

#### **Tender Amendment/ Clarification Document**

Ref: GIPCL/ Solar/EPC/2022/ 75 MW (AC) Solar

Date: 05th Feb, 2022

To,

Prospective Bidder(s),

- Sub: Amendments/ Clarifications to "Bid for Design, Engineering, Supply & Procurement, Construction, Erection, Testing, Commissioning, Operation and Maintenance of Solar Photovoltaic Grid-Connected Power Plant of 75MW (AC) Near Surat Lignite Power Plant of GIPCL, Dist. Surat, Gujarat."
- Ref: E-Tender No. GIPCL/ Solar/EPC/2022/ 75 MW (AC) Solar, dated 21<sup>st</sup> January 2022.
- (1) GIPCL has floated the Tender for Bid for Design, Engineering, Supply & Procurement, Construction, Erection, Testing, Commissioning, Operation and Maintenance of Solar Photovoltaic Grid-Connected Power Plant of 75MW (AC) Near Surat Lignite Power Plant of GIPCL, Dist. Surat, Gujarat (GIPCL/ Solar/EPC/2022/ 75 MW (AC) Solar). GIPCL received queries from various potential Bidders in response to the Tender. Further, as indicated in the Tender, a video conference pre-bid meeting was held on 28<sup>th</sup> January,2022.
- (2) Based on the deliberations with participants in the Pre-Bid Meeting, amendments/ clarifications to the EPC are being issued (The "Amendment Document").
- (3) This Amendment Document shall now be considered as an integral part of the EPC Tender. All other terms and conditions applicable to the Tender shall now be applicable to this Amendment Document also. Any amendments/clarifications indicated in this Amendment Document shall supersede all relevant terms and conditions/ clauses of the EPC Tender.
- (4) The Bidder shall understand, duly sign and seal each page of this Amendment Document and submit as per the method / procedure mentioned in the Tender.

Yours faithfully, For and on behalf of GIPCL

#### Sd/-

Chief General Manager (RE & BO)

Enclosed:

- 1. Attachment-1 (Amendments)
- 2. Attachment-2 (Clarifications to Bidders Queries)
- 3. Attachment -3 (Auto Cad Drawings Indicative Topography survey)
- 4. Attachement-4 (Indicative Geotechnical Investigation Report)
- 5. Attachement-5 (Indicative Cable/Transmission route)



# Attachment-1 (Amendments)

## Date: 05.02.2022

### **IMPORTANT NOTE**

Amendment / Addendum / Clarification / Corrigendum issued herein shall form part of RFP Bid Document published on 21st Jan 2022. All Bidders to please note that Amendment /Addendum / Clarification / Corrigendum issued will supersede the respective Clause / Sub-Clause of Original Request for Proposal (RFP) Bid Document to the extent for the Clause / Sub-Clause or part thereof the amendment is issued. All other terms and conditions of the original Request for Proposal (RFP) Bid Document No: GIPCL/Solar/EPC/2022/75 MW (AC) Solar, published on 21st Jan 2022 will remain unchanged.

Amendments/Clarifications to " Bid for Design, Engineering, Supply & Procurement, Construction, Erection, Testing, Commissioning, Operation and Maintenance of Solar Photovoltaic Grid-Connected Power Plant of 75MW (AC) Near Surat Lignite Power Plant of GIPCL, Dist. Surat, Gujarat."



Sr.	Page	Clause	Tender Clause/ Specification	Amendment / Clarification by Owner
No.	No.	No.		
1.	10	NIT,	Insurance or Performance Bank Guarantee (PBG) Against	<b>Replaced by</b> "Insurance or Performance Bank Guarantee (PBG)
		Table B:	PV Module Warranty: Rs. 25 Lacs per MW of PV Module (DC	Against PV Module Warranty: Rs. 10 Lacs per MW of PV Module
		Important	Capacity) valid for 25 years required to be submitted prior to	(DC Capacity) valid for 25 years required to be submitted prior to
		Amounts,	submission of SD/PBG	submission of SD/PBG."
		Sr. (v)		
2.	34	3.2.4 (i)	The Tender of only those Bidders will be considered who will	Replaced by "The Tender of only those Bidders will be considered
			produce documentary proofs, self-attested to meet the	who will produce documentary proofs, self-attested to meet the
			following requirements: The Bidders to have valid Proof of	following requirements: The Bidders to have valid Proof of
			Permanent EPF account no., ESI registration no. and Service	Permanent EPF account no., ESI registration no. and GST no."
			Tax no.	
3.	41	3.11.6	Bank Guarantee against PV Module Warranty: The	Replaced by "Bank Guarantee against PV Module Warranty:
		(iii)	Successful Bidder who is not able to provide insurance of PV	The Successful Bidder who is not able to provide insurance of PV
			modules as specified in the Tender Clause No. 6.39.10 (a)	modules as specified in the Tender Clause No. 6.39.10 (a) Bank
			Bank Guarantee of Rs. 25 Lakh per each megawatt of PV	Guarantee of <b>Rs. 10 Lakh</b> per each megawatt of PV modules (i.e.
			modules (i.e. DC capacity) shall be issued by Solar PV	DC capacity) shall be issued by Solar PV Module manufacturer in
			Module manufacturer in favour of GIPCL , which shall be valid	favor of GIPCL, which shall be valid for a period of twenty five (25)
			for a period of twenty five (25) years and 90	years and 90 days
			days	
4.	41	3.11.6	Performance Guarantee Test Run & Bank Guarantee	Replaced by "Performance Guarantee Test Run & Bank
		(iv)	during PG Test for under Generation: Contractor shall	Guarantee during PG Test for under Generation: Contractor
			demonstrate NEEGG (PG Test) after COD. Duration of PG	shall demonstrate NEEGG (PG Test) after COD. Duration of PG
			test consist of 12 months readings continuously from start of	test consist of 12 months readings continuously from start of PG

(Sign and Seal of Bidder)

Page3of29

Amendments/Clarifications to " Bid for Design, Engineering, Supply & Procurement, Construction, Erection, Testing, Commissioning, Operation and Maintenance of Solar Photovoltaic Grid-Connected Power Plant of 75MW (AC) Near Surat Lignite Power Plant of GIPCL, Dist. Surat, Gujarat."



			PG Test. Contractor shall start PG test at any date after COD	Test. Contractor shall start PG test at any date after COD but not
			but not later than 6 months from COD. Contractor will get 02	later than 6 months from COD. Contractor will get 02 chance to
			chance to demonstrate PG test within 3 years after COD of	demonstrate PG test within 3 years after COD of the plant and
			the plant and during O&M Period. It is desirable that	during O&M Period. It is desirable that contractor shall carry out
			contractor shall carry out PG test as early as possible after	PG test as early as possible after COD so that necessary
			COD so that necessary correction / DC addition if required	correction / DC addition if required can be carried out before
			can be carried out before attempting 2 <sup>nd</sup> chance. In case	attempting 2 <sup>nd</sup> chance. In case contractor fails to achieve the
			contractor fails to achieve the required NEEGG in the second	required NEEGG in the second chance, the shortfall in Generation
			chance, the shortfall in Generation after two PG test shall be	after two PG test shall be adjusted against the Performance Bank
			adjusted against the Performance Bank Guarantee as per	Guarantee as per following formula.
			following formula.	1. In case of NEEGG Shortall after 2nd PG test attempt
			1. In case of NEEGG Shortall after 2nd PG test attempt	GIPCL will deduct Penalty at the rate of 23.69 X (Shortfall
			GIPCL will deduct Penalty at the rate of 23.69 X	KWH) from Bank Guarantee / Pending payment to the
			(Shortfall KWH) from Bank Guarantee / Pending	contractor. Maximum Penalty on account of failing to
			payment to the contractor.	meet guaranteed generation during PG test for the
			2. It is further clarified that the year-on-year shortfalls in	solar PV project shall be limited to 25% of the
			achieving the NEEGG during the 1st to 3rd year of	EPC contract Price (excluding O&M Price).
			O&M Period shall be charged as per Clause No 6.12.2	2. It is further clarified that the year-on-year shortfalls in
			(Rs. 2.75x Shortfall in KWh) of this Tender Document,	achieving the NEEGG during the 1st to 3rd year of O&M
			which shall be over and above the provision of this	Period shall be charged as per Clause No 6.12.2 (Rs.
			current Clause.	2.75x Shortfall in KWh) of this Tender Document, which
				shall be over and above the provision of this current
				Clause."
5.	45	3.14.5	The deration in NEEGG quoted for any year shall not be more	Replaced by "The deration in NEEGG quoted for any year shall
			than 1% of the quoted for the first year. If the Bidder	not be more than 1% of the quoted for the immediate previous
		1		

(Sign and Seal of Bidder)

