Amendment - 1

The referred page numbers are not printed page numbers on the RfB. Kindly Correlate appropriately.

RfB No : SECI/C&P/RfB/2020/CG/100/40

Request for Bids for Design, Engineering, Supply, Construction, Erection, Testing & Commissioning of 100 MW (AC) Solar PV Project (160MWp DC capacity) along with 40MW/120 MWh Battery Energy Storage System having 10 years Plant O&M at District Rajnandgaon, Chhattisgarh, India

Sl. No.	Section	Page No.	Clause	Original Version	Amendment
1	Section X - Contract Forms	339	Appendix 8. Functional Guarantees	Annual CUF Guarantee: If the Contractor fails to achieve the annual guaranteed CUF at the end of 10th year, then the Contractor shall pay compensation to the Employer an amount equal to the Net Present Value (NPV) of the revenue loss for 10th to 25th year In the event the CUF is less than the Guaranteed CUF, the Contractor shall immediately, upon demand, indemnify the Employer, as liquidated damages and not as penalty, amounts equivalent to remuneration of the equivalent Energy, subject to a maximum of hundred (100%) percent of the Total Annual O&M Price.	Void.
2	Annexure A2 (Technical Specifications)	103 of 182	6.2	The Approach road connecting nearest public road and the Main gate shall be of 4.5m wide carriage way with 0.5m wide shoulders on either side. The access road connecting Main gate and MCR and internal access road(s) connecting MCR to various facilities/ buildings/ open Installations shall be of 3.75m wide carriage way with 0.5m wide shoulders on either side while the peripheral road shall be of 2.5m wide carriage way with 0.5m shoulders on either side. The top of road (TOR) elevation shall be minimum 150 mm above FGL to avoid flooding of roads during rains. The roads shall be provided with alongside drains as per design requirements of drainage system for effective disposal of storm water and to avoid cross flow of storm water over the road. The roads shall be designed as per IRC SP-72 corresponding to traffic category T3 and critical field CBR value of the subgrade. Shoulder shall be of min. 150mm thickness.	The Approach road connecting nearest public road and the Main gate shall be of 4.0 m wide carriage way with 0.5 m wide shoulders on either side. The access road connecting Main gate and MCR and internal access road(s) connecting MCR to various facilities/ buildings/ open Installations shall be of 3.0 m wide carriage way with 0.5m wide shoulders on either side. The top of road (TOR) elevation shall be minimum 200 mm above FGL to avoid flooding of roads during rains. The roads shall be provided with alongside drains as per design requirements of drainage system for effective disposal of storm water and to avoid cross flow of storm water over the road. The roads shall be designed as per IRC SP-72 corresponding to traffic category T1 and critical field CBR value of the subgrade. Shoulder shall be of min. 150mm thickness.
3	Annexure A2 (Technical Specifications)	105 of 182	6.9	Maintenance pathways of min. 1.0m width shall be provided between SPV arrays for easy movement of maintenance staff, tools, equipment and machinery, washing of modules etc. The pathway area shall be generally levelled and well compacted manually/ mechanically. Areas of depression, valley zones or wherever there is noticeable change in topography, shall be levelled by laying min. 100mm thick PCC M10 or precast concrete paver blocks (min. 60mm thick, Grade M60) matching the top finished surface with ground topography/ grade to avoid accumulation of water in the region and allowing its free flow to keep the area devoid of mud/ sludge.	Maintenance pathways of min. 1.0m width shall be provided between SPV arrays for easy movement of maintenance staff, tools, equipment and machinery, washing of modules etc. The pathway area shall be generally levelled and well compacted manually/ mechanically. Areas of depression, valley zones or wherever there is noticeable change in topography, shall be levelled using well compacted good earth matching the top finished surface with ground topography/ grade to avoid accumulation of water in the region and allowing its free flow to keep the area devoid of mud/ sludge.
4	Annexure A2 (Technical Specifications)	106 of 182	7.14	The contractor shall also explore for providing rain water harvesting system for water conservation by constructing suitable collection wells along the drains or through provision of detention ponds etc. The scheme for rain water harvesting along with design calculations shall be submitted for approval.	The contractor shall also explore for providing rain water harvesting system for water conservation by constructing suitable collection wells along the drains or through provision of detention ponds or percolation/recharge pit etc. The scheme for rain water harvesting along with design calculations shall be submitted for approval.
5	Annexure A3 (Special Technical Conditions)	4 of 4	22	New Clause	Part C: Civil, Mechanical and Plumbing Works, Clause 13: Module Mounting Structure (MMS): Minimum thickness of the purlin section excluding anti corrosive treatment (BMT) shall be 1.5 mm. Aluminum-zinc alloy metallic coated steel strip or sheet of grade YS350 and min. coating class AZ150 conforming to IS-15961:2012 may also be used for fabrication of purlin sections. In such a case, all the sections of the base metal exposed after cutting of members and punching of holes shall be provided with sprayed aluminum and zinc coating conforming to IS-5905.
6	Annexure A3 (Special Technical Conditions)	4 of 4	23	New Clause	Apart from the distribution of wind load suggested in Cl 10.10.2 of Annexure 2, Bidder may propose any other distribution of wind load based on wind tunnel studies subject to the approval of the employer.
7	Annexure A2 (Technical Specifications)	119 of 182	13.23	Fasteners and washers to be used for erection of mounting structures and those for fixing Module over MMS shall be of stainless steel grade SS 304 & SS 316 with property class A2-70 conforming to relevant ISO standard and must sustain the adverse climatic conditions to ensure the life of the structure for 25 years.	Fasteners and washers to be used for erection of mounting structures and those for fixing Module over MMS shall be of stainless steel grade SS 304 with property class A2-70 conforming to relevant ISO standard and must sustain the adverse climatic conditions to ensure the life of the structure for 25 years.
8	Annexure A2 (Technical Specifications)	120 of 182	13.33	The contractor shall submit the foundation and structural design basis for MMS along with the list of reference standards in his Bid duly certified by a Chartered Engineer having adequate successful experience in similar works which shall be finalized with the prospective bidder during pre-award. The MMS shall be designed to optimize tilt angle and elevation to minimize self-shading and maximize the capture of diffuse light by Bifacial Modules. The Bifacial Module frames shall be rail-edge mounted in landscape configuration to minimize losses.	The MMS shall be designed to optimize tilt angle and elevation to minimize self-shading and maximize the capture of diffuse light by Bifacial Modules. The Bifacial Module frames shall be rail-edge mounted in landscape configuration to minimize losses.
9	Annexure A2 (Technical Specifications)	142 of 182	38.3.4	The support structure shall be hot-dip galvanized. Min depth of foundations shall be 1200 mm below GL.	The support structure shall be hot-dip galvanized. Min depth of foundations shall be 1000 mm below GL.
10	Annexure A2 (Technical Specifications)	142 of 182	38.2.4	The support structure shall hot-dip galvanized and of adequate height to ensure min. ground clearance of 1.0 m to SMU unit.	The support structure shall be hot-dip galvanized and of adequate height to ensure min. ground clearance of 0.8 m to SMU unit.
11	Annexure A2 (Technical Specifications)	100 of 182	3.9.3	The nos. of piles to be tested under each category shall be finalized corresponding to geotechnical characteristics at site, plot area etc. However, minimum 5 nos. of piles shall be tested (min. 3 nos. in each block (block size < 25 acre) and min. 5 nos. in each block (block size ≥25 acres) if the plant site is divided in discrete blocks separated from each other) under each category of load.	The nos. of piles to be tested under each category shall be finalized corresponding to geotechnical characteristics at site, plot area etc. However, minimum 5 nos. of piles shall be tested (min. 3 nos. in each block (block size < 25 acre) and min. 5 nos. in each block (block size ≥25 acres) if the plant site is divided in discrete blocks separated from each other) under each category of load.
12	Annexure A3 (Special Technical Conditions)	3 of 4	18	Part C: Civil, Mechanical and Plumbing Works, Clause 6: Roads: Peripheral road along inside of the boundary fence/ wall of land patch is not required. However sufficient space may be left with cleared and flat surface.	Part C: Civil, Mechanical and Plumbing Works, Clause 6: Roads: There shall be no peripheral road. However, about 2.5m wide corridor shall be left along inside of the plant boundary suitably maintained clean of any vegetation and shall be provided with adequate street lighting for movement of security personnel. Any undulations shall be made good with locally available coarse grained material to have fairly level passage way.
13	Annexure A2 (Technical Specifications)	111 of 182	10.5	To calculate the design wind speed (Vz), the factors K1 (probability factor or risk coefficient), K2 (terrain roughness and height factor) and K3 (topography factor) shall be considered as per IS 875 (Part-3) (However, minimum values for K1, K2 and K3 shall be 1.0, 1.05 and 1.0 respectively).	To calculate the design wind speed (Vz), the factors K1 (probability factor or risk coefficient), K2 (terrain roughness and height factor) and K3 (topography factor) shall be considered as per IS 875 (Part-3) (However, minimum values for K1, K2 and K3 shall be 0.94, 1.0 and 1.0 respectively).
14	Annexure A3 (Special Technical Conditions)	4 of 4	24	New Clause	There shall be no peripheral drain along the boundary fence. However, the contractor during storm water drainage scheme shall provide suitable water channels for diverting the rain water from adjacent area entering the solar plant and channelizing the discharge from the plant area to avoid accumulation or ponding of water.
15	Annexure A2 (Technical Specifications)	121 of 182	15.1	Unless otherwise specified elsewhere, all structural steel work shall be designed as per provisions of IS: 800 with working stress method of design (WSD).	Unless otherwise specified elsewhere, all structural steel work shall be designed as per provisions of IS: 800 with working stress method of design (WSD) or limit state method of design (LSM).
16	Annexure A2 (Technical Specifications)	111 of 182	10.7	In case of plant site within 60 km of sea coast, the importance factor for cyclonic region, 'k4' shall be taken as 1.15. Provisions of IS: 15498 shall also be followed to ensure general safety of the structure.	In case of plant site within 60 km of sea coast, the importance factor for cyclonic region, 'k4' shall be taken as 1.15.
17	Annexure A3	3 of 4	11	SCADA Room shall be pre-engineered structures and shall conform to the provisions as specified in Technical Specifications.	SCADA Room shall be provided as a part of the MCR building.
18	Annexure A3 (Special Technical Conditions)	3 of 4	20	Security cabins shall be provided in every patch as per specifications provided in ANNEXURE A.2.	One Security room near the main gate and security cabins as necessary shall be provided in every patch as per specifications provided in ANNEXURE A.2.
19	Annexure A2 (Technical Specifications)	120 of 182	13.31	The Bidder should design the structure height considering highest flood level at the site and the finished grade level. The minimum clearance between the lower edge of the module and the finished grade shall be the higher of (i) Highest flood level + 100mm and (ii) 500 mm, as applicable	The Bidder should design the structure height considering highest flood level at the site and the finished grade level. The minimum clearance between the lower edge of the module and the finished grade shall be the higher of (i) Highest flood level + 100mm and (ii) 1000 mm, as applicable.
20	Annexure A3 (Special Technical Conditions)	3 of 4	12	All UG cables shall be laid in brick masonry trench (max. depth 450mm) to be covered with precast concrete covers.	UG cables may be laid above ground on horizontal GI cable trays of required width to be supported on concrete foundations. Min. clear height of the cable tray shall be 350mm above FGL. Suitable cross over structure of GI shall be provided for easy movement of erection and maintenance personnel. However, at all road, nalla or drain crossings and at places for vehicular movement during maintenance as required, cables shall be laid through Pre-Cast concrete pipes as specified in Annexure A2..
21	ANNEXURE A A.2. TECHNICAL SPECIFICATIONS	88 of 182	21.4.1 . (v)	(v) Connectivity and Data transmission: .RS485 MODBUS interface for data collection and storage on SCADA . Web interface with provision for user login to enable viewing and downloading of weather data in XLS/ CSV format .Communication protocol should support fast data transmission rates, enable operation in different Frequency bands and have an encryption-based data security layer for secure data transmission	v) Connectivity and Data transmission: .RS485 MODBUS interface for data collection and storage on SCADA .Communication protocol should support fast data transmission rates, enable operation in different Frequency bands and have an encryption-based data security layer for secure data transmission
22	ANNEXURE A A.2. TECHNICAL SPECIFICATIONS	57 of 182	15.9.2	Operating System - Operating System and Database shall be of enterprise scale (RedHat Linux or equivalent Linux OS, Oracle/MySQL or equivalent DB), with required AMC for 5 years.	Operating System - Operating System and Database shall be of enterprise scale (RedHat Linux or equivalent Linux OS, Oracle/MySQL or **Windows** or equivalent DB), with required AMC for 5 years.
23	Annexure A.2 Technical Specifications	13 of 182	2.2.3	Every SMU input shall be provided with fuses on both positive and negative side. The rating of the fuses shall be selected such that it protects the modules from reverse current overload. The fuses shall be 'gPV' type conforming to IEC 60269-6.	Every SMU input shall be provided with fuses on both positive and negative side. In case of negative grounded system, fuse at positive side only is acceptable. The rating of the fuses shall be selected such that it protects the modules from reverse current overload. The fuses shall be 'gPV' type conforming to IEC 60269-6.
24	Annexure A.2 Technical Specifications	10 of 182	1.2	Cell type: Mono-crystalline or Multi-crystalline, Bifacial	Cell/Module Technology : Mono-crystalline and Bifacial

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Request for Bids for Design, Engineering, Supply, Construction, Erection, Testing & Commissioning of 100 MW (AC) Solar PV Project (160MWp DC capacity) along with 40MW/120 MWh Battery Energy Storage System having 10 years Plant O&M at District Rajnandgaon, Chhattisgarh, India

