BHEL SBD - RFQ No: RAJBOS0083 dtd 18-12-2021

Project: 8MWac Solar PV Farm at Tamarind Falls, Mauritius

Supply, Installation including civil works and commissioning of 8MWac Solar PV Farm except supply of PV modules at Henrietta (Phase-II), Tamarind Falls, Mauritius through Mini EPC Tender

Price Bid (FOR Site Price) - Rev02

Bidders to quote the Total FOR value at Sl.No.F and G.

Vendor shall quote the prices so that percentage allocation of part A shall be in between 35% to 65%, part B shall be in between 9% to 19%, part C shall be in between 22% to 42% and part D shall be in between 2% to 4% of the total cost 'F' Given list of items are indicative billing break-up. Vendor shall propose the percentage allocation for the respective line items during detailed engineering which is subjected to BHEL's approval

			Part-A	: Electrical Pacl	каде		
S. No	Material Code	Description	Qty	Unit	price (FOR)	Total Price (FOR)	
1	PS0679091648	Supply of electrical equipment	1	Set	-		-
2	PS0679091659	Installation and Commissioning (I&C) of	1	AU	-		-
				Tota	l for Supply and I&C		
			Part	t- B; Mechanica	<u> </u> 		
S. No	Material Code	Description	Qty	Unit	price (FOR)	Total Price (FOR)	
1	PS0679091668	Design and Supply of Mechanical Items	1	AU	-		-
2	PS0679091679	Instalation of Mechanical Items including PV Modules	1	AU	-		-
				Tota	l for Supply and I&C		_
				Part-C; Civil			
S. No	Material Code	Description	Qty	Unit	price (FOR)	Total Price (FOR)	
1	PS0679091688	Engineering, Construction and Civil Allied	1	AU	-		_
		Pa	art-D; SITE E	STABLISHME	NT WORKS		
S. No	Material Code	Description	Qty	Unit	price (FOR)	Total Price (FOR)	
1	PS0679091699	Site Establishment and Enabling works	1	AU	-		-
F		$\mathbf{F} = \mathbf{A} + \mathbf{B} + \mathbf{C} + \mathbf{D}$			Total		
	Lumps	sum Cost of Custom clearance, port h	andling, por	rt charges and	d inland		

	G	transportation of BHEL supplied 9.3 MW (approximate) PV Modules upto site (INR)	
1			
	H	Total Price For the purpose of evaluation of bid (F + G)	