Page4of29

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			anticipates any degradation of the modules during the first	year. If the Bidder anticipates any degradation of the modules
			year, it shall be taken care of to provide additional capacity of	during the first year, it shall be taken care of to provide additional
			solar PV modules to meet guaranteed generation at the end	capacity of solar PV modules to meet guaranteed generation at
			of first year to avoid liquidated damages/compensation on	the end of first year to avoid liquidated damages/compensation on
			account of Performance Guaranteed Generation. The	account of Performance Guaranteed Generation. The NEEGG of
			NEEGG of consecutive year should not be more than the	consecutive year should not be more than the previous year's
			previous year's NEEGG. Bids not following these conditions	NEEGG. Bids not following these conditions shall be summarily
			shall be summarily rejected.	rejected."
6.	59	5.1	AC capacity of the plant shall be 75 MW(AC) for Solar PV	Replaced by "AC capacity of the plant shall be 75 MW(AC) for
			project with maximum DC installation capacity under	Solar PV project with maximum DC installation capacity shall be
			Standard Test Conditions (STC) asper IEC61215 and	150% of AC capacity (i.e 112.5 MWp) under Standard Test
			IEC:61730. The Contractor shall comply that the maximum	Conditions (STC) as per IEC61215 and IEC:61730. The
			AC capacity (i.e. 75 MW(AC) upto plus 5% (i.e. 78.75 MW).	Contractor shall comply that the maximum AC capacity (i.e. 75
				MW(AC) upto plus 5% (i.e. 78.75 MW)."
7.	60-	5.1.1	For the purpose of this project, the evacuation voltage shall	Replaced by "For the purpose of this project, the evacuation
	61		be at 66 kV AC (three phase) wherein evacuating point cum	voltage shall be at 66 kV AC (three phase) wherein evacuating
			metering point for 75MW (AC) Solar Plant shall be installed	point cum metering point for 75MW (AC) Solar Plant (Main and
			at 66 kV side of 66 kV Mosali Sub-Station of GETCO	Check ABT/SEM metering system on each line) shall be
			including construction of bay along with necessary	installed at 66 kV side of 66 kV Mosali Sub-Station of GETCO
			equipments at GETCO premises. Also, one more metering	including construction of bay along with necessary equipments at
			system is to be installed at 66 kV side of 66/33 kV Switchyard	GETCO premises. Also, one more ABT/SEM metering system
			of 75 MW (AC) Solar Plant developed by Bidder. Scope of	(Standby) is to be installed at 66 kV side of 66/33 kV Switchyard
			work shall also include procurement, supply, erection/laying,	of 75 MW (AC) Solar Plant developed by Bidder. Scope of work
			Testing and commissioning of 66 kV Under Ground cable	shall also include procurement, supply, erection/laying, Testing
			work/ Overhead Transmission/ Combination of both Power	and commissioning of 66 kV Under Ground cable work/ Overhead
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(Sign and Seal of Bidder)

Page5of29

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evacuation lines from 75 MW(AC) solar plant substation to 66 Transmission/ Combination of both Power evacuation lines from kV GETCO substation at Village Mosali. ABT Meter to 75 MW(AC) solar plant substation to 66 kV GETCO substation at measure net power evacuation shall be installed as Village Mosali. ABT/SEM Metering system to measure net power mentioned above and as per the CEA/GETCO guidelines. evacuation shall be installed as mentioned above and as per the Metering point shall be at 66 kV side of 66 kV Sub-Station of CEA/GETCO guidelines. Metering point shall be at 66 kV side of 66 kV Sub-Station of GETCO at Village Mosali. GETCO at Vilaage Mosali. OR OR For the purpose of this project, the evacuation voltage shall For the purpose of this project, the evacuation voltage shall be at be at 220 kV AC (three phase) wherein evacuating point cum 220 kV AC (three phase) wherein evacuating point cum metering metering point for 75MW (AC) Solar Plant shall be installed point for 75MW (AC) Solar Plant (Main and Check ABT/SEM metering system) shall be installed at 220 kV side of 220 kV at 220 kV side of 220 kV Switchyard of Surat Lignite Power plant of GIPCL at Village: Nani Naroli, Dist: Surat including Switchyard of Surat Lignite Power plant of GIPCL at Village: Nani construction of bay along with necessary equipments at Naroli, Dist: Surat including construction of bay along with 220Kv Switchyard premise. Also, one more metering system necessary equipments at 220Kv Switchyard premise. Also, one is to be installed at 66/33 kV side of 66/33 kV Switchyard of more metering system is to be installed at 66/33 kV-220kV side of 75 MW (AC) Solar Plant developed by Bidder. Scope of work 66/33 kV Switchyard of 75 MW (AC) Solar Plant developed by shall also include procurement, supply, erection/ laying, Bidder for internal use. 0.2s class CT 0.2 class PT cores for Testing and commissioning of 66/33 kV. Underground cable this metering system shall be separate. Scope of work shall work/Overhead Transmission Power evacuation lines/ also include procurement, supply, erection/ laying, Testing and underground cable from 75 MW(AC) solar plant substation to commissioning of 66/ 33 kV Underground cable work/ Overhead 220 kV Switchyard of Surat Lignite Power plant of GIPCL, Transmission Power evacuation lines/ underground cable Power transformer along with other equipments i.e. LA, combination of both from 75 MW(AC) solar plant substation to Wave/Line Trap, CT, PT, isolators, 220KV breaker of Bay at 220 kV Switchyard of Surat Lignite Power plant of GIPCL, Power 220kV switchyard. ABT Meter to measure net power transformer along with other equipments i.e. LA, CT, PT, isolators, evacuation shall be installed as mentioned above. Metering 220KV breaker of Bay at 220kV switchyard. Tariff ABT Metering

(Sign and Seal of Bidder)

Page6of29



		i		
			point shall be at 220 kV side of Switchyard of Surat Lignite	system to measure net power evacuation shall be installed as
			Power plant of GIPCL at Village: Nani Naroli, Dist: Surat.	mentioned above. Metering point shall be at 220 kV side of
				Switchyard of Surat Lignite Power plant of GIPCL at Village: Nani
				Naroli, Dist: Surat."
8.	62	5.1.1	POC: Point of connection shall be decided based on	Replaced by "POC: Point of connection shall be decided based
			requirement with concerned authorities i.e.	on requirement with concerned authorities i.e.
			GETCO/STU/DISCOM/ GUVNL/SECI/MNRE etc.	GETCO/STU/DISCOM/ GUVNL/SECI/MNRE etc
				PQ capability (MVA rating) of the plant at POC (Point of
				Connection) at 100% active power shall be at 0.95 lag / lead
				with POC voltage variation from 0.95 to 1.05 per unit. PQ
				capability of inverter shall be at 50 Deg C ambient
				temperature. MVA rating of PV plant equipments shall be
				designed accordingly. "
9.	66	5.1.5 (iii)	Elevated Prefabricated Inverter rooms with FFL + 0.6 m	designed accordingly. " Replaced by "
9.	66	5.1.5 (iii)	<ul> <li>Elevated Prefabricated Inverter rooms with FFL + 0.6 m above FGL/High tide level whichever higher as per design</li> </ul>	<ul> <li>designed accordingly. "</li> <li>Replaced by "</li> <li>Elevated Prefabricated Inverter rooms with FFL + 0.6 m above</li> </ul>
9.	66	5.1.5 (iii)	<ul> <li>Elevated Prefabricated Inverter rooms with FFL + 0.6 m above FGL/High tide level whichever higher as per design</li> <li>Elevated RCC frame strucutre with Pre-fabricated roof for</li> </ul>	<ul> <li>designed accordingly. "</li> <li>Replaced by "</li> <li>Elevated Prefabricated Inverter rooms with FFL + 0.6 m above FGL/High flood level whichever higher as per design</li> </ul>
9.	66	5.1.5 (iii)	<ul> <li>Elevated Prefabricated Inverter rooms with FFL + 0.6 m above FGL/High tide level whichever higher as per design</li> <li>Elevated RCC frame strucutre with Pre-fabricated roof for Control room cum Conference room with design to be</li> </ul>	<ul> <li>designed accordingly. "</li> <li>Replaced by "</li> <li>Elevated Prefabricated Inverter rooms with FFL + 0.6 m above FGL/High flood level whichever higher as per design</li> <li>Elevated RCC frame structure with Pre-fabricated roof for</li> </ul>
9.	66	5.1.5 (iii)	<ul> <li>Elevated Prefabricated Inverter rooms with FFL + 0.6 m above FGL/High tide level whichever higher as per design</li> <li>Elevated RCC frame strucutre with Pre-fabricated roof for Control room cum Conference room with design to be kept @ FFL + 0.6 m above FGL/High tide level whichever</li> </ul>	<ul> <li>designed accordingly. "</li> <li>Replaced by "</li> <li>Elevated Prefabricated Inverter rooms with FFL + 0.6 m above FGL/High flood level whichever higher as per design</li> <li>Elevated RCC frame structure with Pre-fabricated roof for Control room cum Conference room with design to be kept @</li> </ul>
9.	66	5.1.5 (iii)	<ul> <li>Elevated Prefabricated Inverter rooms with FFL + 0.6 m above FGL/High tide level whichever higher as per design</li> <li>Elevated RCC frame strucutre with Pre-fabricated roof for Control room cum Conference room with design to be kept @ FFL + 0.6 m above FGL/High tide level whichever higher including, Store, Battery, Scada room, Toilet and</li> </ul>	<ul> <li>designed accordingly. "</li> <li>Replaced by "</li> <li>Elevated Prefabricated Inverter rooms with FFL + 0.6 m above FGL/High flood level whichever higher as per design</li> <li>Elevated RCC frame structure with Pre-fabricated roof for Control room cum Conference room with design to be kept @ FFL + 0.6 m above FGL/High flood level whichever higher</li> </ul>
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9.	66	5.1.5 (iii)	<ul> <li>Elevated Prefabricated Inverter rooms with FFL + 0.6 m above FGL/High tide level whichever higher as per design</li> <li>Elevated RCC frame strucutre with Pre-fabricated roof for Control room cum Conference room with design to be kept @ FFL + 0.6 m above FGL/High tide level whichever higher including, Store, Battery, Scada room, Toilet and Pantry -01 Nos.</li> <li>Elevated Prefabricated Watchman's cabin (At Main Gate ) of each loaction with FFL +0.6m above /High tide level whichever higher as per design - 01 Nos.</li> </ul>	<ul> <li>designed accordingly. "</li> <li>Replaced by "</li> <li>Elevated Prefabricated Inverter rooms with FFL + 0.6 m above FGL/High flood level whichever higher as per design</li> <li>Elevated RCC frame structure with Pre-fabricated roof for Control room cum Conference room with design to be kept @ FFL + 0.6 m above FGL/High flood level whichever higher including, Store, Battery, Scada room, Toilet and Pantry -01 Nos.</li> <li>Elevated Prefabricated Watchman's cabin (At Main Gate ) of each location with FFL +0.6m above /High flood level</li> </ul>
9.	66	5.1.5 (iii)	<ul> <li>Elevated Prefabricated Inverter rooms with FFL + 0.6 m above FGL/High tide level whichever higher as per design</li> <li>Elevated RCC frame strucutre with Pre-fabricated roof for Control room cum Conference room with design to be kept @ FFL + 0.6 m above FGL/High tide level whichever higher including, Store, Battery, Scada room, Toilet and Pantry -01 Nos.</li> <li>Elevated Prefabricated Watchman's cabin (At Main Gate ) of each loaction with FFL +0.6m above /High tide level whichever higher as per design - 01 Nos.</li> </ul>	<ul> <li>designed accordingly. "</li> <li>Replaced by "</li> <li>Elevated Prefabricated Inverter rooms with FFL + 0.6 m above FGL/High flood level whichever higher as per design</li> <li>Elevated RCC frame structure with Pre-fabricated roof for Control room cum Conference room with design to be kept @ FFL + 0.6 m above FGL/High flood level whichever higher including, Store, Battery, Scada room, Toilet and Pantry -01 Nos.</li> <li>Elevated Prefabricated Watchman's cabin (At Main Gate ) of each location with FFL +0.6m above /High flood level whichever higher as per design - 01 Nos.</li> </ul>