Sl. No.	Section	Page No.	Clause	Original Version	Amendment
25	Annexure A.2 Technical Specifications	37 of 182	7.5 (ii)	Maximum voltage drop in LT cable (from PCU to Transformer) shall be limited to 0.5% of the rated voltage. For HT cables, maximum voltage drop shall be limited to 0.5 % of the rated voltage. The Contactor shall provide voltage drop calculations in excel sheet.	Maximum voltage drop in LT cable (from PCU to inverter transformer) shall be limited to 0.5% of the rated voltage. For HT cables (from inverter transformer to **plant take off point**), maximum voltage drop shall be limited to 0.5 % of the rated voltage. The Contactor shall provide voltage drop calculations in excel sheet.
26	Annexure A.2 Technical Specifications	14 of 182	3.1	<table><tr><th>Cable</th><th>From</th><th>To</th><th>Conductor/ Insulation</th><th>Voltage Rating</th><th>Applicable Standard</th></tr><tr><td>Solar Cable*</td><td>PV modules</td><td>SMU</td><td>Copper/ XLPO</td><td>1.1 kV DC/ 1.5 kV DC</td><td>IEC 62930/ EN 50618</td></tr><tr><td>DC Cable</td><td>SMU</td><td>PCU</td><td>Copper or Aluminium/ XLPO</td><td>1.1 kV DC/ 1.5 kV DC</td><td>IS 7098 Part I</td></tr><tr><td colspan="6">* Cable used for module interconnection shall also be referred as solar cable.</td></tr></table>	<table><tr><th>Cable</th><th>From</th><th>To</th><th>Conductor/ Insulation</th><th>Voltage Rating</th><th>Applicable Standard</th></tr><tr><td>Solar Cable*</td><td>PV modules</td><td>SMU</td><td>Copper/ XLPO</td><td>1.1 kV DC/ 1.5 kV DC</td><td>IEC 62930/ EN 50618</td></tr><tr><td>DC Cable</td><td>SMU</td><td>PCU</td><td>Copper or Aluminium/ XLPO</td><td>1.1 kV DC/ 1.5 kV DC</td><td>IS 7098 Part I for 1.1kV DC/ IS 7098 Part II for 1.5kV DC</td></tr><tr><td colspan="6">* Cable used for module interconnection shall also be referred as solar cable.</td></tr></table>
27	Annexure A.2 Technical Specifications	15 of 182	3.3	DC cables shall be single core, armored, Flame Retardant Low smoke (FRLS), PVC outer sheath conforming to IS 7098-I. DC cable with positive polarity should have marking of red line on black outer sheath.	DC cables shall be single core, armored, Flame Retardant Low smoke (FRLS), PVC outer sheath conforming to IS 7098-I/IS 7098-II. DC cable with positive polarity should have marking of red line on black outer sheath.
28	Section III - Evaluation and Qualification Criteria	86	2. Qualification	**Note: BESS Supplier/sub-Contractor:** .....The BESS Supplier/sub-Contractor must have the experience of having successfully completed Design, Engineering, Procurement, Construction, Installation, Testing and Commissioning of Grid Connected Battery Energy Storage System (BESS) of at least 03 (Three) Grid connected BESS Plants, each having an individual capacity of 5 MWh (Five Mega Watt Hour) or above in last Five years. Also, such BESS Plant capacity must have been in satisfactory operation for at least 12 (Twelve) months from the date of commissioning.	**Note: BESS Supplier/sub-Contractor:** .....The BESS Supplier/sub-Contractor must have the experience of having successfully completed Design, Engineering, Procurement, Construction, Installation, Testing and Commissioning of Grid Connected Battery Energy Storage System (BESS) of cummulative capacity of 12 MWh or above in the last 5 (Five) years. Such cummulative capacity must include at least 02 (Two) Grid connected BESS Plants, having minimum capacity of 4 MWh (Four Mega Watt Hour) each. The BESS Project must have been in satisfactory operation for at least 6 (Six) months from its date of commissioning (as on 3 months from the effective date of the Contract).
29	Annexure A.2 Technical Specifications	14 of 182	2.2.5	Type-II surge protective device (SPD) conforming to IEC 61643-11 shall be connected between positive/negative bus and earth.	Type-II surge protective device (SPD) conforming to IEC 61643-11/IEC 61643-31/ EN 50539-11 shall be connected between positive/negative bus and earth.
30	Annexure A.2 Technical Specifications	45 of 182	11.5.1	DCDB shall be a separate panel but shall form an integral part of a battery charger panel board.	DCDB shall be an integral part of battery charger panel board.
31	Annexure A.2 Technical Specifications	18 of 182	4.4.3	Type-II surge protective device (SPD) conforming to IEC 61643-11 shall be connected between positive/ negative bus and earth.	Type-II surge protective device (SPD) conforming to IEC 61643-11/IEC 61643-31/ EN 50539-11 shall be connected between positive/negative bus and earth.
32	Annexure A.2 Technical Specifications	Page 10 of 182	1.3.1	The PV Modules Supplier should have supplied minimum 5 GW capacity globally or 1 GW in India in the past 5 years	The PV Modules Supplier should have supplied minimum 5 GW capacity globally or **500 MW** in India in the past 5 years **(as on last date of Bid submission).**
33	Annexure A.2 Technical Specification	Page 162 of 182	4.9.4.3	The PCS transformer may be used to aid in harmonic cancellation and may include tertiary windings to supply BESS auxiliary power requirements. The transformer must be dry type…	The PCS transformer may be used to aid in harmonic cancellation and may include tertiary windings to supply BESS auxiliary power requirements. The transformer **may be dry type or oil type**. The PCS shall include provisions for disconnect on both its AC and DC terminals for maintenance work. Conductor separation must be clearly visible. The detailed maintenance procedure shall be addressed in the O&M manual.
34	Annexure A.3 Special Technical Specification	Page 2 of 4	6	The Power Transformer shall be designed for suitable duty cycle considering at least 4 hours of operation at 110% of full (rated) load.	Void.
35	Annexure A.2 Technical Specifications	Page 152 of 182	3.1	Watt-Hour Rating (Dispatchable Capacity) 150 MWh ,dispatchable at the beginning of life (i.e. at the time of Commissioning) and minimum throughput capacity at the beginning of each year as per below table: Year 1 147 MWh Year 2 144 MWh Year 3 141 MWh Year 4 138 MWh Year 5 135 MWh Year 6 132 MWh Year 7 129 MWh Year 8 126 MWh Year 9 123 MWh Year 10 120 MWh Dispatchable capacity shall not be less than 80% of Beginning of Life capacity at any point of time up to End of Battery Life.	Watt-Hour Rating (Dispatchable Capacity) 120 MWh ,dispatchable at the beginning of life (i.e. at the time of Commissioning) and minimum throughput capacity at the **end** of each year as per below table: Year 1 120 MWh Year 2 116.4 MWh Year 3 115.2 MWh Year 4 112.8 MWh Year 5 110.4 MWh Year 6 108 MWh Year 7 105.6 MWh Year 8 103.2 MWh Year 9 100.8 MWh Year 10 98.4 MWh Dispatchable capacity shall not be less than 80% of Beginning of Life capacity at any point of time up to End of Battery Life.
36	Annexure A.2 Technical Specifications	419 of 1149	10.3.2	UPS: SCADA communications : RS-232 & RS-485 Interface Port	UPS: SCADA communications : RS-232 **or** RS-485 Interface Port
37	Annexure A.1 Scope of Work	10 of 15	5.1.28	New Clause.	Laying of PLCC line between Plant 132 kV Switchyard and CSPTCL Telkadih Substation.
38	Annexure A.1 Scope of Work	8 of 15	4.1.26	Design & construction of Transmission line/ cable at required voltage level from plant take off point to the designated substation including right of way (ROW) and construction of bay at designated substation as per TRANSCO requirements/ procedures.	Design & construction of Transmission line/ cable at required voltage level from plant take off point to the designated substation including right of way (ROW) . Reverse Power Flow and Overload Relay shall be provided on the feeder panel at CSPTCL Telkadih Substation. **Construction of bay at designated substation is in the Scope of the Owner.**
39	Annexure A.1 Scope of Work	9 of 15	5.1.6	Installation, Testing and Commissioning of ABT meters with all necessary metering rated CTs and PTs as per CEA Metering Regulation 2006 as amended time to time and state metering code.	Installation, Testing and Commissioning of **ABT meters with AMR facility** and all necessary metering rated CTs and PTs as per CEA Metering Regulation 2006 as amended time to time and state metering code.
40	Annexure A.3 Special Technical Specification	3 of 4	16	For Plant internal lighting along internal roads, Solar LED type Garden/Landscape stake lights (Color Temperature 5700 K) shall be installed along with Solar Panels and rechargeable and replaceable battery units with minimum 8 hours of discharge.	LED Luminaire for Outdoor Applications. Please refer Annexure 1 to Amendment 1.
41	Annexure A.1 Scope of Work	3 of 15	1	Project Particulars	Please refer Annexure 1 to Amendment 1.
42	Annexure A.3 Special Technical Specification	4 of 4	25	New Clause	Finishing Details of Guest House. Please refer Annexure 1 to Amendment 1.
43	Annexure A.3 Special Technical Specification			Drawing for Chain link and Main gate.	Updated Drawing uploaded .
44	Annexure A.2 Technical Specifications	555 of 1149	F - 2.1	The Communication protocol may be IEC 61850 or MODBUS over a serial or Ethernet connection (Modbus RTU or MODBUS TCP).	The Communication protocol shall be be IEC 61850 or DNP 3
45	Section X Contracts Form	347 of 1149	H	For breakdown of generation related infrastructure, the generation loss estimated based on the outage equipment's weightage (Wi) multiplied by estimated total energy output in the outage period beyond 48 hours, in the event of no breakdown (East) multiplied by Rs. 4/kWh will be levied. East for the period shall be calculated from the guaranteed CUF (i.e. Guaranteed CUF* outage period beyond 48 hours). Cumulative value of such penalty shall be limited to 50% of yearly O&M cost.....	**Void. This clause stands void from all other places also mentioned in the RfB.**
46	Section X, Appendix 8	344 of 1149	G.	Penalty during O&M period against breakdown of other Infrastructure of Plant Facilities that don 't affect the generation of power directly, such as but not limited to, civil infrastructure, water supply system/network, other…..	Penalty during O&M period against breakdown of other Infrastructure of Plant Facilities that don 't affect the generation of power directly, such as but not limited to, civil infrastructure, water supply system/network, other….. ..... In addition to the PM activities above: <table><tr><th>Item</th><th>Scope of Maintenance Activity</th><th>Periodicity</th></tr><tr><td>Weather Monitoring Station</td><td>Repair and Maintenance of Sensors and data loggers, including Cleaning of Pyranometers</td><td>Every 15 days</td></tr></table>

