitoring and Control of HT Panels is provided via SCADA at control Room specific to VCBs.	As per tender documents only
	Scope of work & Technical Specifications	4.12/ Pg. No. 27	MOUNTING STRUCTURES - The mounting structure should be made up of Hot dip Galvanized MS as per the requirements of the project and maximum nos. of modules should be installed in min. area	**Structural Design:** We propose the module mounting structure, which consists of hot rolled and cold formed steel sections such as channels with or without lips. The yield strengths shall be as follows: a)Hot Rolled Steel - MS= E 250-A / HT = E350 (Yield strength of steel 250 Mpa/350 Mpa).As per IS 2062 : 2006 & IS 808 : 1989 b) Cold Formed Steel - Grade CR1 (Yield strength of steel 260 Mpa/300 Mpa/ 350 Mpa). As per IS:513-2008 & IS:811-1987. Kindly confirm…….	Corrigendum Issued.
49	Scope of work &	4.12/ Pg. No. 27	The structure is designed in such a manner that module	The structure shall be designed based on the	As per tender documents only

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
	Technical Specifications		can be replaced or reoriented easily to achieve NMGG.	orientation (portrait / landscape) for which, there shall be maximum generation and the module orientation cannot be changed if once it is fixed.Kindly confirm.	
50	Scope of work & Technical Specifications	4.12/ Pg. No. 27	The structure should be designed in such a way that it will take less space and will withstand maximum wind load up to 200 Km/hr.	The proposed site Fudam/Malala, Diu, falls under wind zone - V where the basic wind speed is 50m/s (180 km/hr) as per IS 875: (Part3) - 1987. The Solar PV module supporting structure shall be designed to withstand the basic wind speed of 50m/s as per code. Kindly Confirm.	Corrigendum Issued.
51	Scope of work & Technical Specifications	4.12/ Pg. No. 27	PV module mounting rafters used are of Aluminium alloy.	We propose cold formed steel member for rafters, instead of aluminum section. The galvanisation to rafter member shall be provided as per IS 277-2003. Kindly confirm.	Corrigendum Issued.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
52	Scope of work & Technical Specifications	4.12/ Pg. No. 27	All fasteners, nut and bolts except foundation bolts are made of Stainless steel - SS 304 Grade and should be painted with rust free paint.	**Fasteners.** 1) For fixing Module to rails - Stainless steel (SS-304) shall be used (based on module installation manual). 2) For Module Mounting structural member connections - GI bolts shall be used. GI Bolts and nuts shall confirm to IS 12427 : 2001; IS 1367(PART-3) : 2002 and IS 1367(PART-13) : 1983. The galvanisation for bolts & nuts shall conform to IS:1367(Part 13) - 1983. Hence painting to bolts and nuts is not required. kindly confirm.	No change
53	Scope of work & Technical Specifications	4.12/ Pg. No. 27	The mounting structures are mounted on RCC pedestals through properly grouted J bolts.	We propose Concrete Drilled pier foundation with long stub for MMS foundation. Kindly confirm.	Corrigendum Issued.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
54	Scope of work & Technical Specifications	4.21.1 / Pg. No. 33	Control Room / Inverter room	We propose RCC Building with Steel Column and composite roof slab for control room & inverter rooms. Kindly confirm.	Corrigendum Issued.
55	Scope of work & Technical Specifications	4.24.1 / 35	Bore well - Water shall be required at the site for module cleaning, gardening and plantation, local usage etc. It is proposed that developer shall also develop four (4) number of bore wells at the proposed site for providing enough water supply.	From the past experience, for this scale (6MW plant) Solar power plant, one number of bore well is sufficient for fulfilling the water requirements. We propose Module Cleaning with mobile vehicle tanker. The water shall be stored in the underground RCC water tanks. The number of water tanks will be decided based on the quantity of water required for cleaning the modules. There will be interconnecting pipeline between the water tanks for pumping the water from one tank to other. Kindly confirm	No change