				Price Breakup - Rev	01					8 digit
				FOB		urance, Cust rt Handling (FOR/DDP/CPT Price	HSN Code		
S. No.	Item Despcription	Qty	Unit	UNIT F.O.B. PRICE (INCLUDING SEAWORTHY PACKING; FORWARDING, HANDLING AND TRANSPORTATION UP TO THE PORT OF EXPORT)	TOTAL F.O.B. PRICE (INCLUDING SEAWORTHY PACKING; FORWARDING, HANDLING AND TRANSPORTATION UP TO THE PORT OF EXPORT)	Marine/ Ocean Freight and Other Charges up to Port of Import (Mauritius)	MARINE CUM ERECTION INSURANCE	Customs Clearacne & Port Handling @ Mauritius Port and Inland Freight from port to project site	Total FOR Site / DDP Price	
	Part-A ; Electrical Package			(Rs.)	(Rs.)	(Rs.)		(Rs.)	(Rs.)	
1	Supply of DC Solar Cable from PV module to SMB	8MW	ST							
2	Supply of DC power cable from SMB to inverter	8MW	ST							
3	Supply of inverter stations Supply of CSS consisting of inverter transformers, 22kV switchgear panels	8MW	ST							
4	and other auxiliary equipment as per specification.	8MW	ST							
5 6	Supply of String Monitoring Boxes (SMB) Supply of 22kV MV Switchgear panels	8MW 8MW	ST ST							
7	Supply of 22kV power cable, Cu, XLPE, armoured (for all 22kV	1	ST							
8	connections within solar plant including transformer MV side) Supply of OFC cables along with termination kits.	1	ST							
9	Supply of SCADA system including PLC panels, computers, software	1	ST							
	systems and related peripherals & accessories Supply of DC side miscelleneous equipment viz., MC4 connectors, cable	1								
10	ties, HDPE pipes etc	1	ST							
11 12	Supply of LT, Control / Instrumentation cables Supply of UPS, AC-DC converter, ACDB, UPS DB etc.	1	ST ST							
13	Supply of earthing items	1	ST							
14 15	Supply of lightning arrestors Supply of items for plant lighting	1	ST ST							
16	Supply of miscellaneous items	1	ST							
17 18	Supply of CCTV System Supply of safety related items	1	ST ST							
19	Supply of spare items	1	ST							
20	Supply of electrical utility items Supply of special tools & equipment	1	ST ST							
22	Supply of special tools & equipment Supply of recommended spares	1	ST							
23	I&C: Interconnection of SPV modules,	8	AU							
24	I&C: DC cable from SCB to PCU	8	AU							
25 26	I&C: Equipment in MCR I&C: AC cables from PCU to TRF	8	AU AU							
27	I&C: 22kV MV cables	8	AU							
28	I&C: SCADA, Weather monitoring, CCTV, Fire Alarm, Lightning Arrestors	1	AU							
29	I&C: Earthing	8	AU AU							
30	I&C: All other Miscellinious items I&C: Peripheral lighting system	8	AU							
32	I&C: SCS	8	AU							
33	I&C: Protection Philosophy, grading study and calculation for the PV Farm including the 22kV interconnection facility certified by a licensed engineer.	1	AU							
34	I&C: Precommissioning tests & Commissioning	8	AU							
35	I&C: Operation and maintenance of the plant till successful completion of	1	AU							
	the 30 days reliability testing and taking over of the plant by CEB.	1								
36	I&C: Scheduling & Forecasting for 2 years from the plant acceptance date	1	AU							
	Part- B; Mechanical		<u> </u>							
S. No.	Item Despcription	Qty	Unit							
1	Design of Module mounting structure with vetting by Mauritius registered	1	A T.T.							
1	Engineer.	17240	AU							
3	Supply of MMS Columns to erect Modules of Nos all complete Supply of MMS Superstructure to erect Modules of Nos all complete	17240 17240	No No							
4 5	Design of Module Cleaning System & pumping station all complete Supply of Module Cleaning System with pumping station all complete	1	AU AU							
6	Erection of MMS Columns to erect Modules of Nos (incl. substructure) all	17240	No							
7	complete Erection of MMS Superstructure to erect Modules of Nos all complete	17240	No							
8	Installation of PV Modules all complete	17240								
9	Installation of Module Cleaning System with pumping station and other accessories	1	AU							
			· 							
	Part-C; Civil									
S. No.	Item Despcription	Qty	Unit							
1	Topo Survey & geotechnical investigation as per spec all complete	1	AU							
2	Preparation & Approval of Architectural drawings by a professional Mauritius registered Architect, Design & Approval of design calculations and drawings for the structural design, signed by a professional registered Engineer & Billing certification by one Mauritius registered Engineer (Civil/Mech) (min. 10yrs experience) as per spec. all complete	1	AU							
3	Jungle Clearance & tree cutting (including statutory clearances if any) plant area forest clearance is already taken by CEB. Scope inclusive of replantation of approx. 25-30 no of native plants as identified by CEB. Conducting pile test as per BS standard for MMS foundation and submit	1	AU							
4	the report to BHEL & customer for approval all complete	1	AU							
5	Land levelling and grading including erosion prevention in array area as per spec & as required all complete inclusive of proper levelling & approach for module storage area as per BHEL/OEM recommendation.	1	AU							
6	Construction of Chain link fencing & Gates for Boundary as per drg & specification all complete	1	AU							