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Sl. No.	Section	Page No.	Clause	Original Version	Amendment
47	Section X, Appendix 8	342 of 1149	3	Functional Guarantees Subject to compliance with the foregoing preconditions, the Contractor guarantees as follows: • Performance Ratio (PR) for Operational Acceptance : 82% • Capacity Utilization Factor (CUF) 36.5% • BESS Availability 99 %	3. Functional Guarantees Subject to compliance with the foregoing preconditions, the Contractor guarantees as follows: • Performance Ratio (PR) for Operational Acceptance : 82% • Capacity Utilization Factor (CUF) **28.7%** • BESS Availability **98 %** *** All references to CUF and BESS Availability in the tender shall be revised as per this Clause.**
48	Annexure-A	466 of 1149	23.4	Minimum two numbers of fire extinguishers (CO2 and Foam type each, of capacity 10 kg having BIS certification marking as per IS: 2171) shall be provided at every building/ encloser, transformer yard and switchyard.	Minimum two numbers of fire extinguishers (CO2 and Foam type each, of capacity **9** kg having BIS certification marking as per IS: 2171) shall be provided at every building/ enclose, transformer yard and switchyard.
49	Annexure A.3 Special Technical Specification	4 of 4	26	New Clause	**Part C: Civil, Mechanical and Plumbing Works, Clause 3:** For field investigation, min. depth of BHs shall be 5 m (At least, 30% of the BHs shall have a depth of 7 m). BHs near locations of MCR, ICR, other buildings & open installations shall be of 7 m depth. BH drilling and boring shall be done using rotary drilling rig or DTH as applicable.
50	Annexure A.2 Technical Specifications	390 of 1149	2.3	The SMU unit shall be warranted against all material/manufacturing defects and workmanship for minimum of 5 (five) years from the date of supply.	The SMU unit shall be warranted against all material/manufacturing defects and workmanship for minimum of **2 (Two)** years from the date of supply.
51	Annexure A.2 Technical Specifications	410 of 1149	6.11	The HT panel unit shall be warranted for minimum of 5 (five) years against all material/ manufacturing defects and workmanship.	The HT panel unit shall be warranted for minimum of **2 (Two)** years against all material/ manufacturing defects and workmanship.
52	Annexure A.2 Technical Specifications	452 of 1149	18.13	The control and relay panel unit shall be warranted for minimum of 5 (five) years against all material/ manufacturing defects and workmanship.	The control and relay panel unit shall be warranted for minimum of 2 (Two) years against all material/ manufacturing defects and workmanship.
53	Annexure A.2 Technical Specifications	459 of 1149	19.6	All switchyard equipment shall be warranted for minimum of 5 (five) years against all material/ manufacturing defects and workmanship.	All switchyard equipment shall be warranted for minimum of 2 (Two) years against all material/ manufacturing defects and workmanship.
54	Annexure D	628 of 1149	-	Mandatory Spares	Kindly refer the annexure-1 to amendment 1.
55	Annexure-A	389/1149	1.8.3	The stacked modules, in any case, shall be stacked as per the manufacturer's recommendation only and shall be covered with tarpaulin sheet.	Modules shall be dispatched in line with the Construction schedule. If Modules are dispatched ahead of schedule, following measures shall be undertaken: (i) Modules shall be covered with tarpaulin sheet. Alternatively, the Modules, properly stacked as per OEM recommendations, shall be stores under a temporary shed. Further, the temporary platform for keeping the modules shall be treated with anti-termite treatment
56	General	-	-	Request for Bids for Design, Engineering, Supply, Construction, Erection, Testing & Commissioning of 100 MW (AC) Solar PV Project (200MWp DC capacity) along with 50MW/150 MWh Battery Energy Storage System having 10 years Plant O&M at District Rajnandgaon, Chhattisgarh, India with RfB No : RfB No: SECI/C&P/RfB/2020/CG/100/150	The project's Solar & BESS capacity has been revised as mentioned below. Accordingly, the Project will be now determined as : Request for Bids for Design, Engineering, Supply, Construction, Erection, Testing & Commissioning of 100 MW (AC) Solar PV Project (160MWp DC capacity) along with 40MW/120 MWh Battery Energy Storage System having 10 years Plant O&M at District Rajnandgaon, Chhattisgarh, India with RfB No : SECI/C&P/RfB/2020/CG/100/120 This revised Solar & BESS capacity will supersede any other/earlier Solar & BESS project capacity mentioned anywhere in the bidding document.
57	General	-	-	-	Total Revised cumulative capacity = Plant AC Capacity: 100 MW (AC) Solar DC Capacity: 160MWp BESS Capacity: 40MW / 120MWH Bidders are required to consider the revised Solar & BESS capacity only while bidding. This revised cumulative Solar Capacity of 160MWp & revised BESS Capacity of 40MW / 120MWh will supersede any other/earlier project capacity mentioned anywhere in the bidding document.
58	Section III - Evaluation and Qualification Criteria	81 of 1149	4.2 (a) Specific Experince	Bidders can participate through any one of the below mentioned qualifying routes. The Bidder shall be considered meeting Technical Eligibility criteria either from Route I or Route II.....: **Joint Venture (existing or intended)** : All members combined : **Must meet requirement** , Each Member : **N/A**, At least one member : **Must meet 100 % (Hundred percent) of the requirement (Such Member will be called as Lead Member/partner)**	Bidders can participate through any one of the below mentioned qualifying routes. The Bidder shall be considered meeting Technical Eligibility criteria either from Route I or Route II.....: **Joint Venture (existing or intended)** : All members combined : **N/A** , Each Member : **N/A**, At least one member : **Must meet 100 % (Hundred percent) of the requirement (Such Member will be called as Lead Member/partner)**
59	Section IX- Particular conditions of Contract (PCC)	315 of 1149	PCC 26 Completion Time Guarantee	Applicable rate for liquidated damages: 0.5% per Week There shall not be any intermediate LDs for the delays in completing the individual plant (Solar and BESS). The LD for delay is applicable only if the entire plant facility is not completed by the Schedule Date of Completion/Contract Period as mentioned in the bidding document. The above rate applies to full contract value (excluding O&M). Maximum deduction for liquidated damages: 5% PCC 26.3 No bonus will be given for earlier Completion of the Facilities or part thereof.	Applicable rate for liquidated damages: 0.5% per Week There shall not be any intermediate LDs for the delays in completing the individual plant (Solar and BESS). The LD for delay is applicable only if the entire plant facility is not completed by the Schedule Date of Completion/Contract Period as mentioned in the bidding document. The above rate applies to full contract value (excluding O&M). Maximum deduction for liquidated damages: 5% PCC 26.3 No bonus will be given for earlier Completion of the Facilities or part thereof. Bidders are not required to propose the BESS Supplier/sub-Contractor along with the Bid. After the Contract is signed with winning Bidder, the winning Bidder will be required to finalize a BESS Supplier/sub-Contractor meeting following requirements and establish subcontracting agreement/work order with the BESS Supplier/sub-Contractor within 180 days from the effective date of the Contract Agreement. Further, any delay beyond 180 (One Hundred and Eighty) days in signing of the subcontracting agreement as mentioned above, shall attract @ 1.25% as liquidated damages per month on the total price of the BESS Plant (Supply) as mentioned under Schedule No 1/Schedule No 2, calculated on pro-rata basis accordingly.
60	Annexure A.2 Technical Specifications	529 of 1149	Technical Specification of Battery Energy Storage System, 3.1.1	The BESS Supplier/sub-Contractor must have experience of having successfully completed Design, Engineering, Procurement, Construction, Installation, Testing and Commissioning of Grid Connected Battery Energy Storage System (BESS) of at least 03 (Three) Grid connected BESS Plants, each having an individual capacity of 5 MWh (Five Mega Watt Hour) or above in last Five years. However, such BESS Plant capacity must have been in satisfactory operation for at least 12 (Twelve) months from the date of commissioning	The BESS Supplier/sub-Contractor must have the experience of having successfully completed Design, Engineering, Procurement, Construction, Installation, Testing and Commissioning of Grid Connected Battery Energy Storage System (BESS) of cummulative capacity of 12 MWh or above in the last 5 (Five) years. Such cummulative capacity must include at least 02 (Two) Grid connected BESS Plants, having minimum capacity of 4 MWh (Four Mega Watt Hour) each. The BESS Project must have been in satisfactory operation for at least 6 (Six) months from its date of commissioning (as on 3 months from the effective date of the Contract).
61	Section II - Bid Data Sheet	58 of 1149	ITB 19.1	The Bid shall be valid until: 27.04.2021	The Bid shall be valid until: 27.06.2021
62	Section III - Evaluation and Qualification Criteria	77 of 1149	3.2 Average Annual Turnover	Minimum average annual turnover of INR 345 Crores (Indian Rupees Three hundred & forty-five Crores only) or USD 46 M (US Dollars Forty-Six Million only), calculated as total certified payments received for contracts in progress or completed within the last 03 (Three) years For Indian companies, other income (as per the Companies Act, 2013 including amendment/clarifications), shall not be considered	Minimum average annual turnover of INR 263 Crores (Indian Rupees Two hundred & Sixty Three Crores only) or USD 35 M (US Dollars Thirty-Five Million only), calculated as total certified payments received for contracts in progress or completed within the last 03 (Three) years For Indian companies, other income (as per the Companies Act, 2013 including amendment/clarifications), shall not be considered
63	Section III - Evaluation and Qualification Criteria	78 of 1149	3.3 Financial Resources	The Bidder must demonstrate access to, or availability of, financial resources such as liquid assets & lines of credit, other than any contractual advance payments to meet: (i) the following cash-flow requirement: INR 144 Crores (Indian Rupees One hundred & forty-four Crores only) or USD 19 M (US Dollars Nineteen Million only)	The Bidder must demonstrate access to, or availability of, financial resources such as liquid assets & lines of credit, other than any contractual advance payments to meet: (i) the following cash-flow requirement: INR 110 Crores (Indian Rupees One hundred & Ten Crores only) or USD 15 M (US Dollars Fifteen Million only)

Amendment - 1

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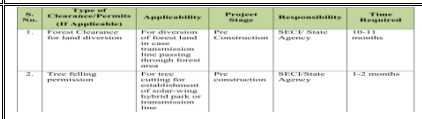
RfB No : SECI/C&P/RfB/2020/CG/100/40

Request for Bids for Design, Engineering, Supply, Construction, Erection, Testing & Commissioning of 100 MW (AC) Solar PV Project (160MWp DC capacity) along with 40MW/120 MWh Battery Energy Storage System having 10 years Plant O&M at District Rajnandgaon, Chhattisgarh, India

Sl. No.	Section	Page No.	Clause	Original Version	Amendment
64	Section III - Evaluation and Qualification Criteria	81-84 of 1149	4.2(a) Specific Experience	Bidders can participate through any one of the below mentioned qualifying routes. The Bidder shall be considered meeting Technical Eligibility criteria either from Route I or Route II Route I: Participation as contractor, joint venture member, management contractor, or subcontractor: (A) Must have experience in EPC execution of Ground mounted Solar Projects on Turnkey basis including Design, Supply (Supply of Modules & Inverters can be inclusive or exclusive in the bidder's scope in the past experience), Installation and Commissioning of Grid connected Solar PV Power Plant(s) of total cumulative Capacity not less than 50 (Fifty) MW in last five years as on last date of bid submission. However, such Grid connected Solar PV Power Plant capacity must have been in satisfactory operation for at least six (06) months prior to the last date of bid submission. B) The bidder must have experience in EPC execution of Ground mounted Solar Projects on Turnkey basis including Design, supply (Supply of Modules & Inverters can be inclusive or exclusive in the bidder's scope in the past experience), installation & commissioning of at least 02 (Two) Grid connected Solar PV Power Plant Projects having an individual capacity of 10 (Ten) MW or above in last five years from last date of bid submission. However, such Grid connected Solar PV Power Plant capacity must have been in satisfactory operation for at least six (06) months prior to the last date of bid submission OR Route II: Participation as developer, including as a joint venture member of developer: (A) Must have experience in execution of Ground mounted Solar Projects as a Developer of Grid-connected Solar PV Power Plant(s) of cumulative Capacity not less than 50 (Fifty) MW in last five years as on last date of bid submission. However, such Grid connected Solar PV Power Plant capacity must have been in satisfactory operation for at least six (06) months prior to the last date of bid submission. (B) The bidder must have experience in execution of Ground mounted Solar Projects as a Developer of at least 02 (Two) Grid connected Solar PV Power Plant Projects having an individual capacity of 10 (Ten) MW or above in last Five years from last date of bid submission. However, such Grid connected Solar PV Power Plant capacity must have been in satisfactory operation for at least six (06) months prior to the last date of bid submission	Bidders can participate through any one of the below mentioned qualifying routes. The Bidder shall be considered meeting Technical Eligibility criteria either from Route I or Route II Route I: Participation as contractor, joint venture member, management contractor, or subcontractor: (A) Must have experience in EPC execution of Ground mounted Solar Projects on Turnkey basis including Design, Supply (Supply of Modules & Inverters can be inclusive or exclusive in the bidder's scope in the past experience), Installation and Commissioning of Grid connected Solar PV Power Plant(s) of total cumulative Capacity not less than 50 (Fifty) MW (AC) in last five years as on last date of bid submission. However, such Grid connected Solar PV Power Plant capacity must have been in satisfactory operation for at least six (06) months prior to the last date of bid submission. And B) The bidder must have experience in EPC execution of Ground mounted Solar Projects on Turnkey basis including Design, supply (Supply of Modules & Inverters can be inclusive or exclusive in the bidder's scope in the past experience), installation & commissioning of at least 02 (Two) Grid connected Solar PV Power Plant Projects having an individual capacity of 10 (Ten) MW (AC) or above in last five years from last date of bid submission. However, such Grid connected Solar PV Power Plant capacity must have been in satisfactory operation for at least six (06) months prior to the last date of bid submission OR Route II: Participation as developer, including as a joint venture member of developer: (A) Must have experience in execution of Ground mounted Solar Projects as a Developer of Grid-connected Solar PV Power Plant(s) of cumulative Capacity not less than 50 (Fifty) MW (AC) in last five years as on last date of bid submission. However, such Grid connected Solar PV Power Plant capacity must have been in satisfactory operation for at least six (06) months prior to the last date of bid submission. And (B) The bidder must have experience in execution of Ground mounted Solar Projects as a Developer of at least 02 (Two) Grid connected Solar PV Power Plant Projects having an individual capacity of 10 (Ten) MW (AC) or above in last Five years from last date of bid submission. However, such Grid connected Solar PV Power Plant capacity must have been in satisfactory operation for at least six (06) months prior to the last date of bid submission
65	Section VI	163 of 1149	-	Section –I - Fraud and Corruption	Section VI - Fraud and Corruption
66	Appendix I	330 of 1149	Schedule 1	TERMS OF PAYMENT : Schedule No. 1. Plant and Equipment Supplied from Abroad : Last Milestone Payment : Ten percent (10 %) of the total or pro rata amount (of Schedule No. 1) within forty-five (45) days of receipt of invoice after final acceptance of the Plant facilities or completion First year of O&M of Plant, whichever is later, pursuant to submission of all requisite documentation including submission of all as-built drawings and documents.	TERMS OF PAYMENT : Schedule No. 1. Plant and Equipment Supplied from Abroad : Last Milestone Payment is hereby amended to : Ten percent (10 %) of the total or pro rata amount (of Schedule No. 1) within forty-five (45) days of receipt of invoice after final acceptance of the Plant facilities, pursuant to submission of all requisite documentation including submission of all as-built drawings and documents. Rest all of the other Terms of payment/Milestone payments will stand as it is.
67	Appendix I	331 of 1149	Schedule 2	TERMS OF PAYMENT : Schedule No. 2. Plant and Equipment Supplied from within the Employer's Country : Last Milestone Payment : Ten percent (10 %) of the total or pro rata amount (of Schedule No. 2) within forty-five (45) days of receipt of invoice after final acceptance of the Plant facilities or completion of First year of O&M of Plant, whichever is later, pursuant to submission of all requisite documentation including submission of all as-built drawings and documents.	TERMS OF PAYMENT : Schedule No. 2. Plant and Equipment Supplied from within the Employer's Country : Last Milestone Payment is hereby amended to : Ten percent (10 %) of the total or pro rata amount (of Schedule No. 2) within forty-five (45) days of receipt of invoice after final acceptance of the Plant facilities, pursuant to submission of all requisite documentation including submission of all as-built drawings and documents. Rest all of the other Terms of payment/Milestone payments will stand as it is.
68	Section X, Appendix 8	680/1149	I	Liquidated Damages for Shortfall in Equipment Availability	Liquidated Damages for Shortfall in Equipment Availability If the annual equipment availability for BESS is less than **98%** during any year ; ..... **C is ₹6/kWh** ..... Recovery of Compensation The above compensations shall be deducted from CPS submitted by the **Contractor**.
69	ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK	1128 of 1149	0	The total land area identified at this stage is 377.423 ha.	The total land available is 188 hectare, details of land is attached as annexure.
70	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 369 of 1149	4.1.27	4.1.27 Any re-arrangement/ replacement of substation equipment/ materials, including bay construction, if required, at the evacuating substation necessary for evacuation of power from the Plant.	The construction of 02 Nos of 132kV feeder bay at 220kV Thelkadih Substation is not in the scope of bidder. SECI has obtained the approval for construction of 02nos of feeder bay at Thelkadih s/s from CSPTCL on deposit work basisl. SECI will bear the cost of construction of the 2 nos of feeder bay only . However design , approval & construction of necessary infrastructure required at substation end for interconnection of the transmission line to these 02 nos of feeder bay and complying all the rules and regulation of the state/central utility is in the scope of bidder.
71	ANNEXURE C	Page 665 of 1149	25.1.e	All other insurance like – transit insurance (Marine/ Cargo/ others as applicable), Construction All Risk, Erection All Risk, workmen compensation, fire, third party liability, insurance against Insurance against theft, fire, act of God, Contractor's Equipments, machinery breakdown policy, business interruption insurance, Property damage Insurance & Environmental risk insurance as required during the O&M period of the Plant shall be in the contractor's scope & shall borne by the Contractor.	All other insurance like – transit insurance (Marine/ Cargo/ others as applicable), Construction All Risk, Erection All Risk, workmen compensation, fire, third party liability, insurance against theft, fire, act of God, Equipments, terrorism, machinery breakdown policy, business interruption insurance, Property damage Insurance , Environmental risk insurance and any other insurance as required during the O&M period of the complete plant shall be in the contractor's scope & shall borne by the Contractor.
72	Environmental and Social Due Diligence Report	739 of 1149	Table 4-4	 S. No. / Type of Clearance/Permits (If Applicable) / Applicability / Project Stage / Responsibility / Time Required 1. Forest Clearance for land diversion — For diversion of forest land in case transmission line passing through forest area — Pre Construction — SECI/ State Agency — 10-11 months 2. Tree felling permission — For tree cutting for establishment of solar-wing hybrid park or transmission line — Pre construction — SECI/State Agency — 1-2 months	The Forest clearance (if any) required for the identified land parcels of 188 hectare for setting up of the project will be obtained by CSPDCL/SECI . Any kind of tree cutting required during construction phase-in the said land parcels is in the scope of the contractor. All other permissions/approvals for tree cutting/felling ,ROW, compensations etc for the project and transmission line is in the scope of contractor . Bidder has to clearly identify all the approvals required for the said project. However SECI will assist in obtaining approvals(if required).
73	Environmental and Social Due Diligence Report	815 of 1149	TABLE 0-1: IMPLEMENTATION SCHEDULE AND ASSOCIATED RESPONSIBILITIES sr. no. 2	 Sl. No. / Action / Responsibility / Timeframe ENVIRONMENT SAFEGUARD 2 — Obtain 'Consent' from State Pollution control Board for establishment and operation of STPs. — SECI / EPC Contractor — Immediate and ensure that the works shall be initiated after receiving the Consents.	VOID. As there is no STP envisaged for the project.
74	Section X - Contract Forms	307	**PCC 9. Contractor's Responsibilities**	Contractor shall be required to mobilize its team within 20 (Twenty) days from the date of Notice to Proceed (NTP) for the immediate construction of the fencing of the Project boundary so as to safeguard the land parcels related to the project, in line with the fencing specifications provided in Annexure A "Employers requirement"	Contractor shall be required to finalize the sub-contractor within 20 days, mobilize its team within 20 (Twenty) days and complete the fencing activity within 90 days from the date of Notice to Proceed (NTP) for the immediate construction of the fencing of the Project boundary so as to safeguard the land parcels related to the project, in line with the fencing specifications provided in Annexure A "Employers requirement"
75	ANNEXURE 2 Functional Guarantees	681 of 1149	**Scheduling and Forecasting:**	The Contractor shall be responsible for appointing a Qualified Coordinating Agency if required by concerned authorities at the Pooling Substation Level for scheduling and forecasting activity. Also, the contractor shall be responsible for carrying out the forecasting and scheduling of the energy generation from the plant facility (In accordance with the Deviation Settlement Mechanism Regulations of the Chhattisgarh Electricity Regulatory Commission). Scheduling given by the Contractors is such that no penalty is levied on the Employer due to any deviation of actual generation from scheduling beyond the allowed limit. If any penalty is imposed on the Employer due to such deviations beyond allowed limit the same shall be recovered from the CPS given by the contractor.	The Contractor shall be responsible for appointing a Qualified Coordinating Agency if required by concerned authorities at the Pooling Substation Level for scheduling and forecasting activity. Also, the contractor shall be responsible for carrying out the forecasting and scheduling of the energy generation from the plant facility (In accordance with the Deviation Settlement Mechanism Regulations of the Chhattisgarh Electricity Regulatory Commission). Scheduling given by the Contractors is such that no penalty is levied on the Employer due to any deviation of actual generation from scheduling beyond the allowed limit. If any penalty arises due to DSM after adjusting the payable and receivable imposed on the Employer due to such deviations beyond allowed limit the same has to be paid by the contractor separately. If the contractor fails to pay such penalty then it shall be recovered from the contractor's payment to be done by SECI.
76	ANNEXURE 2 Functional Guarantees	681 of 1149	Recovery of Compensation	The above compensations shall be deducted from CPS submitted by the developer.	The above compensations shall be deducted from CPS submitted by the contractor.