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
56	Scope of work & Technical Specifications	4.24.4 / 35	Approach road - The selected bidder needs to develop approach road of cement concrete up to the control room. Appropriate pedestrian path of cement concrete should be developed around the PV module structure for the purpose of cleaning, inspection, maintenance etc.	We propose the following type of roads. 1) For control room access from main entry gate - 3.75m wide Bitumen road with 1.0m shoulder on both sides. 2) For inverter room access form control room - WBM Road 3.75m wide with 0.5m shoulder on both sides. 3) For pheripheral access - Surface clearing and dressing with light comapction shall be done as required instead of cement concrete access. Kindly confirm.	Corrigendum Issued.
57	Scope of work & Technical Specifications	4.35 / 42	Maintenance of mechanical and electrical plant, control systems, buildings, roads, drainages and sewage systems etc.	We propose storm water drain of rectangular shape, constructed with either Brick/RR stone masonry. Kindly confirm	As per tender documents only
58			Bidder should be Module manufacturer and/ or EPC contractor empaneled into MNRE.	We were MNRE channel partner till August 2013 at SP-2A rating. We have already applied for renewal of the same and shall submit the revised rating SP-1A after	No change

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
				receiving the same from MNRE. Kindly confirm the same is acceptable for participation in this bid.	
59			Bidder needs to have designed, engineered, supplied, installed, tested and commissioned at least 3 (Three) MW grid connected ground mounted Solar PV project at single location. Such plant should be running successfully for at least 2 (Two) years as on bid submission date.	Since most of the project installation, in INDIA, happened in last 2 years, we request you to consider qualification on basis of executed projects, even though commissioned recently.	No change
60			Net-worth of the bidder should be equal to or greater than Rs. 50 (Fifty) Crore.	Considering the emergence of solar PV sector in INDIA, there are not many companies which exist in this business and have established financials to the tune of tender requirement. We understand the department will support competitive bidding and	Corrigendum Issued.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
				hence we request you to allow bidders having positive net-worth to participate in the same tender	
61			Average annual financial turnover as per audited annual reports for last three accounting years ending 31.03.2014 should be at least 100 (One Hundred) Crore.	We request you to consider financials till 31.03.2015 for calculation of average turnover. Also, request you to allow un-audited numbers for Financial year 2014-15 subject to certification from auditor.	Corrigendum Issued.
62	1.	Clause 2.7.1 (iii) Page no. 14.	Bidder should be Module manufacturer and/ or EPC contractor empaneled into MNRE.	We request you to please modify this clause and qualify EPC contractors / Solar Plant Developers who have commissioned at least 10 MW solar plant during the last five years to have a wider competition. As many of EPC contractors / Developers may not have MNRE empanelment.	No change

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
63		Clause 2.7.2 (i) Page no. 14.	Net-worth of the bidder should be equal to or greater than Rs. 50 (Fifty) Crore	The net-worth of Rs. 50 Crore is on very higher side. Generally the solar power tender invited by various govt. dept. on development as well as EPC basis are asked the Net-worth criteria at the rate of Rs. 2 or 3 Crore per MW. It is requested to review and revise it.	Corrigendum Issued.
64		Clause 4.12 Page no. 27.	Mounting Structures	The Module Mounting Structure is said to be of Hot Dip Galvanised MS sections. Whereas it is a general practice to adopt Pregalvanised roll-form sections for module mounting structure. It is requested to review the provision and permit the use of pregalvanised sections fulfilling the design parameters.	Corrigendum Issued.
65		Clause 4.12 Page no. 27.	Mounting Structures	It is specified to have module mounting rafters of Aluminum alloy. It is	Corrigendum Issued.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
				requested to review the provision and permit the use of pregalvanised sections as rafters for mounting the solar modules.	
66		Clause 4.12 Page no. 27.	Mounting Structures: Wind Speed	The module mounting structure is to be designed to withstand for 200 km/Hr Wind speed. In the same clause IS is also referred. We bring your kind attention that as per the IS design wind speed is 180 km/Hr. Plz confirm.	Corrigendum Issued.
67		Clause 4.18 Page no. 31.	Transformers. twelve (12) nos. of 630 KVA 3-phase ONAN transformers will be used.	The bid document specify 500kVA Solar inverter & two winding Transformer of 630Kva capacity. Is it compulsory to go with these configuration only or the bidder can choose any other configuration of inverter & transformer with total capacity of Plant at 6MW.	As per tender documents only