9	Solar facility building (RCC) Ground floor with Cable trench in equipment area (HT Panel, partitioning, SCADA Room with cable trench, Store room, first Floor Conference Hall, pantry and wash rooms -2 storey building as per drg & specification including as per drg & spec	1	AU		
10	building as per drg & specification incl all civil & electrical works all complete Construction of Gate post building (RCC): Security room with wash room	1	AU		
11	as per drg & specification all complete Construction of Compact sub-station base/foundation all complete	1	AU		
	Construction of RCC Retaining wall (as and where required) all complete	1	AU		
	Construction of River cross-over culvert as and where required all	1			
13	complete Construction of road and kerb wall as per drg & spec. all complete	1	AU AU		
15	Construction of parking area 420 sqm as per drg&spec. all complete	1	AU		
	Construction of masonry drains as per drg & spec all complete Construction/supply of septic tank and absorption pit as per drg &	1	AU		
17	specification all complete	1	AU		
	Construction/supply of underground (4000L) & overhead tank (1200L) for utility water in building + 2 nos. water tanks of capacity 10,000L to be located at ground level at the highest spots of each lot for distribution of water supply to the taps spread out in the PV farm for cleaning purposes as per drg & specification with pumps & accessories all complete.	1	AU		
	I		Γ		
C No	Part-D; SITE ESTABLISHMENT WORKS	04	TT:4		
S. No.	Item Despcription	Qty	Unit		
1	Providing and supplying container office of B-Type (container as per attached drawing) size 20x10 feet bunk house including office Furnitures, including 1.5 Ton A/c installation, services, complete in all respects on rental basis w.r.t. BHEL drawing on rental basis for a period of 8 months	1	sets		
2	Providing and supplying container office of C-Type (container as per attached drawing) size 20x10 feet bunk house including Furnitures, including 1.5Ton A/c installation, services, complete in all respects on rental basis w.r.t. BHEL drawing for a period of 8 months Providing & fixing readymade western style toilet with cleaning facilities	1	sets		
3	of size 3x4x8 feet cubical type with hard surface flooring with all accessories, fittings and fixtures with Septic tank etc. Complete for 8 Months	1	sets		
4(a)	Providing and installing water tank -1000Liters capacity x 2 nos., including plumbing, motor etc. complete.	1	sets		
4(b)	Supply of utility water in water tank @ approx 2000Lts per day or as per	200	Nos		
	Supply and installation of Latest version of Desktop Computer/Laptop (17 inch monitor-Samsung/Dell/Acer/HP/Asus/Lenevo, 8th Gen Core i3-6006U/RAM-8GB/Hard disk capacity-1TB) with valid licensed version of antivirus and with software viz. MSOffice, PDF Converter and writer, Auto-Cad for electrical and civil with other standard software and also with 800 VA UPS including repair and maintenance for 8 months	1	(in days) Sets		
6	Supply and installation of Latest version of Desktop Computer/Laptop (17 inch monitor-Samsung/Dell/LG/Acer/HP/Asus/Lenevo, 8th Gen Core i3- 6006U/RAM-8GB/Hard disk capacity-1TB) with valid licensed version of antivirus and with software viz. MSOffice, PDF Converter and writer, and also with 800 VA UPS including repair and maintenance for 8 months	1	Sets		
7	Providing internet connection of high speed capacity-4G dongle/Broadband 20Mbps speed with 50GB/month including monthly data charges for 8 months	1	Nos.		
8	Supply and installation of A4 Printer (Black and white) with scanner and Xerox facility (Brand - HP,Canon laser jet or equivalent) including catridge refilling and maintenance for 8 Months.	1	Sets		
9	Supply and installation of A3 Printer (Black and white) with scanner and Xerox facility (Brand - HP,Canon laser jet or equivalent) including catridge refilling and maintenance for 8 months.	1	sets		
10	Pantry, crockery set, Hot plate or equivalent to serve 10 people for 8 Months	1	Sets		
1.1	Drinking water in 18.9L bottles,95L(5 cans) per day minimum - will be	000	Nos.		
11	Local arrangement	900	(20L Bottle)		
12	Providing Tea / coffee and snacks at site on daily basis (two times a day) for 10 persons	8	Months		
13	Unloading of solar module boxes from vehicle, stacking at levelled ground as per manufacturer's spcification within 12 hours of receipt at site.	8	MW _{AC}		
14	1 No. DG set (New reputed brand, silent version) cabling to the load to be included. 15KVA -Capacity.	8	Months		
15	Supplying Diesel - @ 12 hours operation per day including trnasportation of diesel . Payment will be on market rate. Estimated @ 750 liters per month approximately.	6000	Ltrs.		
16	Providing pantry services requirements and also file maintenance and cleaning of containers and miscellaneous office services and providing 1 no. office boy for these services.	8	Man months		
17	Leasing of 1 no. fully furnished 2BHK house with minimum 600-800 sqft plinth area for site in-charge family accommodation purpose inclsive of local tax, water charges for utility and potable & electricity charge for 300	8	Months		
	unit/month. Furnitures/facilities shall be provided. Leasing of 1 no fully furnished 3BHK house with minimum 1000-1200 sqft plinth area for BHEL guest house/bachelor accomodation purpose inclosive of local tax, water charges for utility and potable. I dometic	8	Months		
	inclsive of local tax, water charges for utility and potable, 1 dometic helper, 1 cook & electricity charge for 500 units/month. (excl LPG & kitchen consumables). Furnitures/facilities shall be provided. Hiring of a 4 wheel drive SUV vehicle (6-8 seat) with local registeration	8	Months		
19	with compliance of all local Maruitius statutory requirement for commercial vehicle with valid registeration, lisence, pollution, fittness and other documents. Vehicle will be furnished whenever required as per site incharge's instruction.	60000	Per KM		
20	Hiring of a sedan vehicle (4+1 seat) with local registeration with compliance of all local Maruitius statutory requirement for commercial vehicle with valid registeration, lisence, pollution, fittness and other documents. Vehicle will be furnished whenever required as per site inchargs's instruction. Overtime charges including possible overnight stay for drivers of	60000	Per KM		
	SUV/Sedan vehicle. Payment shall be made as per actual extra hour stay more than 12 hours.	660	Hours		