Amendment - 1

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RfB No : SECI/C&P/RfB/2020/CG/100/40

Request for Bids for Design, Engineering, Supply, Construction, Erection, Testing & Commissioning of 100 MW (AC) Solar PV Project (160MWp DC capacity) along with 40MW/120 MWh Battery Energy Storage System having 10 years Plant O&M at District Rajnandgaon, Chhattisgarh, India

Sl. No.	Section	Page No.	Clause	Original Version	Amendment
77	Particular Conditions of Contract (PCC)	307 of 1149	PCC 8.1	PCC 8.1 The Contractor shall commence work on the Facilities within 20 (Twenty) Days from the Effective Date of the contract agreement for determining Time for Completion as specified in the Contract Agreement. However, Works shall not commence on any portion of the site until Contractor's ESMP is approved and relevant pre-construction measures have been implemented to the satisfaction of the Employer.	PCC 8.1 The Contractor shall commence work on the Facilities within 20 (Twenty) Days from the Effective Date of the contract agreement for determining Time for Completion as specified in the Contract Agreement. However, Works shall not commence on any portion of the site **except fencing ,security guard and other services required to keep the plant boundary safe** until Contractor's ESMP is approved and relevant pre-construction measures have been implemented to the satisfaction of the Employer.
78	Annexure-A	390/1149	2.2.8	UV resistant printed cable ferrules for solar cables & communication cables and punched/ embossed aluminum tags for DC cables shall be provided at cable termination points for identification.	Printed cable ferrules for solar cables & communication cables and punched/ embossed aluminum tags for DC cables shall be provided at cable termination points for identification.
79	Annexure-A	427/1149	15.1.3	The interface shall allow integration with Surveillance System(s), Module Cleaning System and various other O&M support systems to provide a Data Analysis and Decision Support System for smooth and efficient Plant Operations.	The interface shall allow integration with Module Cleaning System and various other O&M support systems to provide a Data Analysis and Decision Support System for smooth and efficient Plant Operations.
80	Annexure A.2 Technical Specifications	152 of 182	3.1 Table 2	Rated No of Cycles (Minimum) : 4000 cycles at rated energy capacity at 80% Depth of Discharge (DoD) at 25oC and up to C/3 Rate of Discharge	Rated No of Cycles (Minimum) : 4000 cycles at rated energy capacity at **minimum** 80% Depth of Discharge (DoD) at 25oC and up to C/3 Rate of Discharge
81	Annexure-A	468/ of 1149	24.4	Digital Multimeter: Display - Backlit LCD or LED display; Minimum resolution: 5 ½ places for DC, 4 ½ places for AC	Digital Multimeter: Display - Backlit LCD or LED display Minimum resolution: **4.5 digits for DC, 3.5 digits for AC**
82	Section III - Evaluation and Qualification Criteria, Particular Conditions of Contract & Price Schedule No 1	67 and 357 of 1149	Evaluated Bid value, Important Notes and statement under Schedule No 1 and PCC 14 (Taxes and Duties)	BCD+SWS & SGD/ADD being of reimbursement nature duties, Employer will reimburse the amount for BCD+SWS & SGD/ADD at actuals against the submission of documentary evidence only, with a MAXIMUM CEILING of BCD+SWS & SGD/ADD charges as mentioned by the Bidder in the Price Schedules No 1 at the time of bidding. Bidders are required to quote the applicable BCD+SWS & SGD/ADD with due diligence & appropriate financial prudence, as afterwards bidders will not be able to change or claim such taxes & duties already quoted during the bid. No BCD+SWS & SGD/ADD will be reimbursed to the contractor in the absence of documentary proofs. As BCD+SWS & SGD/ADD will be reimbursed by the employer, the GST will be applicable on the actual CIP price only. The payment of GST by the Employer shall only be at the CEILING of GST as mentioned by the Bidder in the Schedule No 1 at the time of bidding. Bidders are required to quote the applicable GST with due diligence & appropriate financial prudence, as afterwards bidders will not be able to change or claim the GST charges already quoted during the bid.	BCD+SWS & SGD/ADD being of reimbursement nature duties, Employer will reimburse the amount for BCD+SWS & SGD/ADD at actuals against the submission of documentary evidence only, with a MAXIMUM CEILING of BCD+SWS & SGD/ADD charges as mentioned by the Bidder in the Price Schedules No 1 at the time of bidding. Bidders are required to quote the applicable BCD+SWS & SGD/ADD with due diligence & appropriate financial prudence, as afterwards bidders will not be able to change or claim such taxes & duties already quoted during the bid. The ceiling amount of BCD+SWS & SGD/ADD is applicable only for the purpose of Award, however, any change in such taxes and duties or introduction of new law during the entire course of the contract, will be treated in line with the "Change in Law & Regulations" GCC clause 36 of the RfB.. No BCD+SWS & SGD/ADD will be reimbursed to the contractor in the absence of documentary proofs. As BCD+SWS & SGD/ADD will be reimbursed by the employer, the GST will be applicable on the actual CIP price only. In case, the bidder has mentioned the GST value/percentage on the total value of CIP Price+BCD+SWS+SGD/ADD, then the same shall not be considered for the purpose of award. The GST value as applicable and calculated on the CIP prices only will be used for the purpose of award. The payment of GST by the Employer shall only be at the CEILING of GST as mentioned by the Bidder in the Schedule No 1 at the time of bidding. Bidders are required to quote the applicable GST with due diligence & appropriate financial prudence, as afterwards bidders will not be able to change or claim the GST charges already quoted during the bid. **Abbreviations used :** **BCD : Basic Custom Duty , SWS : Social Welfare Surcharge , SGD : Sagegaurd Duty , ADD : Anti Dumping Duty, GST : Goods & Service Tax**
83	Annexure A.2 Technical Specifications	393/1149	4.2.1	The Inverter Supplier should have supplied minimum 5 GW capacity globally or 1 GW in India in the past 5 years	The Inverter Supplier should have supplied minimum 5 GW capacity globally or 1 GW in India in the past 5 years **(as on 3 months from the effective date of the Contract)**

Declaration : The compiled Pre Bid Queries have been reproduced on as it is basis, without any modifications.

RfB No : SECI/C&P/RfB/2020/CG/100/120

Request for Bids for Design, Engineering, Supply, Construction, Erection, Testing & Commissioning of 100 MW (AC) Solar PV Project (160MWp DC capacity) along with 40MW/120 MWh Battery Energy Storage System having 10 years Plant O&M at District Rajnandgaon, Chhattisgarh, India

Sl. No.	Section	Page No.	Clause	Description as per Bidding Document	Queries	Category	Clarifications
1	0	371	Clause 5.1.26	Construction of RCC Type Guest House	Please provide Front Elevation to asses no of floors	Technical	Guest House shall be single storey.
2	0	473 to 476	Clause 3.0	Geo technical Investigation Report	Please provide if any Geo Technical Investigation report for reference	Technical	Detailed Geotechnical Investigation is in the scope of the bidder.
3	0	479- 480	Clause 6 Roads : 6.0, 6.1,6.2	Construction of internal roads and peripheral roads with WBM base.	For Internal Roads from MCR Building to all Inverter Stations we propose WBM road without Bitumen coat.	Technical	The terms and conditions of Bidding Document will prevail
4	0	481-482	Clause 7 :Surface/ Area drainage	5.1.15 Construction of Storm water drainage to its nearest outfall point & sewage network including rain water harvesting mechanism	For Periphery Drain can we Propose Earthen Drain without aligning.	Technical	The terms and conditions of Bidding Document will prevail
5	0	386	Clause 1.2	Cell type Mono-crystalline or Multi-crystalline, Bifacial	Can we use monoperc module technology with either halfcut or Fullcell or Bifacial with monoperc technology	Technical	Kindly refer S.No. 24 of amendment 1.
6	0	389	Clause 2.2.3	Every SMU input shall be provided with fuses on both positive and negative side. The rating of the fuses shall be selected such that it protects the modules from reverse current overload. The fuses shall be 'gPV' type conforming to IEC 60269-6.	The inverter manufacturers recommends negative string fuse is not required so string cable shall preferably be terminated with field connector with SCB. Please accept	Technical	Kindly refer S.No. 23 of amendment 1.
7	0	412	Clause 7	AC Cables	Bidder understands for AC cables both Copper or Aluminum can be used	Technical	Both Copper and Aluminum are allowed for AC Cables. Terms and conditions of the tender document will prevail.
8	0	603	2.4 CAPACITY UTILIZATION FACTOR (CUF)	DF is module degradation factor, 0.55% per year	Please accept degradation factor as 0.68%	Technical	Terms and Conditions of the tender document will prevail.
9	Section III	65	0	Evaluation & Qualification criteria 1.1 Technical Evaluation: Capacity Utilization Factor (CUF) 36.5	Kindly provide an example on how the 36.5% can be reached for example in case of where storage is part of the proposed solution.	Technical	The CUF measured at the Plant End ABT Meter at the 132 kV Switchyard shall be 28.7%. Please refer the Formula for Calculation of CUF at Page No. 603/1149. The Plant Rated Capacity for the calculation of CUF is 100 MW. Kindly refer S.No. 47 of amendment 1.
10	Annexure A.1	0	Scope of works 4.1.7	0	It is understood that energy rating of the ESS installed means the dispatch able capacity of ESS at PCC including auxiliary consumption of ESS. Please confirm. Or we can consider the auxiliary power from Solar generation	Technical	Energy rating of the ESS installed means the total dispatchable capacity of ESS as measured at PCC. EPC Contractor may source Auxiliary Power requirement of the BESS from the Solar generation keeping in consideration the Annual CUF requirement.