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
68		Clause 4.23 page no. 33.	HT Panel. The 11 kV from HV side of the transformer will be synchronized to 11 KV bus of the 66/11 KV Kala substation.	It is requested to please clarify regarding the detailed scope of the EPC contractor at the 66/11 KV Kala substation to synchronize the HV side of the transformer with the 11kV Bus.	Corrigendum Issued.
69		5.10.4 Taxes & Duties (Page No. 50, 51)	ED-DD shall ensure project completion on or before time. In this regards, ED-DD may not extend support for Excise Duty Exemption, Custom Duty Exemption, High-sea sale benefit, sale in transit benefit etc. and the bidder needs to account for the same while preparing the price bid.	The Exemption Benefits will reduce the overall cost of the project. There should not be major delay in execution of the project due to this EDEC-process. Hence we request that this clause may please be deleted.	Corrigendum Issued.
70		5.3.1 Time Schedule and compensation for Delay (Page No.	The selected bidder shall complete the project work within six (6) months from the project management date notified by ED-DD and declare commercial operation	Project completion duration may be revised to 9 months from the project management date notified by ED-DD, due to the tough site condition and uneven terrain of the proposed project site will	No change

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
		46)	date (COD) for the project.	consume more time for levelling the site.	
71		5.2.1 Payment Schedule (Page No. 45, 46)	The Contract Price shall be paid as per guidelines of CPWD.	Payment Terms not specifically mentioned in the Tender document. Proposed Payment Terms: 1. 10% of project cost as interest free advance againat submission of Advance BG. 2. 10% of project cost on approval of SLD, detailed engineering of solar PV site, land leveling drawing and foundation drawing for equipment and related accessories, site preparation, drawing for modular control room, submission of layout diagram etc. 3. 40% of project cost on successful delivery of necessary items on the project site on pro-rata basis. 4. 20% of project cost on completion all necessary foundation works, modular	No change.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
				control room etc. on prorata basis. 5. 10% of project cost on successful installation of the 6MW solar PV project at DIU, item wise on pro-rata basis. 6. 10% of the project cost after successful commissioning of the 6MW solar PV project at DIU, item wise on pro-rata basis.	
72		1.3.1	Not more than 24 acres of land bearing survey no. 85/1 is demarcated for 6MW Solar Power plant at Diu	By using 300Wp or higher wattage SPV modules, we will try to incorporate 6MWp SPV power plant in 24 acres of land. However any extra land required due to topographical and reverse slope issues as per site conditions, additional land may be required for accommodating 6MWp have to be provided by ED-DD for the completion of the project.	No change.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
73		4.9.i	ABT Complaint metering is required to measure the Solar Gross Generation on continuous basis and register cumulative energy based on 15 minute interval basis, daily, monthly and yearly energy generation. The average voltage and power factor based on 15 minute interval must also be recorded.	We shall provide separate ABT meters for each 3MWp SPV power plant. However, if ED-DD insists for cumulative metering of 6MWp, a summation metering unit (ABT meter) shall be provided.	No change
74		4.18	Transformer: As the grid voltage is at 11 kV, the output power from the LTPDB which is at 270 V to 415 V has to be raised to 11kV for grid synchronization. Hence twelve (12) nos. of 630 KVA 3-phase ONAN transformers will be used.	Instead of using 12 nos of 500KVA PCUs and 12 nos of 630KVA transformers, we can consider higher rated PCUs and higher rated multiwinding transformers for improved plant efficiency. BHEL will submit the best optimized schematic of 6MWp during bid submission.	No change
75		4.19	Short Circuit withstand current capacity : 40 KA for	As per tender 40KA / 1 sec is mentioned as fault current. Our system fault current will	No change