	-		Eleva	ated Security Cabins at 06 nos	at suitable location	• F	Elevated Security Cabins at 06 nos at suitable location with
			with	FFL +0.6 m above FGL/High t	ide level whichever	F	FL +0.6 m above FGL/High <b>flood</b> level whichever higher as
			hiahe	er as per design - 06 Nos.		r	per design - 06 Nos."
			5			For	200KV Evacuation option following additional Civil works is
						Rec	auire in plant premises.
						1)	Construction of Sufficient size Room near 220KVA Existing
						,	Switchvard. All civil work in line with main control room
							specification.
						2)	Construction of structural pipe rack (Highlighted part as per
						,	sketch attached in indicative cable drawing) with civil
							foundation work. Clear Height of pipe rack at road crossing
							shall not be less than 10.0M.
						3)	Gate pass, permit system & all statutory requirements to be
						-	follow as per GIPCL/SLPP Policies.
10.	71	5.1.8				Add	Clause 5.1.8 (e) "In order to ensure only quality systems are
						insta	alled, the Bidders shall be complied with the technical
						para	meters detailed in the Annexure – A as per GUVNL's RfS No.
						GU∖	/NL / 500 MW / Solar (Phase XIII) and MNRE orders /
						spec	cifications issued from time to time.
						In lir	ne with MNRE OM no 283/54/2018 GRID SOLAR-Part-I dtd
						10.0	3.2021 (Requirement for compulsory registration), Order
						2019	9, PV modules are to be sourced from ALMM Annexure -1 of
						abov	ve OM and amended from time to time. Provisions of GUVNL's
						RfS	No. GUVNL / 500 MW / Solar (Phase XIII) dated 03.01.2022
						shal	l be applicable also."
			1	(Sign and Seal of Bidder)	Pac	e <b>8</b> of	29



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11.	82	5.2.10	All reinforced cement concrete (Below/above ground) for all	Replace by "All cement concrete (RCC & PCC) whether it is at
			civil works shall be minimum M25 grade and designed with	Below/above ground for all type of civil works shall be minimum
			exposure condition as "Moderate" Environmental weather	M25 grade and designed with exposure condition as "Moderate"
			condition using minimum 400 Kg of ordinary Portland cement	Environmental weather condition using minimum 400 Kg of
			(55 grade) as per IS 456 irrrespective of Grade of	Ordinary Portland Cement (53 grade) as per IS 456 irrespective
			concrete	of Grade of concrete. However, PCC work below RCC cable
				trenches, RCC foundations, RCC floor as sub-base
				preparation shall be M10 grade with nominal mix as per IS
				456"
12.	85	5.2.11	The top of concrete in a pile shall be brought above the +500	Replaced by "(1) For depth of pile more than 3.0 meter, the top
		(vi)	mm up to pile cap i.e. cutoff level to permit removal of all	of concrete in a pile shall be brought above the +500 m above cut
			laitance and weak concrete to ensure good and monolithic	off level in pile cap. (2) If Pile Depth is less than 3.0 meter depth,
			concrete at the top level.	The top of concrete in a pile shall be brought above the +150 MM
				above cutoff level in pile cap."
13.	87-	5.2.15	Area Lighting:	Replaced by " <u>Area Lighting</u> :
	88		Area lighting arrangement shall be made to illuminate	Area lighting arrangement shall be made to illuminate the
			the entire site at an appropriate lux level for night	entire site at an appropriate lux level for night hours or bad
			hours or bad light hours. Road and Perimeter LUX	light hours. Road and Perimeter LUX level min (Not
			level min 10 and rest area as per NBC 2016. Area	Average) 5 and rest area as per NBC 2016. ELCB shall
			lighting arrangement shall have adequate numbers of	be provided in all lighting feeders and each circuit of
			lights poles on the sides of roads, periphery, etc.	distribution circuit. Area lighting arrangement shall have
				adequate numbers of lights poles on the sides of roads,
				periphery, etc."
				• The <b>street</b> light pole shall be fixed in separate foundation.
		1		



			• The light pole shall be fixed in separate foundation.	The lighting poles shall be concreted with 1000mm f coping
			The lighting poles shall be concreted with 1000mm f	above ground level for pole protection and 1000 mm below
			coping above ground level for pole protection and	ground with minimum reinforcement as per IS requirement.
			1000 mm below ground with minimum reinforcement	Streetlight pole height shall be uniform from High
			as per IS requirement	flood level (HFL).
14	89	5.2.16	Concreting/ Grouting the vertical ISA 50 x 50 x 6 MM	Replace by "Concreting/ Grouting the vertical ISA 50 x 50
			2.5 m c/c and strut supports with Concrete Grade- M20 / PCC	x 6 MM 2.5 m c/c and strut supports with Concrete Grade- M25
			(1:1.5:3)	using minimum 400 Kg of ordinary Portland cement (53
				grade)
15	93	5.2.30	Water supply: All necessary arrangement for wet cleaning of	Replaced by "Water supply: All necessary arrangement for wet
			the solar panels shall be in the scope of the bidders and	cleaning of the solar panels shall be in the scope of the bidders
			accordingly the agency has to provide all the necessary	and accordingly the agency has to provide all the necessary
			equipment, accessories, tool & tackles, pumps, tankers,	equipment, accessories, tool & tackles, pumps, tankers, tractors
			tractors and piping arrangement which are required for the	and piping arrangement which are required for the same."
			same. The Bidder shall be provided dry module cleaning	
			system by Robots of proven technology. Bidder shall install	
			Robots to Module installed on structures which are connected	
			1 number of Invertor (invertor can of any capacity).	
			Installation of Robot for 1 number of Invertor DC capacity is	
			mandatory. Further for total plant capacity bidder can either	
			opt for Dry cleaning by robot or by wet cleaning via pipe line	
			network.	
16	93	5.2.31	Civil work for Pre-fab Inverter Room/ The FFL +0.6 m from	Replaced by "Civil work for Pre-fab Inverter Room: The FFL +0.6
			FGL for 75 MW AC Solar Project	m from FGL / High Flood Level whichever is higher for 75 MW
		1		

Amendments/Clarifications to " Bid for Design, Engineering, Supply & Procurement, Construction, Erection, Testing, Commissioning, Operation and Maintenance of Solar Photovoltaic Grid-Connected Power Plant of 75MW (AC) Near Surat Lignite Power Plant of GIPCL, Dist. Surat, Gujarat."