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11	Section III	79	4.2(a) Specific Experience	Route-I (B) The bidder must have experience in EPC execution of Ground mounted Solar Projects onTurnkey basis including Design, supply (Supply of Modules & Inverters can be inclusive or exclusive in the bidder's scope in the past experience), installation & commissioning of at least 02 (Two) Grid connected Solar PV Power Plant Projects having an individual capacity of 10 (Ten) MW or above in last five years from last date of bid submission. However, such Grid connected Solar PV Power Plant capacity must have been in satisfactory operation for at least six (06) months prior to the last date of bid submission	Route-I (B) The bidder must have experience in EPC execution of Ground mounted Solar Projects onTurnkey basis including Design, supply (Supply of Modules & Inverters can be inclusive or exclusive in the bidder's scope in the past experience), installation & commissioning of at least 01 (One) Grid connected Solar PV Power Plant Projects having an individual capacity of 20 (Twenty) MW or above in last five years from last date of bid submission. However, such Grid connected Solar PV Power Plant capacity must have been in satisfactory operation for at least six (06) months prior to the last date of bid submission	Contractual	The terms and conditions of Bidding Document will prevail.
12	Section III	77	4.2(a) Specific Experience	Must meet 100 % (Hundred percent) of the requirement (Such Member will be called as Lead Member/partner)	Must meet 50 % (Hundred percent) of the requirement (Such Member will be called as Lead Member/partner)	Contractual	The terms and conditions of Bidding Document will prevail.
13	III	82	2.4	The BESS Supplier/sub-Contractor must have the experience of having successfully completed Design, Engineering, Procurement, Construction, Installation, Testing and Commissioning of Grid Connected Battery Energy Storage System (BESS) of at least 03 (Three) Grid connected BESS Plants, each having an individual capacity of 5 MWh (Five Mega Watt Hour) or above in last Five years. Also, such BESS Plant capacity must have been in satisfactory operation for at least 12 (Twelve) months from the date of commissioning.	Since BESS is a relatively new technology in India, it is difficult to have Indian subcontractor with 5MWh*3Plants with 1 year of commissioning experience	Technical	Please refer S. No. 28 of Amendment 1.
14	Annexure A.2 Technical Specification	Page 10 of 182	B.1.2	Cell type Mono-crystalline or Multi-crystalline, Bifacial	Please clarify if any cell type other than bifacial can be used	Technical	Kindly refer the S.no. 24 of ammendment-1.
15	Annexure A.2 Technical Specification	Page 10 of 182	B.1.3.1	The PV Modules Supplier should have supplied minimum 5 GW capacity globally or 1 GW in India in the past 5 years	The same should be relaxed to include more numbers of Indian manufacturers	Technical	Please refer S. No. 32 of Amendment 1.
16	Annexure A.2 Technical Specification	Page 11 of 182	B.1.5.1	Module Warranty Performance warranty up to 30 Years	Many manufacturer give up to 25 years	Technical	Terms and Conditions of the tender document will prevail.
17	Annexure A.2 Technical Specification	Page 17 of 182	B.4.1	Inverters used in the grid connected solar power projects shall be registered with BIS and bear the Standard Mark as notified by the Bureau of Indian Standards	There is no guideline for 1500V inverter BIS certification. MNRE guideline only covers 1000V inverter	Technical	Extant Regulations of GoI as per the Quality Control Order at the time of Supply shall apply.
18	Annexure A.2 Technical Specification	Page 103 of 182	C.6.2	Approach road connecting nearest public road and the main gate shall be 4.5 m wide with 0.5m shoulders on either side. The access road connecting main gate, MCR & Internal access road connecting MCR to various facilities shall be 3.75m wide with 0.5m shoulders.	Bidder Suggested width Main gate to Public road - 4.0 Mtr. With 0.5 Mtr. Shoulder on either side Main gate to MCR/ICR - 3.5 Mtr. With 0.5 Mtr. Shoulder on either side	Technical	Kindly refer S.No.2 of amendment 1.

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19	Annexure A.2 Technical Specification	Page 105 of 182	C.6.9	Maintenance pathway of minimum 1 meter width shall be provided between SPV array for easy movement maintenance staff, tools, equipment's & machinery, washing of modules etc. The path area generally levelled and well compacted. Area of depression, valley, zones or where there is noticeable change in topography shall be levelled by laying 100mm the PCC of M10 or precast paver blocks.	Bidder Suggests: Area of depression, valley, zones or where there is noticeable change in topography shall be filled with good earth, compacted and levelled properly.	Technical	Kindly refer S.No. 3 of amendment 1.
20	Annexure A.2 Technical Specification	Page 106 of 182	C.7.12	The drain outfall shall be connected to nearest existing drain/ Water body outside the plant premises.	Bidder requests to confirm distance of existing drain/water body from plant boundary & availability of land to carry a connecting drain from plant to main drain	Technical	As per the preliminary site survey, drains and water body to be used for discharging water are located in the close vicinity of the land patches.
21	Annexure A.2 Technical Specification	Page 106 of 182	C.7.14	The contractor shall also explore rain water harvesting system for water conservation suitable collection wells along with the drain or through provision of detention pond.	Bidder requests to allow with percolation/recharge pit	Technical	Kindly refer S.No. 4 of amendment 1.
22	Annexure A.2 Technical Specification	Page 106 of 182	C.8	Plant Boundary & wall fence	Bidder request to allow precast boundary wall	Technical	Plant boundary shall be as per the chain link fence drawing provided as annexure to Amendment 1.
23	Annexure A.2 Technical Specification	Page 118 of 182	C.13.7	MMS Shall be of following thickness Sub/Column - 3.12 Rafter - 2.5 Purlin & other member 2.0	Bidder suggests: MMS thickness Sub/Column - 2.0 mm for piling /3.0 mm for ramming Rafter, Bracing & other member - 1.2 mm Purlin - 0.9 mm	Technical	For members other than purlin, terms and conditions of tender document shall prevail. For purlin members, kindly refer S.No. 5 of amendment 1.
24	Annexure A.2 Technical Specification	Page 148 of 182	E.1.1	Perform factory acceptance testing of the BESS.	Bidder assumes component wise (e.g. battery, PCS etc) will be tested separately with individual manufacturer	Technical	It shall be the responsibility of the BESS Supplier/Integrator to ensure BESS Components - Cell, Module Pack, Racks and Complete Assembly meet the testing and certification requirement as per the specifications. Based on the requirement of the standard, testing may be carried out on the Complete Assembly at manufacturer's facility or at site (eg. Requirements as per UL 9540 A).
25	Annexure A.2 Technical Specification	Page 150 of 182	E.2.1	Electrical infrastructure: AC system interconnection requirement at Point of Connection (PCC) 33 kV/415, 50 Hz, 3 phase The BESS will be coupled with the PV System at the AC Bus on the LV (415 V) or the MV (33 kV) side of the Inverter Transformers. The BESS shall be designed for maximum flexibility with regard to site-specific voltages, frequency, phase imbalance, and protection requirements.	For AC Bus at LV, please clarify if any other system voltage (i.e. PCS output voltage) can be allowed to connect in parallel to PCU	Technical	Yes PCS Voltage Output (other 415V) as per design shall be acceptable.
26	Annexure A.2 Technical Specification	Page 152 of 182	E.3.1	Rated No of Cycles (Minimum) 4000 cycles at rated energy capacity at 80% Depth of Discharge (DoD) at 25oC and up to C/3 Rate of Discharge	Please clarify if DoD can be taken >80% (As per manufacturer recommendation) for sizing the battery	Technical	DoD during operation may be higher than 80% at the time of operation as per the recommendation of the OEM in order to comply to warranty conditions and tender specifications. Please refer S. No. 80 of Amendment 1.
27	Annexure A.2 Technical Specification	Page 153 of 182	E.3.1	Peak Management In the Peak Management Use Case scenario, power generated during the early and midday periods shall be stored in the BESS and discharged during peak demand, for 3 hours, after solar generation hours	Please specify the timing of the battery discharge	Technical	BESS shall be discharge completely during non solar hours and available for charging the next day.

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				Clarifications to Queries raised during Pre-Bid Meeting on 30.09.2020			
28	Annexure A.2 Technical Specification	Page 152 of 182	E.3.1	Watt-hour rating (dispatchable capacity)	Bidder requests to allow degradation as per manufacturer specification.	Technical	First Year degradation up to 3 % shall be allowed. Kindly refer S.No 35 of amendment 1.
29	Annexure A.2 Technical Specification	Page 162 of 182	E.4.9.4.3	The PCS transformer may be used to aid in harmonic cancellation and may include tertiary windings to supply BESS auxiliary power requirements. The transformer must be dry type…	Bidder request to allow oil filled type of transformer if required to be put outside PCS	Technical	Oil filled Transformer for BESS shall be acceptable. Kindly refer S.No.33 of amendment 1.
30	Annexure A.3 Special Technical Specification	Page 2 of 4	2	Topographical survey for the project site has been conducted by the employer and contour map prepared on its basis has been attached with this Annexure.	Please provide the same	Technical	Topographical Survey Report has been provided for reference. However, detailed topographical survey is in the scope of contractor.
31	0	Page 2 of 4	6	The Power Transformer shall be designed for suitable duty cycle considering at least 4 hours of operation at 110% of full (rated) load.	Does this mean bidder can allow up to 110MVA through power transformer, when PV is high? Or it has to be limit at 100MVA	Technical	Kindly refer S.No.34 of amendment 1.
32	Annexure C	Page 4 of 11	2.1.2	The PR test shall be carried out for a period of 30 consecutive days at site by the Contractor	Bidder understand the following from the RFQ that the performance acceptance test will be carried out for 30days.and PR calculation for guarantee of 82% will be calculated on yearly basis	Technical	Guaranteed PR of 82% shall be demonstrated for 30 days for the purpose of Operational Acceptance of the plant. Terms and conditions of the tender document will prevail.
33	Annexure D	Page 2 of 2	8	Battery 2% of total supply along with all Cell/ Battery Auxiliary Systems, interconnectors, monitoring devices as spares	Please clarify if 3MWh of only cells or the complete rack/module also needs to be kept as spare	Technical	2% capacity of minimum field replacable Battery Module (cells, Electronics, connectors etc.) shall be kept as hot standby either in each container or in separate container.
34	Section VIII – General Conditions of Contract	255	36	Change in Law	The same should include any change in BCD or SGD or any other duty	Contractual	Clause No 36 of the GCC amply clarifies about the Change in law provisions. Kindly refer the same
35	Section III - Evaluation and Qualification Criteria	63	1	As BCD+SWS & SGD/ADD will be reimbursed by the employer, the GST will be applicable on the actual CIP price only.	How the GST on SGD shall be paid by employer	Financial	Bidders are requested to consider the impact of GST incidental on SGD, under Schedule No 1 under SGD/ADD column only.
36	Section X, Appendix 8	342	2	Annual CUF Guarantee	Since bidder is guaranteeing annual CUF, clause H may not be required as it leads to double penalty	Technical	Kindly refer S.No.45 of amendment 1.
37	Section X, Appendix 8	342	2	Annual CUF Guarantee	In case Annual CUF is less than Guaranteed CUF, Penalty clause B and E (i) both are applicable	Technical	Clause B shall be operated as per Clause E(i)
38	Annexure-A.1. Scope of Work	Page 6 of 15	3.4	Estimation of the plant generation based on Solar Radiation and other climatic conditions prevailing at site.	Bidder Request to provide the solar radiation data (if available). Else, please specify estimation need to be carried out with Solar GIS/Metronome data	Technical	It shall be the responsibility of the bidder to estimate the plant generation based on available solar radiation database. For the purpose of calculation of annual CUF, reference radiation has been given in Clause 2.4 of Annexure-C (PG Test Procedure). Terms and conditions of the tender document will prevail.
39	Annexure-A.1. Scope of Work	Page 7 of 15	4.1.2	Array Junction boxes, distribution boxes and Fuse boxes with string monitoring capabilities	Bidder proposes string combiner box, without monitoring	Technical	Terms and Conditions of the tender document will prevail.
40	Annexure-A.1. Scope of Work	Page 7 of 15	4.1.13	ABT meters (Main, Check and standby) with all necessary metering rated CT's and PT's at the plant take off point as well as at the substation as per CEA Metering Regulation 2006 as amended time to time and state metering code	Please clarify the metering location. Bidder assumes it to be at the plant boundary	Technical	ABT meters shall be provided both at the plant end as well as at the interconnecting substation end. Terms and conditions of the tender document will prevail.