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
			1 sec.	be <15 KA for 1 sec. We would like to know your grid side fault current. As per standard practice we have used 25 KA / 1 sec for 10MW and 15MW SPV power plants.	
76		4.20	The size of the cables between array interconnections, array to junction boxes, junction boxes to PCU etc. shall be so selected to keep the voltage drop and losses to the minimum. The bright annealed 99.97% pure bare copper conductors that offer low conductor resistance, they result in lower heating thereby increase in life and savings in power consumption.	We shall use aluminium conductor instead of copper with adequate cross section for junction box to PCU wiring, considering the usual practices as done in 3MWp SPV power plant at Diu, which is under execution by BHEL presently.	As per tender documents only.
77		4.23	HT panel : In this 900 KWp power plant, 11 KV Solar Bus comprises of three incomers from individual	As indicated in the tender that '900KWp' is a typographical error. So we have considered 2 feeders of	Corrigendum Issued.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
			transformers, one outgoing panel to grid and one Bus PT panel for measurement of bus voltage and protection against abnormal bus voltages.	3MW each. For that adequate numbers of HT panels shall be provided.	
78		4.24.5	Solar LED Lighting: Solar lights needs to be installed in area of the solar PV project. The developer needs to carryout survey and propose appropriate number of solar LED lights to meet required illumination.	Considering the maintenance problems of batteries in solar LED lighting system, we can use normal LED light with adequate lumens as per standards. The AC power for the LED lighting will be taken from the main control room through auxiliary transformer.	No change
79		4.1.8, Page No. 18	Power Conditioning Unit/ Inverters with SCADA	SCADA will provided separately and will not be the part of inverter. Please confirm.	Bidder may propose in project proposal. Provided the scope mentioned in the tender documents is not altered.
80		4.1.17, Page No. 19	The contractor shall be bound to demonstrate the installation capacity of 6 MW	Please elaborate the procedure for checking the capacity at the end of first	Corrigendum Issued.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
			installation capacity on DC side of the inverter in the first year of installation. The contractor may provide extra modules or replace the modules with higher rating to achieve the capacity.	year.	
81		Figure 3, Page No. 19	Schematic Diagram of 6 MW Plant at Fudam, Diu	As per the schematic diagram 500kW inverters are used, can we propose solar inverter of 1000kVA capacity. Please confirm.	No change
82		Figure 3, Page No. 19	Schematic Diagram of 6 MW Plant at Fudam, Diu	As per the schematic diagram RMU is used to terminate 1MW block separately, but at 11kV two rings of 3MW will suffice the project requirement. Please confirm.	No change Explanation: Power evacuation from 6 MW power plant shall be in the scope of ED-DD. Power evacuation shall be done by 2 x 11 KV cables each having power carrying capacity of 3 MW.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
83		4.4, Page No. 22	Further, PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 12 years and 80% at the end of 25 years.	As per Industry standard, SPV module manufacturer provide warranty of power output as 90% at the end of 10 years and 80% at the end of 25 years. Please accept.	No change
84		4.13, Page No. 28	Each PV string has to be equipped with a blocking diode which avoids the circulating currents to flow from the healthy strings to unhealthy strings.	Reverse blocking diodes are compulsory with the thin film modules and we are using polycrystalline module which already comes with diodes at its junction box. Also use of reverse blocking diodes will cause voltage drop in each string which affect the overall efficiency of the system and also the heat produced by diodes deteriorate the performance of other item used in the junction box. Please accept the design of string combiner box excluding reverse blocking	No change

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
				diode. Please accept.	
85		4.13, Page No. 28	Generally, all the positive outputs of series strings are taken into AJBs through 6 sq. mm cabling and MC4 quick connectors are used for connecting these 6 sq. mm cables with quick connectors of PV modules. Other end of the 6 sq. mm cables are properly lugged and also equipped with heat shrinkable sleeves to terminate into the terminal blocks of AJBs.	As we are offering multi crystalline module having Isc of maximum 8.7amp. Hence 4 Sq. mm. cable will be sufficient for the string termination from the module end to the SMU keeping voltage drop within limit. Please accept.	Corrigendum Issued.
86		4.13, Page No. 28	The strings from AJB are taken to a String Monitoring Unit where each string current and voltage is monitored and logged.	This arrangement is generally used with Thin Film solar modules. But as we are proposing polycrystalline solar module, where the string will be combined at the SMU(String Monitoring Unit) directly. Please accept.	No change

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
87		4.14, Page No. 28	In this 10 Input 1 Output SMU, 10 strings enter the SMU box and in that, every two strings gets paralleled and hence the five strings will pass through each current sensor connected around each string and at the end of the SMU box, all the five strings gets paralleled.	This arrangement is generally used with Thin Film solar modules. But as we are proposing polycrystalline solar module where each string will pass through separate current sensor and there parameters are monitored individually. Please accept.	No change
88		4.15, page No. 28	To properly ground the lightning surges, earthing is provided to each lightning arrestor by providing three earth pits which are connected to lightning arrestor with 95 sq. mm cable.	As per NFC 17,102 minimum cable cross- section required should be 50 sq mm. Please accept.	No change
89		4.18, page No. 31	Hence twelve (12) nos. of 630 KVA 3-phase ONAN transformers will be used.	One (1) no. of 1250kVA 3-phase, 3 winding ONAN transformer with two(2) Nos LV winding of 625kVA each will be sufficient for the same. Please accept suggested rating of	No change