				AC Solar Project"
17.	98	5.2.34.8	Plinth level of the building shall be + 600 mm above Finished	<b>Replaced by</b> "Plinth level of the building shall be + 600 mm above
			Ground level (FGL). Plinth protection 1000mm wide shall be	Finished Ground level (FGL)/ High Flood Level whichever is
			provided all around all the Control Room cum MCC Building	higher. Plinth protection 1000mm wide shall be provided all
			along with RCC Garland drain as approved by GIPCL	around all the Control Room cum MCC Building along with RCC
				Garland drain as approved by GIPCL"
18.	122	5.3.1(v)	All photovoltaic modules should carry a performance	Replaced by "All photovoltaic modules should carry a
			warranty of >90% during the first 10 years, and >80% during	performance warranty of >90% during the first 10 years, and >80%
			the next 15 years. Further, module shall have performance	during the next 15 years. Further, module shall have performance
			warranty of > 98% during the first year of installation.	warranty of ≥ 97.5% for Poly Crystalline and ≥ 97% for Mono
			Degradation of PV module for first year shall be limited to 3%	Crystalline during the first year of installation. Degradation of PV
			and shall not be more than 0.7% in any subsequent year.	module for first year shall be limited to 2.5 % (For Poly
				Crystalline) or 3 % (For Mono Crystalline) and shall not be more
				than 0.7% in any subsequent year for Poly crystalline & Mono
				crystalline PV Module."
19.	126	5.3.2 (vii)	The junction boxes shall be dust, vermin, and waterproof and	Replaced by "The junction boxes shall be dust, vermin, and
			made of thermoplastic/ metallic in compliance with IEC	waterproof and made of thermoplastic/metallic FRP in compliance
			62208, which should be sunlight/ UV resistive as well as fire	with IEC 62208, which should be sunlight/ UV resistive as well as
			retardant & must have minimum protection to IP 65(Outdoor)	fire retardant 8 must have minimum protection to ID 65(Outdoor)
			and Protection Class II or higher. Junction box shall be	and Protection Class II or higher. Junction box shall be designed
			and Protection Class II or higher. Junction box shall be designed for 1000V DC or 1500V DC system as applicable.	and Protection Class II or higher. Junction box shall be designed for 1000V DC or 1500V DC system as applicable."
20.	128	5.3.3	and Protection Class II or higher. Junction box shall be designed for 1000V DC or 1500V DC system as applicable. The inverters shall have minimum protection to IP	and Protection Class II or higher. Junction box shall be designed for 1000V DC or 1500V DC system as applicable." <b>Replaced by</b> "The inverters shall have minimum protection to IP
20.	128	5.3.3 (xvi)	and Protection Class II or higher. Junction box shall be designed for 1000V DC or 1500V DC system as applicable. The inverters shall have minimum protection to IP 65(Outdoor)/ IP 21(indoor) and Protection Class II or higher.	and Protection Class II or higher. Junction box shall be designed for 1000V DC or 1500V DC system as applicable." <b>Replaced by</b> "The inverters shall have minimum protection to IP 65(Outdoor)/ IP 21(indoor) and Protection Class II or higher.

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				however, IP54 Inverter Block shall have additionally suitable MS
				Structure with canopy covering full IR installation."
21.	131	5.3.3	It shall have bus communication via interface for integration,	Replaced by "It shall have bus communication via interface for
		(xxxiii)	remote control via telephone model or mini web server,	integration, remote control via telephone model or mini web
			integrated protection in the DC and three phase system,	server, integrated protection in the DC and three phase system,
			insulation monitoring of PV array with sequential fault	insulation monitoring of PV array with or without sequential fault
			location. Alternatively, the same can be provided through	location. Alternatively, the same can be provided through
			SCADA.	SCADA."
22.	134-	5.3.4		Replaced by "
	135		iv. Positive and Negative DC cables shall be laid in the	iv. Positive and Negative DC cables from SJB to inverter shall
			seprate trench and it should be with different colour.	be laid in the separate trench or on above ground precast
				ballast with cable holding system and underground Hume
				pipes for road crossings in the separate trench and it should
				be with different colour (Red & Black).
			v. All cables shall be armoured except Solar Cables. Solar	v. All cables shall be armoured except Solar Cables. Solar string
			cable shall be laid through MMS / DWC Conduits.	cables shall be laid through MMS/ DWC Conduits. Dressing
				of all module to module solar cables shall be properly
				done using polyamide cable ties.
			xi. The cables shall be adequately insulated for the voltage	xi. The cables shall be adequately insulated for the voltage
			required and shall be suitably colour coded for the	required and shall be suitably colour coded for the required
			required service. Bending radious for cables shall be as	service. Bending radius for cables shall be as per
			per manufacturer's recommendations and IS: 1255.	manufacturer's recommendations and IS: 1255.
				All HT & LT Power cables short circuit withstand rating shall be
				1 Sec."

Amendments/Clarifications to " Bid for Design, Engineering, Supply & Procurement, Construction, Erection, Testing, Commissioning, Operation and Maintenance of Solar Photovoltaic Grid-Connected Power Plant of 75MW (AC) Near Surat Lignite Power Plant of GIPCL, Dist. Surat, Gujarat."



23.	139	5.3.6	The cable ends shall be terminated with adequate size	Replaced by "The cable ends shall be terminated with adequate
		(xix)	copper/ Aluminum/ Bimetallic lugs and sockets etc,	size copper/ Aluminum/ Bimetallic lugs and sockets etc,
			single/double compression cable glands. Cable glands shall	single/double compression cable glands. Cable glands shall be
			be of robust construction capable of clamping cable and cable	of robust construction capable of clamping cable and cable
			armor (for armored cables) firmly without injury to insulation.	armor (for armored cables) firmly without injury to insulation.
			The metallic glands shall be earthed at min one location.	The metallic glands shall be earthed at min one location.
			Suitable lock type crimping lugs shall be used for cable end	Suitable lock type crimping lugs shall be used for cable end
			terminations. Where cables are raising from ground, suitable	terminations. Where cables are raising from ground, suitable
			PVC pipe guarding shall be provided for cable raising with	PVC pipe guarding shall be provided for cable raising with
			sealing of the guarding PVC pipe including a suitable clamp.	sealing of the guarding PVC pipe including a suitable clamp
				Brass nickel-plated double compression type cable
				glands shall be used for all outdoor application. Heavy
				duty long barrel lugs shall be used for all HT and LT power
				cables.
				Comprehensive cable sealing solution (e.g. Roxtec,
				Delseal etc.) shall be used for termination of LT AC power
				cables at inverter end. All glands shall be properly earthed
				by suitable mechanism like (Earth tag, clamps etc.).
24.	146	5.3.11 (ii)	ICOG/RMU panel or radial scheme through VCB panel is	Replaced by "ICOG/RMU panel or radial scheme through VCB
			acceptable but ICOG/RMU is to be used for connecting	panel is acceptable but ICOG/RMU is to be used for connecting
			inverter room and main control room. It shall have circuit	inverter room and main control room. It shall have circuit breaker
			breaker of suitable rating for connection and disconnection of	of suitable rating for connection and disconnection of PCU from
			PCU from grid. It shall have provision to measure bus voltage,	grid. It shall have provision to measure bus voltage, current and
			current and power of the transformer using multifunction	power of the transformer using multifunction meter of reputed
			meter of reputed make with minimum accuracy of 0.2.	make with minimum accuracy of 0.2s. Associated CT & PT shall

(Sign and Seal of Bidder)

Page13of29



			Associated CT & PT shall also be of same ac	curacy class.	also	be of same accurac	y class. Outdoor inv	erter & ICOG/RN	ΜU
			Outdoor inverter & ICOG/RMU panel with IP65	or above are	pane	l with IP54 or above	e class are acceptal	ble. Interconnect	ion
			acceptable. Interconnection of ICOG/ RMU to Inverter duty c		of IC	OG/ RMU to Inverte	r duty transformer a	and ICOG to inde	oor
			transformer and ICOG to indoor pooling switch	gear shall be	pool	ng switchgear shall	be through HT cabl	les. Inverter stat	ion
			through HT cables. Inverter station should	be properly	(Blo	ck) should be prope	rly provided with ca	nopy structure a	and
			provided with canopy structure and working pla	tform.	work	ing platform."			
25.	148	5.3.12 (i)	The Contractor shall provide the complete	EPC design,	Rep	aced by "The Cont	ractor shall provide	the complete E	PC
			supply, erection, testing and commissioning of	transformers	desi	gn, supply, erection	on, testing and	commissioning	of
			and transformer substation to first step-up the	output of the	trans	formers and <del>transfor</del>	mer substation to firs	st step-up the out	put
			inverter to HV at the location of the inve	rter. Inverter	of th	e inverter to HV at	t the location of th	e inverter. Inver	rter
			transformer must be protected with HV VCB F	Panel / RMU/	transformer must be protected with HV VCB Panel / RMU/ ICOG				
			ICOG Capacity of each inverter block. Capa	acity of -ICR	Capacity of each inverter block. Capacity of -ICR (Inverter Block)				
			(Inverter Block) shall not exceed more than 12.5	5 MW. Hence,	shall be as per design requirement. Hence, total 75 MW (AC)				
			total 75 MW (AC) capacity of the solar plant wit	h provision of	capa	city of the solar pla	ant with provision c	of rated 33 kV	ΗV
			rated 33 kV HV Vacuum Circuit Breaker pa	anel shall be	Vacu	ium Circuit Breaker p	anel shall be connec	ted up to 33/66/2	220
			connected upto 33/66/220 kV substation (Swite	chyard) of the	kV s	ubstation (Switchyard	l) of the plant."		
			plant						
26.	152	Table 5-8	Sr. Particulars Inverter Transformer		Rep	aced by "			
			5 Windings As per system requirement		<b>C</b> 7	Dortiouloro	In contan Transforms		
					51.	Particulars			
					No.		Type)		
					5	No. of Windings	No. of windings as	s per system	
						and winding	requirement windir	ng conductor	
						conductor	Material: Electroly	tic grade/	
						material	copper		