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41	Annexure-A.1. Scope of Work	Page 8 of 15	4.1.26	Design & construction of Transmission line/ cable at required voltage level from plant take off point to the designated substation including right of way (ROW)	ROW & land for transmission line is requested to be in Developer's scope	Technical	CSPTCL vide letter dated 19th March 2020, has accorded permission for 132kV grid connectivity for the project from 220kV substation, Telkadih (RJN)at Thelkadih Substation to SECI(Copy attached). It is the responsibility of the contractor/developer to design, obtaining approval, ROW, construction, land compensation, O&M of 132kV Double Circuit Double string transmission line from plant end to the substation . The contractor/developer has to strictly follow the terms & conditions stipulated under permission granted by GoCG under section 68 of EA-2003 for construction of 132kV DCDS line, CSERC grid code 2011 , Grid code and has to abide by all the other regulations/conditions /scope as specified in the CSPTCL approval letter to SECI.
42	Annexure-A.1. Scope of Work	Page 8 of 15	4.1.26	...and construction of bay at designated substation as per TRANSCO requirements/procedures.	Bidder assumes space for developing the Bay at substation end would be provided by developer	Technical	Kindly refer the S.no. 70 of ammendment-1.
43	General	0	0	132 kV Transmission Line	Please provide the route survey map	Technical	Route survey map is not available with SECI. It is in the scope of bidder to carry out the detailed route survey and obtain necessary approvals for construction of transmission line.
44	General	0	0	132 kV Transmission Line	33 km of 132 kv Transmission line is very difficult to construction in 18 months. LD should be waived of in case of any delay in construction of transmission line owing to the reasons beyond the control of bidder.	Technical	Any LD due to delay in obtaining approvals will not be waived. Design, obtaining approval, ROW, construction, land compensation, O&M of transmission line and all other activities related to the transmission line is in the scope of contractor/developer. However SECI will assist in obtaining necessary approval in this regards.
45	General	0	0	Layout	Please share the solar layout with demarcation of the plots Contour map &Geo Tech Survey	Technical	Conducting the Topo-survey and Geotech survey on the land plots shall be in the scope of contractor. However based on preliminary site survey carried out by SECI, Contour Survey drawings of the project sites/plots are being uploaded for information purposes only. The Contractor is advised to inspect the site and study the topography and other conditions to decide the extent of scope of area grading, ground compaction etc. to be provided before submission of the Bid. The Employer shall not be responsible for any variations, between information provided herein and detailed investigations to be carried out by the Contractor during contract execution.

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46	General	0	0	SLD	Please share the solar layout with demarcation of the plots Contour map &Geo Tech Survey	Technical	Conducting the Topo-survey and Geotech survey on the land plots shall be in the scope of contractor. However based on preliminary site survey carried out by SECI, Contour Survey drawings of the project sites/plots are being uploaded for information purposes only. The Contractor is advised to inspect the site and study the topography and other conditions to decide the extent of scope of area grading, ground compaction etc. to be provided before submission of the Bid. The Employer shall not be responsible for any variations, between information provided herein and detailed investigations to be carried out by the Contractor during contract execution.
47	III- Evaluation & Qualification Criteria	73	3.2 Financial Capabilities- Average Turnover & 3.3 Financial Resources	Must Meet 25% One member	We will request to relax this criteria as in developer mode the Turnover in last 3 years is less for many companies as solar is relatively new - The combination of all members should suffice the need and not restricting for min 25 % for one member B) Please remove restriction of 3 numbers of members in JV..... C) As this is one of the biggest EPC project with BESS and mostly located at two separate land locations so will request if possible then break it into two packages so that there is more competitiveness and tariffs are better and also risks are less in terms of project completion. In past we have seen that large project stuck due to dependency of only one party.	Contractual	The terms and conditions of Bidding Document will prevail
48	ITB	41 of 1149	43.2	for identified major items of supply or services will also be evaluated for acceptability in accordance with Section III, Evaluation and Qualification Criteria. Their participation should be confirmed with a letter of intent between the parties, as needed. … Prior to signing the Contract, the corresponding Appendix to the Contract Agreement shall be completed, listing the approved manufacturers or subcontractors for each item concerned.	Bidder being a PSU has to finalize/shortlist the subcontractors for supply/services of the major item of the project through tendering process only. Bidder request that tentative manufacturers/subcontractors' name shall be furnished during signing of Contract. However, during detailed engineering stage after award of contract, acceptance of new/more vendors meeting the tender requirements, subject to customer's approval may please be accepted.	Contractual	The terms and conditions of Bidding Document will prevail
49	Technical Specifications	532 of 1149	4.3.1	The BESS shall be containerized, using either standard International Organization for Standardization (ISO) 668 shipping containers or custom-designed power equipment centers.	From 'custom-designed power equipment centers'; Bidder understands that Pre-fab type housing structures meeting industrial standards can be provided for installation of BESS. Please confirm.	Technical	Terms and Conditions of the tender document will prevail.
50	Technical Specifications	553 of 1149	14.2	At a minimum, the Contractor shall provide an unconditional, 5 (five) -year parts and labor warranty on all BESS equipment except battery (unit or racks).	As bidder has to operate and maintain plant for 10 years with penalty in place, bidder understands there is no need of 5 year warranty. Please accept.	Technical	Terms and Conditions of the tender document will prevail.

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51	ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK	1128 of 1149	0	The total land area identified at this stage is 377.423 ha.	Considering various hindrances/undulations in-between and the irregular shape of the offered land, the effective usable area will not be sufficient for installation of 200MW DC solar and 150MWh BESS. Bidder requests to provide additional land for project installation.	Technical	Kindly refer the S.no. 69 and 57 of ammendment-1.
52	Technical Specifications	478 of 1149	5.3	It is envisaged that the MMS are installed on natural/ existing ground without any levelling or grading of the area. Contractor shall accordingly consider the effect of the existing ground slope on the design of MMS structure as specified elsewhere in the specifications. If any ground undulations at column locations are observed the same shall be filled up with PCC (1:3:6) up to surrounding ground level immediately after pile installation before start of erection of other MMS members. In case of pile, the PCC fill shall extend min. 500mm outside pile cap all around and remaining area may be filled up with local soil properly compacted	In case the effect of ground slope is considered in the design of MMS , then filling up of ground undulations is not understood. In case the filling up to be done then what should be the reference level up to which it has to be filled. It is requested to remove this clause as it will delay Site execution works tremendously.	Technical	Local depressions present at the column locations shall be provided with PCC filling matching the top finished surface with ground topography/ grade.
53	Technical Specifications	487 of 1149	10.10.2	For estimation of design wind loads on purlins (Table 8 of IS 875- Part 3), WL(downward) and WL (upward) on modules (laid in the profile of mono slope canopy) shall be applied such that the center of pressure should be at (0.3 × length of canopy) from windward end (for simplicity, the wind load distribution may be taken as triangular with max. value at windward end). Solidity ratio (ø) shall be taken as 0.5.	Interactions with prominent customers and technical forums have informed that the results of Wind tunnel testing on MMS structure are not in sync to the results obtained through MMS design done by Triangulation method and hence it is requested to review the same.	Technical	Kindly refer Synod. 6 of amendment 1.
54	Technical Specifications	494 of 1149	13.6	The contractor can also propose new light gauge structural steel or structural aluminum sections other than specified in IS: 811 subject to approval of the Engineer. In this case the contractor shall submit his proposal stating the technical advantages of the proposed sections for Engineer's review along with supporting literature and sample design calculations conforming to present specifications at the time of bidding.	For purlins with thickness less than 1.6 mm pre-galvanized material shall also be allowed.	Technical	Kindly refer S.No. 5 of amendment 1.
55	Technical Specifications	494 of 1149	13.7	The minimum thickness excluding anti corrosive treatment (BMT) of various elements of MMS structure shall be as following: □ Stub/ column – 3.15mm, □ Rafter – 2.5mm & □ Purlin & other members – 2.0mm	Clause 13.6 & 13.7 are contradictory.	Technical	Kindly refer S.No. 5 of amendment 1.
56	Technical Specifications	494 of 1149	13.11	The purlins shall be provided with min. following tie/sag rods or angles or channels: □ 1 no., in the mid of each span and shall connect all the purlin members □ 1 no., diagonal, at each corner in end spans	The introduction of so many sag angles increases the complexity of assembly at site.	Technical	The terms and conditions of Bidding Document will prevail

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57	Technical Specifications	494 of 1149	13.13	The vertical diagonal bracing shall be provided in end spans and every alternate span of each unit (table) of MMS.	Bracing requirement to be as per requirement in Staad design.	Technical	The terms and conditions of Bidding Document will prevail
58	Technical Specifications	495 of 1149	13.22	Two numbers of anti-theft fasteners of stainless steel on two diagonally opposite corners for each module shall be provided. All fasteners both for MMS connections and fixing of PV Module shall be adequately protected from atmosphere and weather prevailing in the area.	Anti theft fasteners are not recommended as it limits the replacement of PV module during O & M period. Also it does not ensure non-pilferage as the Modules can be still be stolen along with the purlins by opening the fastener connection between rafter and purlin.(Purlin will also provide support in carrying PV Modules.)	Technical	The terms and conditions of Bidding Document will prevail
59	Technical Specifications	495 of 1149	13.23	Fasteners and washers to be used for erection of mounting structures and those for fixing Module over MMS shall be of stainless steel grade SS 304 & SS 316 with property class A2-70 conforming to relevant ISO standard and must sustain the adverse climatic conditions to ensure the life of the structure for 25 years.	SS316 fasteners are required only for Coastal application with saline atmosphere. SS304 fasteners are the recommended material grade as per PV Module manufacturer and hence same may be permitted. DIN Standard for fasteners to be permitted.	Technical	Kindly refer S.No. 7 of amendment 1.
60	Technical Specifications	496 of 1149	13.28	In case the contractor proposes to extend the column leg to embed it in the pile/pedestal as an alternate fixing arrangement, the column member shall be extended for full depth of the pile (100mm cover at tip of the pile) with an end plate of min. 4mm thickness to be welded at the bottom of column leg. (However, for plants in coastal area or in case of marshy soil the column post shall be supported only with base secured to foundation through base plate and anchor bolt assembly and no embedment of column leg in foundation is permitted)	Welding end plate to Column shall delay Manufacturing of MMS Columns , and MMS Columns are the first items required at site. Instead Bolting of Cleats to the MMS-Column to be permitted.	Technical	The terms and conditions of Bidding Document will prevail
61	Technical Specifications	496 of 1149	13.32	The length of one unit (Table) of MMS shall not generally be more than 20m.	With 1500V System design we are providing 60 modules table in projects having length upto 30 M. Please permit.	Technical	The terms and conditions of Bidding Document will prevail
62	Technical Specifications	496 of 1149	13.33	The contractor shall submit the foundation and structural design basis for MMS along with the list of reference standards in his Bid duly certified by a Chartered Engineer having adequate successful experience in similar works which shall be finalized with the prospective bidder during pre-award. The MMS shall be designed to optimize tilt angle and elevation to minimize self-shading and maximize the capture of diffuse light by Bifacial Modules. The Bifacial Module frames shall be rail-edge mounted in landscape configuration to minimize losses.	As we know that the MMS Design is dependent on Selection of PV Module ,tilt angle and the land terrain and hence finalizing the MMS Design at tender stage will be difficult. However the design philosophy can be finalized.	Technical	Kindly refer S.No. 8 of amendment 1.

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63	Technical Specifications	497 of 1149	13.38	The purlin splice shall comprise of flange and web splice plates and splice design shall conform to Annexure-F of BIS:800. For simplicity in fabrication, the splice member may be of CFS channel section without lips (CU). There shall be min. four number of bolts on either sides of joints in web zones and one number of bolt on either side of joint in flange zones.	As per experience though the fabrication of C-Channel splice may be faster , however with the allowed tolerance in MMS Manufacturing it never fits at all the three faces of the purlin(two flange + one web) . In case of non-mating of purlin with purlin spice at all faces the effort of providing C-Channel with so many bolts is defeated. Even if tolerances are controlled in fabrication stage(will delay fabrication) assembly at site will delay overall execution. Not recommended for 100MW-AC project.	Technical	The terms and conditions of Bidding Document will prevail Sufficient clearances shall be ensured at fabrication stage to ensure proper fitting.
64	Technical Specifications	515 of 1149	35.3	min. consumption of 2 Ltr / Sqm of surface area of SPV module shall be considered in estimation of required quantity of water storage.	As per PV module manufacturer's recommendations 1 Ltr/SQM is sufficient.	Technical	The terms and conditions of Bidding Document will prevail
65	Technical Specifications	516 of 1149	35.4	Water used for drinking & PV module cleaning purpose shall generally be of potable quality and fit for cleaning the modules with TDS generally not more than 75 PPM. In case of higher salt contents, the water shall be thoroughly squeezed off to prevent salt deposition over module surface. However, water with TDS more than 200 PPM shall not be used directly for module cleaning without suitable treatment to control the TDS within acceptable limits. The water must be free from any grit and any physical contaminants that could damage the panel surface.	The recommended range for PPM from PV Module manufacturer is 300 to 400 ppm. Further, the PPM of cleaning water shall be as per recommendation of PV module manufacturer.	Technical	The terms and conditions of Bidding Document will prevail
66	Technical Specifications	516 of 1149	35.1	Module cleaning procedure and pressure requirement at discharge point shall be as per the recommendation of PV module manufacturer. However, discharge pressure at outlet shall not be less than 5 kgf/cm2(0.5 MPa)	The pressure requirement at discharge point should be as per the recommendation of PV module manufacturer. 5 bar is unsafe and not recommended . It should be 2 bar as per PV Module manufacturer.	Technical	The terms and conditions of Bidding Document will prevail
67	0	364 of 1149	Project Particulars	refer Annexure-E	PL provide Annexure-E with site locations and individual capacity of each location	Technical	Plant boundary and Contour Drawings are uploaded with Amendment 1. Capacity to be installed in individual block shall be determined by contractor and approved by SECI during detailed engineering.
68	SOW	364 of 1149	Project Particulars	Villages	As capacity is distributed across 10 locations in a district, SCADA requirements as per page 426 of 1149 are not economically viable for provision at all locations. We propose to provide SCADA panel to be stationed at site with one HMI operator workstation with 24" monitor. Solar plant data from each site will be interfaced to the central location (among one of these 10 locations) over Internet. SCADA requirements as per page 426 of 1149 are proposed at Main Control Room of central location.	Technical	Specifications of operator workstation are mentioned in Clause 15.9.2 of Technical Specifications. It is sufficient to provide one operator workstation at the Main Control Room. Communication interface between SCADA panels of various blocks is up to the Contractor as long as the functional requirements mentioned in the tender document are met. Terms and conditions of the tender document will prevail.