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
				transformer.	
90		4.19, page No. 32	Voltage Grade : 11 KV (UE) grade cables, Heavy duty	Cable between inverter transformer and main HT panel will be 11kV(E) cable, since the system after transformer is an earthed distribution system. Please confirm.	No change
91		4.20, page No. 32	The size of the cables between array interconnections, array to junction boxes, junction boxes to PCU etc. shall be so selected to keep the voltage drop and losses to the minimum. The bright annealed 99.97% pure bare copper conductors that offer low conductor resistance, they result in lower heating thereby increase in life and savings in power consumption.	As per standard solar application TUV certified Copper solar cable will be provided for the interconnection of modules with SMU and 1.1kVAC grade Aluminium cable suitable for 1.5kVDC applications will be used for the interconnection of SMU to inverter, inverter to transformer and for further LT application. Please accept.	No change

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
92		4.22, page No. 33	LTPDB is having EDO ACBS (Electrically operated Draw Out Air Circuit Breaker) for ensuring necessary isolation between PCU and transformer.	ACDB between Transformer and inverter is the inbuilt feature of the solar inverter. Please accept.	No change
93		4.23, page No. 33	In this 900 KWp power plant, 11 KV Solar Bus comprises of three incomers from individual transformers, one outgoing panel to grid and one Bus PT panel for measurement of bus voltage and protection against abnormal bus voltages.	Please elaborate.	Corrigendum Issued.
94		4.1.5, page No. 17 4.23, page No. 34	Power evacuation from the Solar plant shall be responsibility of ED-DD. The 11 kV from HV side of the transformer will be synchronized to 11 KV bus of the 66/11 KV Kala substation.	Please define the termination scope, weather it would be upto grid substation end or solar power plant substation end. If it is grid substation end, please provide the medium of power evacuation (Overhead / Underground).	Power evacuation from 6 MW solar PV switchyard shall be responsibility of ED-DD. EPC contractor shall provide appropriate arrangement for evacuation of power. Corrigendum Issued.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
95		4.24.4, page No. 35	The selected bidder needs to develop approach road of cement concrete up to the control room.	1. Kindly provide the distance between approach road to plant entry. 2. Generally in solar plant we use WBM road. Can we propose WBM road. Please specify width of road. 3. Cement concrete road is of RCC or PCC?	Corrigendum Issued.
96		4.24.4, page No. 35	Appropriate pedestrian path of cement concrete should be developed around the PV module structure for the purpose of cleaning, inspection, maintenance etc.	Generally in solar plant we provide pedestrian path of Hard rolled with adequate capacity and voids are filled with murram. Concrete road in between PV array would impact a huge cost implication.	
97		4.24.5, page No. 36	Solar lights needs to be installed in area of the solar PV project. The developer needs to carryout survey and propose appropriate number of solar LED lights to meet required illumination.	In general solar power plant application, LED lighting system with appropriate LUX level has been used to meet the plant illumination requirement. Please accept.	Corrigendum Issued.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
98			General	Please specify the concrete grade & galvanisation thickness.	Bidder may propose concrete grade to meet requirements and specifications of the tender documents.
99			General	Please clarify the scope of site grading & contour survey.	Bidder may visit the site and accordingly propose site grading and contour survey in project proposal to be submitted along with the bid.
100			General	1. Is the site location near the coastal area if it is then any special protection required for structures / concrete. 2. Is Water treatment required for concrete / construction work?	Site is located near sea as shown in the google map provided in tender document.
101			Eligibility Criteria: Bidder needs to have designed, engineered, supplied, installed, tested	Bidder needs to have designed, engineered, supplied, installed, tested and commissioned at least 1 (one) MW grid connected	No change.

Sl. No	Section	Clause Pg. No	Description as per Tender Specification	Bidder's Queries	ED-DD's Clarification
			and commissioned at least 3 (Three) MW grid connected ground mounted Solar PV project at single location. Such plant should be running successfully for at least 2 (Two) years as on bid submission date	solar PV project at Single location.	