27.	157	Require	d equipment for communication system i.e. PLCC,	Replaced by "Required equipment for communication system
		OPGW,	OFC, RTU, networking components/ equipment,	i.e. PLCC, OPGW, OFC, RTU, networking components,
		panels,	power supply, cables, FOTE panel etc. are in bidder's	equipment, panels, power supply, cables, FOTE panel etc. of
		scope		both GIPCL & GETCO end are in bidder's scope."
28.	159	6	Clearances from adjacent live parts shall be	Replaced by "
		maintair	ned for safety.".	6 Clearances from adjacent live parts shall be
				maintained for safety.".
				7. 220kV bay for solar power evacuation shall be seamlessly
				integrated with existing switchyard which essentially
				includes gentry, insulators, earth wire, isolators
				conductors, breaker, CT, VT, LA, support structure, civi
				work etc. as per scheme requirement in available space.
				Any possible requirement of marginal bay extension work
				is in the scope of EPC contractor.
				8. At least one spare cable for use shall be laid on both the
				routes i.e. (i) from North Plot to 220 kV switchyard (ii) from
				South plot to 220 kV switchyard. The spare cables shall be
				ready to use and complete in all respect e.g. joints, end
				termination kit and looping
29.	159	Total s	olar power communication system requirement (data,	Replaced by "Total solar power communication system
		speech	n, voice, teleprotection, telemetering) shall be	requirement (data, speech, voice, tele protection, telemetering)
		integra	ted seamlessly with existing communication system	shall be integrated seamlessly with existing communication
		(e.g. P	LCC, OPGW, OFC, RTU etc.) of 220 kV switchyard.	system (e.g. PLCC, OPGW, OFC, RTU etc.) of both GIPCL and
				GETCO end 220 kV switchyard"
30.	160	Voltage	e transformers can be either electromagnetic type or	Replaced by "Voltage transformers can be either electromagnetic
			(Sign and Seal of Bidder) Pa	age <b>15</b> of <b>29</b>

Amendments/Clarifications to " Bid for Design, Engineering, Supply & Procurement, Construction, Erection, Testing, Commissioning, Operation and Maintenance of Solar Photovoltaic Grid-Connected Power Plant of 75MW (AC) Near Surat Lignite Power Plant of GIPCL, Dist. Surat, Gujarat."



		capacitive type Current Transformer	type or capacitive type Current Transformer"
31.	162	Numerical relays & shall be used for transformer differential, overcurrent, earth fault or any other protection.	• Replaced by "Numerical relays (with disturbance recording, fault history logging features and communication protocol as per IEC-61850/ relevant IS) shall be used for transformer differential, overcurrent, earth fault or any other protection."
32.	162	Bidder shall study 220kV busbar differential protection scheme of existing plant where point of connection of 75 MW solar plant is proposed. Bidder shall suggest & submit modified scheme for approval of GIPCL. After approval if replacement of existing 220kV Busbar Differential protection relay is necessary; supply of relay with associated hardware i.e. cables, TBs, wires etc. testing, installation and termination shall be in bidder's scope. CT ratio and Characteristic of PS class core of CT in 75MW solar injection bay for busbar differential protection shall match with existing PS class CTs of other bays.	Replaced by "Bidder shall study 220kV busbar differential protection scheme of existing plant where point of connection of 75 MW solar plant is proposed and seamlessly integrate complete protection system with solar power generation."
33.	164	An oil soak pit of adequate capacity shall be provided below each oil filled transformer to accommodate at least <b>150%</b> of full quantity of oil contained in the transformer/reactor and minimum 300 mm thick layer of gravels or pebbles of approximately 40 mm size	<b>Replaced by</b> "An oil soak pit of adequate capacity shall be provided below each oil filled transformer to accommodate at least <b>110%</b> of full quantity of oil contained in the transformer/ reactor and minimum 300 mm thick layer of gravels or pebbles of approximately 40 mm size. Alternatively, common 'burnt oil pit' of adequate capacity (at least equal to 110% oil quantity in the largest size transformer) shall be provided for a group of transformers, connected to all the soak pits of transformers

(Sign and Seal of Bidder)

Page16of29



		with adequate size of pipes for fast draining of oil or water
		from soak nits to the burnt oil nit "
34. 165	Further, all the transformers specifications shall be as per CEA, CERC, regulations/guidelines. Transformer Losses : As per IS or as per CEA regulations Insulating medium Transformer oil as per IS: 12463	<ul> <li>Replaced by</li> <li>f) For Transformers above 2 MVA rating: Main conservator shall have air cell type constant oil pressure system to prevent oxidation and contamination of oil due to contact with moisture. Air cell used shall be made of nitrile rubber reinforced with nylon cloth suitable for operating continuously at 100°C.</li> <li>g) Vector group of transformers mentioned are indicative and shall be finalized during detailed engineering as per system requirement.</li> <li>h) RTCC panels shall be provided for all the transformers with OLTC with necessary indications and annunciators.</li> <li>i) Weather Shed with suitable clamp and hardware for all protective devices i.e. Buchholz, Surge relay, PRD etc. shall be provided.</li> <li>j) Type test and Dynamic Short circuit withstand test reports/ certificate of 66/33kV or 220/33kV power transformers and 33/xxx kV Inverter duty transformers shall be provided. The DSC test requirements shall be as per CEA regulation "Adoption of Standard specification and technical parameters for transformers and reactors</li> </ul>
		shall be provided. The DSC test requirem per CEA regulation "Adoption of Standa and technical parameters for transforme (66 kV & above voltage class)" and IS 202



				k) Transformer oil shall be of same make in all the
				transformers.
				Further, all the transformers specifications shall be as per CEA,
				CERC, regulations/guidelines.
				Transformer Losses: As per IS or as per CEA regulations
				Insulating medium Transformer oil as per IS: 12463 or IS 335
				amended time to time. "
35.	167		The HV switchgear panels located indoor shall be complete	Replaced by "The HV switchgear panels located indoor shall be
			with cubicles, protection, metering, bus-bar system, cabling,	complete with cubicles, protection, metering, bus-bar system,
			wiring and other accessories, comprising of HV Vacuum/SF6	cabling, wiring and other accessories, comprising of HV
			circuit breaker, AC bus bars (including N-bus bar), Current	Vacuum/SF6 circuit breaker, AC bus bars (including N-bus bar),
			transformers, Potential transformers, Multifunction meters	Current transformers, Potential transformers, Multifunction meters
			and other necessary equipment as per system requirements.	and other necessary equipment as per system requirements. The
			The quantities shall be finalized during detail engineering	quantities shall be finalized during detail engineering based on the
			based on the proposed configuration.	proposed configuration. MFM's shall be of 0.2s Class. The List
				of parameters shall be as per Secure MFM Elite 445 or
				Rishabh RISH 3430. Associated metering CT and PT shall be
				of 0.2s & 0.2 class respectively. All parameters of the MFM
				shall be integrated to the SCADA system."
36.	185	5.3.23		Add Clause:
		(iv)		0.2s Class MFM's shall be provided. The List of
				parameters shall be as per Secure MFM Elite 445 or
				Rishabh RISH 3430. Associated metering CT and PT
				shall be of 0.2s & 0.2 class respectively. All

Amendments/Clarifications to " Bid for Design, Engineering, Supply & Procurement, Construction, Erection, Testing, Commissioning, Operation and Maintenance of Solar Photovoltaic Grid-Connected Power Plant of 75MW (AC) Near Surat Lignite Power Plant of GIPCL, Dist. Surat, Gujarat."



				parameters of the MFM shall be integrated to the
				SCADA system."
37.	186	5.3.25 (i)	Single front / compartmentalized, modular design, degree of	Replaced by "Indoor type LT Panels protection class shall be
			protection IP52 with provision of extension on both sides.	minimum IP4X & outdoor type shall be minimum IP54."
38.	186	5.3.25 (ii)	Incomer feeders: mains incomers	Replaced by "Incomer feeders: 0.2s Class MFM's shall be
				provided. The List of parameters shall be as per Secure MFM
				Elite 445 or Rishabh RISH 3430. Associated metering CT and
				PT shall be of 0.2s & 0.2 class respectively. All parameters of
				the MFM shall be integrated to the SCADA system."
39.	186	5.3.25	Outgoing feeders: / Moulded Case Circuit Breakers (MCCBs)	Replaced by "Outgoing feeders: / Moulded Case Circuit Breakers
		(iv)		(MCCBs) All motor feeders shall be with inbuilt DOL
				starters, level controllers etc. as per plant design
				requirement.
				All lighting feeders shall be contactor operated.
				Rest of the 3 phase & 1 phase feeders shall have 4 pole & 2
				pole MCBs respectively.
				20% extra feeders shall be provided for future use. "
40.	188	5.3.28 (i)	The Contractor shall install two separate minimum 100 kVA,	Replaced by "The Contractor shall install two separate minimum
			33/ 11 kV / 0.415 KV step down transformers (considering	100 kVA 33/11kV/0.415 KV step down transformers of rating
			100% redundancy for auxiliary power) for 75 MW (AC) Solar	as per design calculations (considering 20% extra capacity
			PV Plant to supply power for internal equipment such as	for future requirement and 100% redundancy for auxiliary
			power for control equipments, battery chargers, UPS, area	power) for 75 MW (AC) Solar PV Plant to supply power for
			lighting, water pumps, oil filtration and conference room	internal equipment such as power for control equipment, battery
			fixtures, control room lighting and air-condition, etc. Separate	chargers, UPS, area lighting, water pumps, oil filtration,