BHEL Scope

Depution of 2 nos. Site Electrical Engineers (Diploma- min. 2 yr experienced) stationed at site. Role, responsibilities and duty of work shall be as per direction of site in-charge. Payment will be made as per certification of 2 nos. Site Mechanical Engineers (Diploma- min. 2 yr experienced) stationed at site. Role, responsibilities and duty of work shall be as per direction of site in-charge. Payment will be made as per certification of site in-charge. Payment will be made as per certification of site in-charge. Providing the services of 1 no. Certified Site Safety engineer (Diploma- min. 2 yr experienced) stationed at site. Role, responsibilities and dutyof Man months 12 Man months Man months	22	Depution of 2 nos. Site Civil Engineers (Diploma- min. 2 yr experienced) stationed at site. Role, responsibilities and duty of work shall be as per direction of site in-charge. Payment will be made as per certification of site in-charge.	12	Man months				
experienced) stationed at site. Role, responsibilities and duty of work shall be as per direction of site in-charge. Payment will be made as per certification of site in-charge. Providing the services of 1 no. Certified Site Safety engineer (Diplomanin. 2 yr experienced) stationed at site. Role, responsibilities and dutyof Man Man Man Man Man Man Man Ma	23	experienced) stationed at site. Role, responsibilities and duty of work shall be as per direction of site in-charge. Payment will be made as per	15					
min. 2 yr experienced) stationed at site. Role, responsibilities and dutyof Man	24	experienced) stationed at site. Role, responsibilities and duty of work shall be as per direction of site in-charge. Payment will be made as per	12					
work shall be as per direction of site in-charge. Payment will be made as per certification of site in-charge. Total Amount (Part A+ B +C+D) Total Amount (Part A+ B +C+D)	25	min. 2 yr experienced) stationed at site. Role, responsibilities and dutyof work shall be as per direction of site in-charge. Payment will be made as per certification of site in-charge.	6				_	
Total Amount (Fat A) B + C+D)		Total Amount (1 art AT D TCTD)		I				

NOTE: 1) Vendor shall quote the prices so that percentage allocation of part A shall be in between 35% to 65%, part B shall be in between 9% to 19%, part C shall be in between 22% to 42% and part D shall be in between 2% to 4% of the total cost of A, B, C and D.

2) Above given list of items are indicative billing break-up. Vendor shall propose the percentage allocation for the respective line items during detailed engineering which is subjected to BHEL's approval.