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69	Technical Specifications	427 of 1149	15.1.2	The Contractor shall provide all the components including, but not limited to, Hardware, Software, Panels, Power Supply, HMI, Laser Printer, Gateway, Networking equipment and associated Cables, firewall etc. needed for the completeness	This is proposed at Main Control Room of one central location as proposed above.	Technical	Kindly refer the clarification provided for S.No. 68. Terms and conditions of the tender document will prevail.
70	Technical Specifications	430 of 1149	15.4.10	Connectivity shall be provided to Owner's Data Monitoring Centre. Data collected by Plant SCADA shall be replicated in real-time, using industry standard interfaces such as Web Services, OPC-UA, data files, as required – with Owner's Central Monitoring System.	Pl specify location of Owner's Data Monitoring Center. Data collected by Plant SCADA shall be made available in real-time, using industry standard interfaces such as Web Services/OPC-UA/data files for Owner's Central Monitoring System on Internet.	Technical	Owner's Data Monitoring Centre is located in Delhi.
71	Technical Specifications	432 of 1149	15.9	Hardware at Main Control Room	This is proposed at Main Control Room of one central location as proposed above.	Technical	There is only one Main Control Room. Terms and conditions of the tender document will prevail.
72	Technical Specifications	432 of 1149	15.9	Hardware at Main Control Room	Server and Operator Workstation will be powered with Main Control Room UPS.	Technical	There is only one Main Control Room. Terms and conditions of the tender document will prevail.
73	VII (B)	9 & 10 of 182	1.2	Cell type: Mono-crystalline or Multi-crystalline, Bifacial	To accommodate more participants, please allow mofacial multi-crystalline Cells.	Technical	Terms and Conditions of the tender document will prevail.
74	0	0	0	Module Efficiency: ≥ 19.5%	Requested to permit module efficiency ≥ 16.5 %.	Technical	Terms and Conditions of the tender document will prevail.
75	0	0	0	Temperature co-efficient of power: Not less than -0.40%/°C	Not less than -0.43 %/°C be accepted, please.	Technical	Terms and Conditions of the tender document will prevail.
76	VII (B)	10 of 182	1.4.1 (i)	Glass-glass Modules, with minimum of 2 mm glass thickness on each side	Single glass with 3.2 mm thickness be accepted, please.	Technical	Terms and Conditions of the tender document will prevail.
77	VII (B)	11 of 182	1.5.1	Warranty:..guarantee 80% of the initial rated power output at the end of 30 years	Guarantee of 80% of the initial rated power output shall be at the end of 25 years.	Technical	Terms and Conditions of the tender document will prevail.
78	VII (B)	10 of 182	1.3	The PV Modules Supplier should have supplied minimum 5 GW capacity globally or 1 GW in India in the past 5 years.	The PV Modules Supplier should have supplied minimum 200MW in India in the past 5 years.	Technical	Kindly refer S.No. 32 of amendment 1.
79	III	67 of 1149	1.2	The price evaluation for Schedule 1 will be done based on the total CIP price mentioned under CELL NO H 32 excluding of any applicable taxes & duties. However, For the Purpose of Contract award, the total price mentioned under CELL No R 32 including CIP Price+BCD+SWS+SGD/ADD+GST will be considered from Schedule No 1.	For evaluation of bid, it is requested to kindly include taxes & duties. The bidder who intends to import the item(s)/equipment(s) will have the advantage over the bidder who intends to supply the indigenous item(s)/equipment(s) as the duties will not be considered for evaluation of bid.	Contractual	This point have been discussed in details during the virtual Pre Bid meeting also. However, The terms and conditions of Bidding Document will prevail
80	III	67 of 1149	1.2	BCD+SWS & SGD/ADD being of reimbursement nature duties, Employer will reimburse the amount for BCD+SWS & SGD/ADD at actuals against the submission of documentary evidence only, with a MAXIMUM CEILING of BCD+SWS & SGD/ADD charges as mentioned by the Bidder in the Price Schedules No 1 at the time of bidding. Bidders are required to quote the applicable BCD+SWS & SGD/ADD with due diligence & appropriate financial prudence, as afterwards bidders will not be able to change or claim such taxes & duties already quoted during the bid. No BCD+SWS & SGD/ADD will be reimbursed to the contractor in the absence of documentary proofs.	It is requested to kindly re-imburse BCD+SWS & SGD/ADD at actuals without ceiling.	Contractual	Bidders are required to exercise utmost due diligence, while quoting the various taxation components as the BCD+SWS & SGD/ADD will be reimbursed as per the ceiling to the value mentioned by the bidder doing its bid submission.The ceiling amount is applicable only for the purpose of Award, however, any change in such taxes and duties or introduction of new law during the entire course of the contract, will be treated in line with the "Change in Law & Regulations" GCC clause 36 of the RfB.

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81	III	67 of 1149	1.2	As BCD+SWS & SGD/ADD will be reimbursed by the employer, the GST will be applicable on the actual CIP price only. The payment of GST by the Employer shall only be at the CEILING of GST as mentioned by the Bidder in the Schedule No 1 at the time of bidding. Bidders are required to quote the applicable GST with due diligence & appropriate financial prudence, as afterwards bidders will not be able to change or claim the GST charges already quoted during the bid.	It is requested to kindly re-imburse the GST at actuals under the change in law clause without the ceiling limit.	Contractual	This point have been discussed in details during the virtual Pre Bid meeting also. However, The terms and conditions of Bidding Document will prevail
82	III	67 of 1149	1.2	The price evaluation for Schedule 2 will be done based on the total Ex Works (EXW) price mentioned under CELL NO G 30 excluding of applicable GST. However, For the Purpose of Contract award, the total price mentioned under CELL No J 30 including Total Ex Works Price (EXW) + GST will be considered from Schedule No 2.	It is requested to kindly evaluate the bid on total price i.e including taxes and duties.	Contractual	This point has been discussed in details during the Pre Bid meeting also. However, The terms and conditions of Bidding Document will prevail
83	III	67/68 of 1149	1.2	The payment of GST by the Employer shall only be at the CEILING of GST as mentioned by the Bidder in the Schedule No 2 at the time of bidding. Bidders are required to quote the applicable GST with due diligence & appropriate financial prudence, as afterwards bidders will not be able to change or claim the GST charges already quoted during the bid.	It is requested to kindly re-imburse the GST at actuals under the change in law clause without the ceiling limit.	Contractual	The terms and conditions of Bidding Document will prevail
84	III	88 of 1149	2.7	In the case of a Bidder who offers to supply and install major items of supply under the contract that the Bidder did not manufacture or otherwise produce, the Bidder shall provide the manufacturer's authorization, using the form provided in Section IV, showing that the Bidder has been duly authorized by the manufacturer or producer of the related plant and equipment or component to supply and install that item in the Employer's Country.	We being a Central Public Sector Undertaking will finalize our sub-contractors/vendors through open tendering. Hence it is not possible to arrange the authorization letter at this stage. Kindly accept.	Contractual	At this stage, you can provide the authorization letters to the best possible extent for the items available/identified

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85	X	311 of 1149	10.3	The Employer shall facilitate the contractor in acquiring and obtaining for all permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in the country where the Site is located which (a) such authorities or undertakings are to obtain in the Employer's name, (b) are necessary for the execution of the Contract, including those required for the performance by both the Contractor and the Employer of their respective obligations under the Contract, and (c) are specified in the Appendix (Scope of Works and Supply by the Employer). The related payments/fees of obtaining permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in the country where the Site is located will be in the contractor scope.	It is requested to kindly consider the scope of statutory approvals, permits, etc. in the scope of Employer. However, the contractor will provide the required support to the employer in obtaining the statutory approvals, permits etc.	Technical	Original clause shall prevail.
86	X	315 of 1149	26	Applicable rate for liquidated damages: 0.5% per Week There shall not be any intermediate LDs for the delays in completing the individual plant (Solar and BESS). The LD for delay is applicable only if the entire plant facility is not completed by the Schedule Date of Completion/Contract Period as mentioned in the bidding document. The above rate applies to full contract value (excluding O&M). Maximum deduction for liquidated damages: 5%	We request to kindly consider that the LD for delay shall be applicable for uncommission portion.	Contractual	The terms and conditions of Bidding Document will prevail
87	TS	470 of 1149	25.3	The ROW for the TL/UG cable shall be obtained prior to the construction of the line from the concerned authorities.	It is requested to kindly consider the scope of ROW in the account of Employer. Kindly accept.	Technical	Original clause shall prevail.
88	SOW	364 of 1149	1	Distance to connecting substation (approx.): 31 kMs.	Kindly confirm the length of transmission line.	Technical	SECI has not carried out any route survey for transmission line. However the length may be about 33km approx. Bidders are required to carefully assess the transmission line route and length from project site till 220/132kV CSPTCL's Thelkadih substation and need to quote according to their assessment. The activities like design, obtaining approval, ROW, construction, land compensation, O&M of transmission line is in the scope of contractor/developer. However SECI will assist in obtaining such approvals
89	Environmental and Social Due Diligence Report	690 of 1149	0	It will also include a transmission line connecting to the Grid at Thelkadi, Chhattisgarh sub-station with an approximate length of 33 km.	0	Technical	Query Not Clear
90	Environmental and Social Due Diligence Report	723 of 1149	0	It is also proposed to construct a transmission line of length 33 km approx. the exact route shall be determined at later stage by conducting a detailed route survey analysis.	0	Technical	Query Not Clear

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91	Technical Specifications	387 of 1149	1.5.1	PV modules must be warranted with linear degradation rate of power output except for first year (maximum 3% including LID) and shall guarantee 80% of the initial rated power output at the end of 30 years.	It is requested to kindly modify the clause as per following. PV modules must be warranted with linear degradation rate of power output except for first year (maximum 3% including LID) and shall guarantee 80% of the initial rated power output at the end of 25 years.	Technical	Terms and Conditions of the tender document will prevail.
92	Technical Specifications	386 of 1149	1.2	Cell type: Mono-crystalline or Multi-crystalline, Bifacial	It is requested to clarify as there in contradiction in two clauses.	Technical	Terms and Conditions of the tender document will prevail.
93	SOW	364 of 1149	1	Cell/Module Technology: Bifacial, Mono-crystalline PERC	0	Technical	Query Not Clear
94	BDS	55 of 1149	17	Where the Bidder has quoted taking into account such benefits, he must give all information required for issue of Project Authority/ Payment/Other certificates in terms of the Foreign Trade Policy or GST law/Notifications. In case, bidder has not indicated information such as import content or has indicated to be furnished later, the same shall be construed that the import content is Nil.	We being central public sector undertaking will finalize our sub-contractor/vendors through open tendering. Hence we can not provide the import content at this stage. it is requested to permit bidder to provide the information on import content at later stage. Please consider.	Contractual	The terms and conditions of Bidding Document will prevail
95	ITB	24 of 1149	16	For major items of Plant and Installation Services as listed by the Employer in Section III, Evaluation and Qualification Criteria, which the Bidder intends to purchase or subcontract, the Bidder shall give details of the name and nationality of the proposed Subcontractors, including manufacturers, for each of those items. In addition, the Bidder shall include in its Bid information establishing compliance with the requirements specified by the Employer for these items. Quoted rates and prices will be deemed to apply to whichever Subcontractor is appointed, and no adjustment of the rates and prices will be permitted.	We being central public sector undertaking will finalize our sub-contractor/vendors through open tendering. Hence we can not provide the information at this stage. it is requested to permit bidder to provide the information at later stage. Please consider.	Contractual	Terms and Conditions of the tender document will prevail.
96	0	0	0	Soil Report/Geotechnical Investigation Report	It is requested to kindly share the Soil Report/Geotechnical Investigation report to bidders	Technical	It is under the scope of contractor.
97	0	0	0	Topo-survey	It is requested to kindly share the Topo-Survey to the bidders	Technical	Conducting the Topo-survey and Geotech survey on the land plots shall be in the scope of contractor. However based on preliminary site survey carried out by SECI, Contour Survey drawings of the project sites/plots are being uploaded for information purposes only. The Contractor is advised to inspect the site and study the topography and other conditions to decide the extent of scope of area grading, ground compaction etc. to be provided before submission of the Bid. The Employer shall not be responsible for any variations, between information provided herein and detailed investigations to be carried out by the Contractor during contract execution.