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			transformers with necessary protections shall be installed for	conference room fixtures, control room lighting and air-
			pooling switchgear of North plot, South plot and 220KV	condition, etc. Separate <b>auxiliary</b> transformers with necessary
			switchyard bay at SLPP	protections, indications & annunciations shall be installed for
				pooling switchgear of 220 <b>/66</b> KV switchyard bay, South plot
				and/or North plot at SLPP."
41.	189	5.3.29	All DC Batteries the batteries shall have the following	Replaced by "
		(iii)	specifications	All DC Batteries the batteries shall have the following
			• Two sets of 220V/110V (Bank of 2.0 V cells), Lead acid SAN	specifications
			container torr tubular batteries (OPzS O = Ortsfest	•Two sets of 220V/110V (Bank of 2.0 V cells), Lead acid SAN
			(stationary) Pz = PanZerplatte (tubular plate) S =Flüssig	container torr tubular batteries (OPzS O = Ortsfest (stationary) Pz
			(flooded)) complete with electrolyte, racks, consumables	= PanZerplatte (tubular plate) S = Flüssig (flooded)) complete with
			and all accessories for North plot MCR, South plot MCR and	electrolyte, FRP racks (single tire bank in case of battery
			220KV switchyard at SLPP (Total 6 sets).	capacity>120AH), consumables and all accessories for each
			• Two numbers 220 V/110 V DC FC+FCBC chargers.	location i.e. North plot MCR, South plot MCR and 220/66KV
			• Two numbers 220V/110 V, 2 pole, DC MCCB in sheet steel	switchyard <del>at SLPP</del> (Total 6 sets).
			enclosure for battery set	•Two numbers sets of 220 V/110V DC FC+FCBC chargers for
			• UPS batteries for North plot MCR, south plot MCR and	each battery <del>set</del> bank.
			220kV switchyard may be combined with one of the batteries	•Two numbers 220V/110 V, 2 pole, DC MCCB-Separate DCDB in
			in each set of two batteries mentioned above.	sheet steel enclosure shall be for battery provided. DCDB shall
			Battery sizing calculation shall be submitted by the bidder for	consist of two incomers from both DC battery & charger
			approval.	system with bus coupler and outgoing feeders (considering
				20% spare feeders for future use)
				•UPS batteries for North plot MCR, south plot MCR and er
				220/66kV switchyard may be combined with one of the batteries

Amendments/Clarifications to " Bid for Design, Engineering, Supply & Procurement, Construction, Erection, Testing, Commissioning, Operation and Maintenance of Solar Photovoltaic Grid-Connected Power Plant of 75MW (AC) Near Surat Lignite Power Plant of GIPCL, Dist. Surat, Gujarat."



									in each set (	of two batter	ies mention	ed above I		hall also
									be separate.					
									Battery sizin	g calculatio	on shall be	submitted	by the b	idder for
42.	199	5.3.33	Data from	m SCADA of main control room shall be transferred					Replaced b	<b>y</b> "Data fro	m SCADA	of main cor	ntrol room	shall be
		General	to either	SLPP SC	CADA room	(approx.	distance	4-5 KM)	transferred to	SLPP SCAI	DA room (ap	prox. distan	ce 4-5 KM	) through
			through re	dundant	armoured o	ntical fiber	cable/OP	GW or to	redundant arn	noured optic	al fiber cable	/OPGW and	<b>1/</b> or to 66	kV Mosali
									S/s (approx_d	istance 10-1	5 KM) throug	h OPGW cal	hle "	
				usan 5/s	(approx. c	istance it	-15 KIVI)	through			o rawy arroug		510.	
			OPGW ca	ble.										
43.	203	5.3.33.1	Equipment	Location	SCADA Red	SCADA Requirements				Replaced by				
		(xii-13)	Details						Equipment	Location	SCADA Rec	uirements		
					Monitoring	Control /	Data	Specific	Details		Monitoring	Control /	Data	Specific
					/ Status	Operation	Logging	Remarks			/ Status	Operation	Logging	Remarks
			Weather	MCR	Yes		Yes		Weather	MCR/LCR	Yes		Yes	
			Status						Status					
			Status							int 10 in T	hla			
									ADD new po			1	T	
									PQ Meter	MCR	Yes	Yes	Yes	
									PMU	MCR	Yes		Yes	
									Numeric	MCR	Yes		Yes	
									Relay with					
									Recorder					
44.	204	5.3.33.1	Spares an	d service	support let	ter for SCA	DA syste	em for 15	Replaced by	: "Spares a	and service	support lett	er for SC/	ADA and
		xviii	Years fron	n date of (	COD shall b	e taken fro	m OEM o	f SCADA	PPC system	for 15 Yea	rs from date	e of COD s	hall be ta	ken from
			system an	d shall be	submitted t	to GIPCI			OFM of SCA	DA system	and shall be	e submitted	to GIPCI	"
			system an	d shall be	e submitted t	to GIPCL.			OEM of SCADA system and shall be submitted to GIPCL."					

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Amendments/Clarifications to " Bid for Design, Engineering, Supply & Procurement, Construction, Erection, Testing, Commissioning, Operation and Maintenance of Solar Photovoltaic Grid-Connected Power Plant of 75MW (AC) Near Surat Lignite Power Plant of GIPCL, Dist. Surat, Gujarat."



15	200	5 3 22 1	SCADA system shall include the following standard protocols	Penlaced by: "SCADA system shall include the following
43.	209	0.0.00.1		standard aretaala as a minimura
		XXXVI-4	as a minimum:	standard protocols as a minimum:
			a) Modbus (TCP/IP, RTU, ASCII).	a) Modbus (TCP/IP, RTU, ASCII).
			b) Sub Station Protocol (IEC-61850 and IEC 60870 -5-	b) Sub Station Protocol (IEC-61850 and IEC 60870 -5-101/104).
			101/104).	c) PMU Protocol IEEE C37.118 (PMU shall simultaneously
				provide data to SCADA and Phasor Data Concentrator
				(PDC) at Sub Station control center)
			Any other protocol on which the offered equipment (by	Any other protocol on which the offered equipment (by contactor)
			contactor) will communicate with SCADA.	will communicate with SCADA."
46.	210	5.3.33.1		ADD new point 6:
		xxxvii		6. The SCADA shall be able to display and record PMU and
				Numeric relay disturbance recorder all data at rate of
				1mS (milli second).
47.	225	5.3.34	Management Information System (MIS) for 75 MW (AC)	Replaced by "Management Information System (MIS) for 75
			Project:	MW (AC) Project:
			a) Web based monitoring shall be machine independent.	<ul><li>MW (AC) Project:</li><li>a) Web based monitoring shall be machine independent. The</li></ul>
			<ul><li>Project:</li><li>a) Web based monitoring shall be machine independent. The web based monitoring shall provide same screen as</li></ul>	<ul><li>MW (AC) Project:</li><li>a) Web based monitoring shall be machine independent. The web-based monitoring shall provide same screen as available</li></ul>
			<ul><li>Project:</li><li>a) Web based monitoring shall be machine independent. The web based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded</li></ul>	<ul> <li>MW (AC) Project:</li> <li>a) Web based monitoring shall be machine independent. The web-based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote</li> </ul>
			<ul> <li>Project:</li> <li>a) Web based monitoring shall be machine independent. The web based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote web client in PDF / Excel format.</li> </ul>	<ul> <li>MW (AC) Project:</li> <li>a) Web based monitoring shall be machine independent. The web-based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote web client in PDF / Excel format.</li> </ul>
			<ul> <li>Project:</li> <li>a) Web based monitoring shall be machine independent. The web based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote web client in PDF / Excel format.</li> <li>b) The Bidder shall provide web based Real Time Remote</li> </ul>	<ul> <li>MW (AC) Project:</li> <li>a) Web based monitoring shall be machine independent. The web-based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote web client in PDF / Excel format.</li> <li>b) The Bidder shall provide web based Real Time Remote</li> </ul>
			<ul> <li>Project:</li> <li>a) Web based monitoring shall be machine independent. The web based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote web client in PDF / Excel format.</li> <li>b) The Bidder shall provide web based Real Time Remote monitoring system such that the data from 75 MW (AC)</li> </ul>	<ul> <li>MW (AC) Project:</li> <li>a) Web based monitoring shall be machine independent. The web-based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote web client in PDF / Excel format.</li> <li>b) The Bidder shall provide web based Real Time Remote monitoring system such that the data from 75 MW (AC) project</li> </ul>
			<ul> <li>Project:</li> <li>a) Web based monitoring shall be machine independent. The web based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote web client in PDF / Excel format.</li> <li>b) The Bidder shall provide web based Real Time Remote monitoring system such that the data from 75 MW (AC) project shall be available to remote location(s) for viewing</li> </ul>	<ul> <li>MW (AC) Project:</li> <li>a) Web based monitoring shall be machine independent. The web-based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote web client in PDF / Excel format.</li> <li>b) The Bidder shall provide web based Real Time Remote monitoring system such that the data from 75 MW (AC) project shall be available to remote location(s) for viewing data by</li> </ul>
			<ul> <li>Project:</li> <li>a) Web based monitoring shall be machine independent. The web based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote web client in PDF / Excel format.</li> <li>b) The Bidder shall provide web based Real Time Remote monitoring system such that the data from 75 MW (AC) project shall be available to remote location(s) for viewing data by GIPCL officials at GIPCL Offices in existing PCs</li> </ul>	<ul> <li>MW (AC) Project:</li> <li>a) Web based monitoring shall be machine independent. The web-based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote web client in PDF / Excel format.</li> <li>b) The Bidder shall provide web based Real Time Remote monitoring system such that the data from 75 MW (AC) project shall be available to remote location(s) for viewing data by GIPCL officials at GIPCL Offices in existing PCs and also</li> </ul>
			<ul> <li>Project:</li> <li>a) Web based monitoring shall be machine independent. The web based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote web client in PDF / Excel format.</li> <li>b) The Bidder shall provide web based Real Time Remote monitoring system such that the data from 75 MW (AC) project shall be available to remote location(s) for viewing data by GIPCL officials at GIPCL Offices in existing PCs and also outside the offices and to other Government</li> </ul>	<ul> <li>MW (AC) Project:</li> <li>a) Web based monitoring shall be machine independent. The web-based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote web client in PDF / Excel format.</li> <li>b) The Bidder shall provide web based Real Time Remote monitoring system such that the data from 75 MW (AC) project shall be available to remote location(s) for viewing data by GIPCL officials at GIPCL Offices in existing PCs and also outside the offices and to other Government agencies through</li> </ul>
			<ul> <li>Project:</li> <li>a) Web based monitoring shall be machine independent. The web based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote web client in PDF / Excel format.</li> <li>b) The Bidder shall provide web based Real Time Remote monitoring system such that the data from 75 MW (AC) project shall be available to remote location(s) for viewing data by GIPCL officials at GIPCL Offices in existing PCs and also outside the offices and to other Government</li> </ul>	<ul> <li>MW (AC) Project:</li> <li>a) Web based monitoring shall be machine independent. The web-based monitoring shall provide same screen as available in the plant. All reports shall also be downloaded from remote web client in PDF / Excel format.</li> <li>b) The Bidder shall provide web based Real Time Remote monitoring system such that the data from 75 MW (AC) project shall be available to remote location(s) for viewing data by GIPCL officials at GIPCL Offices in existing PCs and also outside the offices and to other Government agencies through internet/ web-based link for real time monitoring of complete</li> </ul>

(Sign and Seal of Bidder)

Page22of29

Amendments/Clarifications to " Bid for Design, Engineering, Supply & Procurement, Construction, Erection, Testing, Commissioning, Operation and Maintenance of Solar Photovoltaic Grid-Connected Power Plant of 75MW (AC) Near Surat Lignite Power Plant of GIPCL, Dist. Surat, Gujarat."



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			agencies through internet/web-based link for real tim	e system.
			monitoring of complete system.	c) Complete 75 MW Plant data shall be available to remote
			c) Complete 75 MW Plant data shall be available to remo	e locations. Minimum 4 Nos. of concurrent remote logins/user
			locations. Minimum 4 Nos. of concurrent remo	e are envisaged for web-based monitoring/view. Remote
			logins/user are envisaged for web-based monitoring/view	n. monitoring data for MIS shall be viewed at existing the Owner's
			Remote monitoring data for MIS shall be viewed	PC / mobile. Separate PC / work station for MIS System is not
			existing the Owner's PC / mobile. Separate PC / wo	k envisaged. All data shall be accessible through internet with
			station for MIS System is not envisaged. All data shall t	e password protected login. Further, facility shall be provided for
			accessible through internet with password protected	d data view from mobile devices also. User ID and password for
			login. Further, facility shall be provided for data view fro	remote view can only be changed by SCADA administrator.
			mobile devices also. User ID and password for remo	e Further, required data including DSM and penalty
			view can only be changed by SCADA administrator.	calculation shall be transferred to GIPCL's remote server
				as well as to QCA agency (for scheduling and forecasting)
				server through FTP/ any other open Protocol as per
				required format at every 5 / 10 / 15 Minutes interval.
				d) Internet connectivity for 75 MW Project shall be in the
				scope of Bidder. Further, all recurring charges shall be in
				the scope of EPC contractor during O & M Period."
48.	226	5.3.37	CCTV Camera System for 75 MW (AC) Project: Th	e Replaced by " <u>CCTV Camera System for 75 MW (AC) Project</u> :
			Contractor shall provide IP Based CCTV Camera for the	e The Contractor shall provide IP Based CCTV Camera for the
			Monitoring of Control Room, Plant Perimeter, Boundar	v, Monitoring of Control Room, Inverter Room/ Local Control
			Entry & Exit Gates complete in all respect includir	g Rooms, Switchyard, Critical Plant Perimeter area, Entry & Exit
			necessary Camera, NVR, Switch, Active & Passiv	e Gates complete in all respect including necessary indoor /
			Components, Software, minimum 32" monitor etc. For the	e outdoor Camera with night vision, NVR, Switch, Active &
			capacity of 3.5 & 5 MW land parcel, minimum 16 Nos.	of Passive Components, Software, minimum 32" monitor etc. ALL

(Sign and Seal of Bidder)

Page23of29

Amendments/Clarifications to " Bid for Design, Engineering, Supply & Procurement, Construction, Erection, Testing, Commissioning, Operation and Maintenance of Solar Photovoltaic Grid-Connected Power Plant of 75MW (AC) Near Surat Lignite Power Plant of GIPCL, Dist. Surat, Gujarat."



			CCTV	CCTV Camera of various Indoor / Outdoor with Night Vision					Vision	outdoo	or camera sha	II be 25x Zoom IR WDR PTZ IP Came	ras		
			Camer	ra to install at e	ach plot.					except for main entrance gate it shall be Network WDR 4 MP					
										IR Bull	let Camera and	for indoor all camera shall be TDN 108	30p		
										IR Ball Camera."					
49.	230	5.3.39	<u>Sr.</u>	<b>Description</b>		Vendo	r Name	<u>e</u>		Sr.	Description	Vendor Name			
			<u>2</u>	PV Modules	Top 20	from	List	of	Tier-1	2	PV Modules	PV Modules shall be from MNRE's			
					manufactu	rer as	per	Bloon	nberg			Approved List and Manufacturers of			
					BNEF Q4	2021 r	eport a	and fu	lfilling			Solar PV Modules (Requirements for			
					the othe	r tend	er re	quiren	nents,			Compulsory Registration) Order,			
					subject to	approva	l of Ov	vner (I	ndian			2019" and List(s) thereunder as			
					make Vikr	am, TA⁻	ΓA, BH	IEL, W	arree			amended from time to time prior to			
					are accept	able <b>OR</b>	Indian	N PV M	odule			actual commissioning of the Project			
					Manufactu	rers ha	ving 50	00 MV	V per			$\underline{\textbf{AND}}$ should be included in List of			
					annum c	apacity	and	1000	MW			Tier-1 manufacturer as per			
					cumulative	install	ation,	with s	single			Bloomberg BNEF report with fulfilling			
					plant of 50	MW or I	more o	peratio	onal			other tender requirements and will be			
					since 1 ye	ar)						subject to approval of Owner .			
50.	247	6.12.2	If for a	ny Contract Ye	ar, it is foun	d that th	ne "Actu	ual De	livered	Replac	ed by : "If for a	ny Contract Year, it is found that the "Act	ual		
			Energy	/" is less than 'E	Base NEEGO	G' for the	e partic	ular ye	ear, the	Deliver	red Energy" is	less than 'Base NEEGG' for the particu	ılar		
			Contra	ctor shall pay	the compen	sation to	o GIPC	CL equ	ivalent	year,	the Contractor	shall pay the compensation to GIP	CL		
			to Rs.	(2.75 x 1.0) pe	er kWh of u	nder-gei	neratio	n. The	e same	equiva	lent to Rs. (2.7	5 x 1.0) per kWh of under-generation. T	<sup>-</sup> he		
			shall be recovered from payment yet to be made by GIPCL to				PCL to	same s	shall be recover	ed from payment yet to be made by GIP	CL				
			the Contractor and/ or from the Bank Guarantees available				ailable	to the (	Contractor and/	or from the Bank Guarantees available v	vith				
			with G	IPCL. (Up to 10	5% of Base	GHI). A	s Exan	nple if	annual	GIPCL	. (Up to 105%	of Base GHI). As Example if annual GH	l is		
			GHI is	1840Kwh/m2	is base G⊦	II and C	Quoate	d NEE	GG is	1840K	wh/m2 is base	GHI and Quoted NEEGG is 17,73,90,0	)00		

(Sign and Seal of Bidder)

Page24of29



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			17,73,90,000 kwh and actual annual GHI is 1934kwh/m2	kwh and actual annual GHI is 1934kwh/m2 (more than 105% of
			(more than 105% of base GHI) and Contractor has achieved	base GHI) and Contractor has achieved corresponding corrected
			corresponding corrected generation up to 1932kWh/m2 GHI	generation up to 1932kWh/m2 GHI i.e. 18,62,59,500 kWh then
			i.e. 18,62,59,500 kWh then penalty is not applicable.	penalty is not applicable.
				Maximum Penalty on account of failing to meet guaranteed
				generation during O&M period for the solar PV project shall
				be limited to 5% of the EPC contract value (excluding O&M
				charges). "
51.	252	6.16.3	Upon occurrence of such causes and upon its termination,	Replacedby "Upon occurrence of such causes and upon its
			the party alleging that it has been rendered unable as	termination, the party alleging that it has been rendered unable as
			aforesaid, thereby, shall notify the other party in writing by	aforesaid, thereby, shall notify the other party in writing by
			registered notice within 24 (twenty four) hours of the alleged	registered notice as soon as possible but not later than 7
			beginning and ending thereof giving full particulars and	calendar days of the alleged beginning and ending thereof giving
			satisfactory evidence in support of its claim.	full particulars and satisfactory evidence in support of its claim."
52.	254	6.18.6	Comprehensive insurance is to be arranged by the Contractor	Replaced by "The EPC Contractor shall provide or obtain and
			during the O&M period of the Contract.	maintain in force throughout the period of O&M the following
				Insurance coverage: (i) Insurance to cover third party liability of
				appropriate value along with an undertaking indemnifying GIPCL
				from any such claim. (ii) Workmen compensation and /or group
				personal accidents Insurance policy covering all its employees
				and works including of the sub-contractor. Pilferage, theft, burglary
				also are also to be covered by the EPC Contractor/O&M operator.
				(iii) Fire and allied perils including earthquake, flood, storms,
				cyclone, tempest, insurance policy shall be taken by the Owner
				regularly immediately after COD. In case of any loss/ claim under
		1		1

Amendments/Clarifications to " Bid for Design, Engineering, Supply & Procurement, Construction, Erection, Testing, Commissioning, Operation and Maintenance of Solar Photovoltaic Grid-Connected Power Plant of 75MW (AC) Near Surat Lignite Power Plant of GIPCL, Dist. Surat, Gujarat."



				the infor EPC plan quot char item Ope mini brea for reas else	policy, EPC Contractor/O&M Operator shall immediately rm the same to the Owner. (iv) It is the responsibility of the C contractor /O&M Operator to operate and maintain the solar at and all the associated equipments at his own cost for the ted O&M period for which the Owner shall pay the agreed O&M rges only. (v) Any replacement / repair / modification of any n / equipment shall be carried out by the EPC contractor /O&M erator at his own cost for the quoted O&M period, so as to have imum down time. The Owner shall not be responsible for any ak down / failure of any equipment to any reason thereof except Force Majeure / Fire & Allied Perils Events or extraneous sons. (vi) The scope / type / form of insurance cover mentioned ewhere in this tender, for the scope of the project for the quoted
53.	261 6.37.1	Terms of Payment for Supply:	Amount	Rep	Amount
		<ol> <li>Advance Payment (10% of Supply Price excluding taxes &amp; duties) against         <ol> <li>Acceptance of LOI</li> <li>Submission of Advance Bank Guarantee of equivalent amount</li> <li>Submission of Performance Bank Guarantee (validity of minimum 31 months) -10% of the total EPC Contract Price</li> </ol> </li> </ol>	10% of Supply Price excluding taxes & duties	1	Advance Payment (15% of Supply Price excluding taxes & duties) against15% of Supply Price excluding taxes & duties) againsti.Acceptance of LOI Guarantee of equivalent amount (validity till completion of Punch points and submission of O&M Documents and handing over of the plant to O&M complete in all respect)15% of Supply Price excluding taxes & dutiesii.Submission of Performance Bank Guarantee (validity of minimum 31 months) -10% of the total EPC Contract Price10%

(Sign and Seal of Bidder)

Page26of29

Amendments/Clarifications to " Bid for Design, Engineering, Supply & Procurement, Construction, Erection, Testing, Commissioning, Operation and Maintenance of Solar Photovoltaic Grid-Connected Power Plant of 75MW (AC) Near Surat Lignite Power Plant of GIPCL, Dist. Surat, Gujarat."



						V. Submission of a detailed PERT		
		2	Completion of Erection of MMS Column Post including civil Foundation of each 5	10% of Supply		Network chart based on the work schedule		
			MW or More (AC) Block	Price	2	Completion of Erection of MMS Column	10% of Supply	
		3	Supply of PV Modules on pro rata basis, for each 10 MWp (Supply of PV Modules	45% of Supply Price		MW or More (AC) Block	Price	
			shall be as per mutually agreed schedule on sequential basis only) payment through LC upon receipt of PV Modules at site for Domestic Modules and at any Indian Port for imported Modules		3	Supply of PV Modules on pro rata basis, for each <b>5 MWp</b> (Supply of PV Modules shall be as per mutually agreed schedule on sequential basis only) payment through LC upon receipt of PV Modules at site for Domestic Modules and at any Indian Port for imported Modules	45% of Supply Price	
		4	Supply of BOS on each 5 MW or More (AC) Block on Pro rata basis <b>except Sr.</b>	10% of Supply				
			No.2	Price	4	Supply of BOS on each 5 MW or More (AC) Block on Pro rate basis except Sr. No 2	10% of Supply	
		5	Completion of Erection & installation of	10% of Supply Price			Price	
			each 5 MW (AC) Block		5	Completion of Erection & installation of	5% of	
		6	Upon achieving Commissioning / COD of	5% of Supply		each 5 MW (AC) Block	Supply Price	
			the Plant with GEDA / GUVNL	Price	6	Upon achieving Commissioning / COD of	5% of Supply	
		7	7 Upon Completion of the Facilities and Successful Performance and Operational Acceptance Test	5% of		the Plant with GEDA / GUVNL	Price	
				Price	7	Upon Completion of the Facilities and 5% Successful Operational Acceptance Test Pri	5% of Supply Price	
		8	On completion of all Punch points, submission of O&M Documents and handing over of the plant to O&M complete in all respect.	5% of supply Price	8	On completion of all Punch points, submission of O&M Documents and handing over of the plant to O&M complete in all respect.	5% of supply Price	
54.	264 6.39.2	PV mo	dules used in grid connected solar powe	er plants must	Replac	ced by "PV modules used in grid conne	ected solar power	
		be wa	rranted for peak output power at Sta	ndard Testing	plants	must be warranted for peak output po	ower at Standard	
		Condit	ion (STC), which shall not be less than 9	0% at the end	Testing Condition (STC), which shall not be less than 90% at the			
		of ten (	(10) years and not less than 80% at the	end of twenty-	end of ten (10) years and not less than 80% at the end of twenty-			
		five (2	5) years. The first-year degradation sha	ll not be more	five (25	ة) years. The first-year degradation shall r	not be more <b>2.5 %</b>	
					(For P	oly Crystalline) or 3 % (For Mono Crys	talline) of the PV	

(Sign and Seal of Bidder)

Page**27**of**29** 



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			2.5% of the PV Module capacity and in subsequent years it		Module capacity and in subsequent years it shall not be more than		
			shall not be more than 0.7% per annum.		0.7% per annum for polycrystalline & Mono-crystalline PV		
					Module."		
55.	266	6.39.9	Equipment/System Comprehensive AMC*		Replaced by		
					Equipment/System	Comprehensive AMC*	
			Inverter	10 Years	Inverter	10 Years	
			SCADA	10 Years	SCADA and PPC	10 Years	
56.	266	6.39.9	Comprehensive AMC shall include all preventive		Replaced by "Comprehensive AMC shall include all preventive		
			maintenance and breakdown maintenance including		maintenance and breakdown maintenance including replacement		
			replacement of any compon	ent to ensure that equipment is	of any component to ensure	e that equipment is working	
			working satisfactorily as p	er design/system requirement.	satisfactorily as per design/sys	tem requirement. During AMC	
			During AMC period, the C	OEM or its representative are	period, the OEM or its representative are required to visit at least		
			required to visit at least	once a year or as per OEM	once a year or as per OEM recommendation cycle for periodic		
			recommendation cycle for pe	eriodic maintenance. During AMC	maintenance. During AMC period, the OEM is required to respond		
			period, the OEM is required	to respond within one working	within one working day through t	elecom or any electronic mean.	
			day through telecom or ar	ny electronic mean. In case of	In case of breakdown of the sy	ystem, OEM has to send their	
			breakdown of the syster	m, OEM has to send their	representative within 72 hours. Fo	or the minor faults not hampering	
			representative within 72 he	ours. For the minor faults not	the generation e.g. communication	on, display etc., the OEM has to	
			hampering the generation e	.g. communication, display etc.,	get the fault rectified within 7	working days. Replacement of	
			the OEM has to get the faul	t rectified within 7 working days.	equipment/spare parts/ updating	of software being phased out or	
			Replacement of equipment/s	spare parts/ updating of software	not being supported by OEM's is	also included in bidder's scope.	
			being phased out or not be	ing supported by OEM's is also	Contractor shall be responsible t	o carry out all test and work as	
			included in bidder's scope. C	Contractor shall be responsible to	required by statutory regulation	in effect as on date of Techno	
			carry out all test and work as	s required by statutory regulation	commercial bid opening during O	&M period. Failure from the OEM	



			in effect as on date of Techno commercial bid opening during	to adhere the activity and the time schedule may lead to BG
			O&M period. Failure from the OEM to adhere the activity and	encashment. The BG shall cover comprehensive AMC of
			the time schedule may lead to BG encashment.	Inverter, SCADA and PPC for 10 (ten) years, the BG amount
				shall be Rs 1.0 Lakh/MW (i.e. Rs 75 Lakhs)."
57.	269	6.45.1	The Final EPC Bill relating to the Contract shall be prepared	Replaced by "The Final EPC Bill relating to the Contract shall be
			only after the Performance Guaranteed Test of the plant has	prepared only after the Operational Acceptance Test (OAT) of
			been observed as under Clause No. Appendix 16: Procedure	the plant has been observed as under Clause No. Appendix 16:
			for Performance Testing and it will include the adjustments of	Procedure for Performance Testing and it will include the
			all claims against the Contractor by the Owner and awarded	adjustments of all claims against the Contractor by the Owner and
			in its favour by the arbitrator up to the date of preparation of	awarded in its favour by the arbitrator up to the date of preparation
			the final bill.	of the final bill."
58.	269	6.46.2	The derating of module should not be more than 0.7% in any	Replaced by "The derating of module should not be more than
			year except for the first year of operation, which should be	0.7% in any year except for the first year of operation, which
			limited to 2.5%.	should be limited to 2.5% for polycrystalline or 3% for
				monocrystalline."
59.	278	7.18.5	65% of the jobs that will be created due to the projected in the	Replaced by "As far as possible, emphasis should be given on
			supervisory and managerial cadres and 80% of the jobs that	employing youth/persons with require skill sets for the project from
			will be created in other cadres due to the project shall be filled	near vicinity. If require, necessary skill development facility may
			in by employing the local persons. The expression "local	be offered for developing employability skill."
			person" shall mean a person domicile in Gujarat state for a	
			minimum period of 15 years prior to applying for employment	
			to the Contractor.	