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				Clarifications to Queries raised during Pre-Bid Meeting on 30.09.2020		
98	VIII	210 of 1149	13.2	Advance BG	It is requested to kindly share the validity period of Advance BG.	Financial	In line with SECI past project experiences, the Advance Bank Guarantee is released once the advance amount so availed is settled down in the subsequent milestone payments. With regard to this project, the further milestone payments is envisaged at a span of almost 12 Months from the effective date of the project. Hence, bidders may avail the Advance by submitting the advance bank guarantee with the validity up to 12 months.
99	X	308 of 1149	1	Effective Date	It is requested to kindly consider the date of handing over of the encumbrance free and demarcated site to the contractor as Effective Date. Any issue related to land title shall be resolved by SECI.	Contractual	Land related issues will be responsibility by SECI & SECI will hand over the encumbrance free land to the nominated contractor.. However, the effective date of Project will be governed from the NTP or date of Contract Agreement, whichever is later, in line with the provisions of the RfB
100	VIII	259 of 1149	37 of GCC	Force Majeure	In addition to the terms of tender, kindly consider Pandemic/Epidemic and lockdown condition as a Force Majeure	Contractual	Exigencies emerged as an outcome of Force Majeure will be dealt on case to case basis during the contractual execution
101	0	0	0	0	It is requested to kindly consider that no Liquidated Damages/Penalty shall be imposed on account of delay due to Force Majeure.	Contractual	Exigencies emerged as an outcome of Force Majeure will be dealt on case to case basis during the contractual execution.
102	0	0	0	Disputes	As per the Office Memorandum (OM) dated 22.05.2018 of Ministry of Heavy Industries & Public Enterprises (F.No. 4(1)/2013-DPE(GM)/FTS-1835), which has been marked to Chief Secretary of all states, whereby disputes or differences between Central Public Sector Enterprise (CPSE) and state government Department/ Organization relating to the interpretation and application of the provisions of commercial contract(s), shall be taken up for resolution through AMRCD. Kindly confirm.	Contractual	This being a WB financed project, the procurement regulations as defined by WB will prevail. Hence, The terms and conditions of Bidding Document will prevail
103	0	0	0	Power and Water Supply during Construction	We request SECI to kindly arrange the Water and Power Supply for construction.	Technical	Terms and Conditions of the tender document will prevail.
104	0	0	0	Bank Details for Bid Security BG	We request SECI to kindly share the Bank Details for the purpose of EMD BG preparation.	Financial	https://www.seci.co.in/upload/static/files/SECI%20Payment%20Details.pdf
105	0	0	0	0	If delay from scheduled completion is on account of employer, then any statutory variation beyond stipulated Delivery/ Commissioning/ Completion schedule shall be to customer's account.	Contractual	If it is prudently established and accepted by the employer that the delay so happened is on account of the Employer, then any statutory variation beyond the stipulated Delivery/Commissioning/Completion schedule shall not be in contractor's account.However, bidders are further required to kindly refer GCC Clause No 36, "Change in law & regulations" for more clarity regarding this point.
106	0	0	0	0	We request SECI to kindly consider the price and time implication due to change in law, regulation, ordinance, order as the Contractor will be bound to adhere any the change in law, regulation, ordinances and orders issued by government.	Contractual	Unforeseen situations emerged as an outcome/Implication of Change in Law will be dealt on case to case basis during the contractual execution. However, the overall cost of the project will remain same.However, bidders are further required to kindly refer GCC Clause No 36, "Change in law & regulations" for more clarity regarding this point.

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107	0	0	0	0	Liquidated Damages/Penalty shall not be imposed on contractor, if the delay is attributable to SECI.	Contractual	If it is prudently established and accepted by the employer that the delay so happened is on account of the Employer, then corresponding LD/Penalty shall not be imposed on the contractor. However, bidders are further required to kindly refer GCC Clause No 26, "Completion time Guarantee" for more clarity regarding this point.
108	0	0	0	0	Applicable taxes & duties on contract cancellation charges shall be on account of employer.	Contractual	The terms and conditions of Bidding Document will prevail
109	0	0	0	0		Technical	Query Not Clear
110	0	0	0	Price Schedules	As the break up of the total price may vary (however the total prices will remain same). We request SECI to kindly consider our request to permit the bidders to quote the total prices only.	Contractual	This point have been discussed in details during the virtual Pre Bid meeting also. However, The terms and conditions of Bidding Document will prevail
111	0	0	13.36	In case of seasonal tilt, the front and back bracing members (subject to seasonal rotation) shall be connected to rafter or column through gusset plate and shall not be connected directly to the column or rafter.	It is understood that the choice of fixed or seasonal tilt is with Bidder and we may so choose fixed tilt.	Technical	PV module shall be installed with fixed tilt.
112	Annexure-A	364/1149	1	Proposed AC capacity (MW): 100	Please clarify the PV power plant AC capacity required.	Technical	The plant evacuation capacity is 100 MW. Minimum cumulative inverter capacity is 120 MW. Kindly refer S.no.57 of amendment 1.
113	0	0	0	Cumulative Inverter Capacity (Min.): 175	0	Technical	Query Not Clear
114	Annexure-A	364/1149	1	Proposed AC capacity (MW): 100	Please review and confirm the PV power plant AC capacity required as there is one/two inverter OEM(s) available in the industry offering this DC loading on the inverter.	Technical	The plant evacuation capacity is 100 MW. Minimum cumulative inverter capacity is 120 MW. Kindly refer S.no.57 of amendment 1.
115	0	0	0	Minimum DC Capacity (MWp): 200	0	Technical	Query Not Clear
116	Annexure-A	365/1149	1	PR: 82?	Kindly revise the PR required, based on site climate and irradiance level, to 78%.	Technical	Kindly refer the PR formula given in Clause 2.1.1 of Annexure-C (PG Test Procedure) to Technical Specifications. The formula has in-built temperature correction. Terms and conditions of the tender document will prevail.
117	Annexure-A	365/1149	1	CUF: 36.5?	Considering the area available for the project and radiation, CUF requirement specified is very high. Please revise.	Technical	Kindly refer the CUF formula given in Clause 2.4 of Annexure-C (PG Test Procedure) to Technical Specifications. The CUF is calculated based on plant AC capacity of 100 MW and radiation correction factor is also included. Terms and conditions of the tender document will prevail.
118	Annexure-A	369/1149	4.1.26	Design & construction of Transmission line/ cable at required voltage level from plant take off point to the designated substation including right of way (ROW) and construction of bay at designated substation as per TRANSCO requirements/procedures.	Bidder may please be facilitated to carry out only works related to solar PV plant and ROW issues, if any, may please be resolved by M/s. SECI. Please confirm	Technical	Original clause shall prevail.
119	Annexure-A	371/1149	6	Statutory Approvals	Bidder may please be facilitated to carry out only works related to solar PV power plant and statutory clearances from government bodies may please be taken up by M/s. SECI, as it will be very easy to handle being a flagship organization of GOI and being the owner of the PV power plant. Please confirm	Technical	Original clause shall prevail.

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				Clarifications to Queries raised during Pre-Bid Meeting on 30.09.2020			
120	0	0	General	Radiation and temperature data	Please specify the reference radiation and temperature data base viz., NASA/Metronome to be considered for the calculation of yearly generation in order to ensure common evaluation platform for all the bidders.	Technical	It shall be the responsibility of the bidder to estimate the plant generation based on available solar radiation database. For the purpose of calculation of annual CUF, reference radiation has been given in Clause 2.4 of Annexure-C (PG Test Procedure). Terms and conditions of the tender document will prevail.
121	SOW	364 of 1149	1	Cell/ Module Technology: Bifacial, Mono crystalline PERC	In Indian, PV market is relying more on polycrystalline, monofacial technology, please accept this option also. It is a better option in terms of availability and cost effectiveness also.	Technical	Terms and Conditions of the tender document will prevail.
122	Technical Specifications	386 of 1149	B, 1.2	Module Efficiency (Front Side) ≥ 19.5%	In case of polycrystalline technology, efficiency of 19.5% will not be feasible. Hence the clause may be reviewed to reduce the required efficiency to ≥ 16%	Technical	Terms and conditions of the tender document will prevail.
123	Technical Specifications	386 of 1149	B, 1.3	The PV Modules Supplier should have supplied minimum 5 GW capacity globally or 1 GW in India in the past 5 years.	In this clause in conjunction with Make in India policy and restriction on importing from land border sharing countries, it appears very restrictive. It may be reduced to 300 MW installation in India	Contractual	Kindly refer S.No. 32 of amendment 1.
124	Technical Specifications	386 of 1149	B, 1.4.1	The PV Modules glass panel shall be: Glass-glass Modules, with minimum of 2 mm glass thickness on each side. It shall be laminated using a laminator with symmetrical structure, i.e. heating plates on both sides.	Glass- back sheet modules with 3.2 mm thick glass option also may be permitted.	Technical	Terms and conditions of the tender document will prevail.
125	Technical Specifications	387 of 1149	1.5.1	PV Module shall guarantee 80% of initial rated output at the end of 30 years	PV Module shall guarantee 80% of initial rated output at the end of 25 years	Technical	Terms and conditions of the tender document will prevail.
126	Technical Specifications	387 of 1149	1.5.3	Warranty shall be backed by third party Insurance	Warranty shall be backed by third party Insurance or Bank Guarantee	Technical	Terms and Conditions of the tender document will prevail.
127	Annexure C	603/1149	2.4	Degradation factor is 0.55 per Year	kindly consider degradation factor is 0.70 per Year	Technical	Terms and Conditions of the tender document will prevail.
128	Section X - Contract Forms	307/1149	PCC 9. Contractor's Responsibilities	Contractor shall be required to mobilize its team within 20 (Twenty) days from the date of Notice to Proceed (NTP) for the immediate construction of the fencing of the Project boundary so as to safeguard the land parcels related to the project, in line with the fencing specifications provided in Annexure A "Employers requirement"		Technical	Query Not Clear
129	Section X - Contract Forms	307	PCC 9. Contractor's Responsibilities	Contractor shall be required to mobilize its team within 20 (Twenty) days from the date of Notice to Proceed (NTP) for the immediate construction of the fencing of the Project boundary so as to safeguard the land parcels related to the project, in line with the fencing specifications provided in Annexure A "Employers requirement"	Bidder request for the additional time, to enable bidders to identify the contractors for carrying out the work. Bidder request for minimum 60 days from NTP for mobilization and to start the construction of fencing works.	Contractual	Kindly refer S.no. 74 of Amendment 1.
130	Annexure-A, C	113/182	12.2.1	However, the min. dia. and depth of the pile shall be 300mm (Min 350 mm for column depth more than 175 mm) and1800mm respectively except when very hard strata/ rock (N>100) is encountered at a higher level, the pile shall be extended in to the hard strata minimum 1.5 times the diameter of the pile with total depth of the pile not less than 1200mm below cut-off level	Bidder request, the depth of pile may be finalized based up on Soil condition and soil Investigation report. Kindly confirm.	Technical	The terms and conditions of Bidding Document will prevail

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131	Annexure-A, C	117/182	13.3	In case of topographical variations more than 3o, the contractor shall carry out detailed study of its effect on array layout, shadow analysis and structural stability of MMS.	Bidder request that the land slope may decided by the bidder based on the energy generation requirement.	Technical	The terms and conditions of Bidding Document will prevail
132	Annexure-A, C	123/182	16.2.2	MCR building shall have separate main entry to office area plus a provision of fire exit door	Kindly confirm, clause mentioned is for fire exit door only and not for fire resistant door.	Technical	Door shall be fire exit type only.
133	ANNEXURE A.3SPECIAL TECHNICAL CONDITIONS	3/4	10	MCR shall be RCC Type Building sand shall conform to the provisions as specified in Technical Specifications	MCR shall be allowed with PEB building, kindly confirm.	Technical	The terms and conditions of Bidding Document will prevail MCR shall be RCC type building.
134	Technical Specifications	529 of 1149	3.1.1	The BESS Supplier/sub-Contractor must have the experience of having successfully completed Design, Engineering, Procurement, Construction, Installation, Testing and Commissioning of Grid Connected Battery Energy Storage System (BESS) of at least 03 (Three) Grid connected BESS Plants, each having an individual capacity of 5 MWh (Five Mega Watt Hour) or above in last Five years. Also, such BESS Plant capacity must have been in satisfactory operation for at least 12 (Twelve) months from the date of commissioning.	BESS being fairly new technology, has got very few grid connected BESS plant installations by BESS OEMs/suppliers as of now. Further, China being the hub of Li-ion battery suppliers, the present import restrictions from China also restricts availability of such BESS Supplier/Sub-Contractors who meet this tender requirements. Whether BESS can be accepted from foreign vendors, meeting the BESS Supplier QR globally? Whether BESS OEMS from China acceptable?	Technical	Kindly refer Section V, eligible countries for more clarity regarding this point.
135	Technical Specifications	529 of 1149	3.1 Table	In the Peak Management Use Case scenario, power generated during the early and midday periods shall be stored in the BESS and discharged during peak demand, for 3 hours, after solar generation hours.	BESS will have only Peak management application for this Solar PV project. Please confirm.	Technical	Yes.
136	Annexure-A	364/1149	1	Power trx: 2x50	Rating of the power transformer can be 100% ONAF and 60% ONAN for the optimum design. Also, ONAF/ ONAN design shall result in optimum configuration of the system. Please accept.	Technical	Power transformer rating shall be 50MVA for continuous operation.
137	Annexure-A.3	375/1149	8.2	Daily work of the operation and maintenance in the Solar Photovoltaic Power Plant involves periodic cleaning of Modules including periodic tilt angle change as and when required.	Periodic tilting shall not be applicable for fixed tilt structures. Please confirm.	Technical	The clause is generic. Periodic tilt angle change is not applicable for fixed tilt MMS design. Terms and conditions of the tender document will prevail.
138	Annexure-A.3	560/1149	6	The Power Transformer shall be designed for suitable duty cycle considering at least 4 hours of operation at 110% of full (rated) load.	Power transformer shall be continuous duty. Please confirm.	Technical	Power Transformer shall be continuous duty.
139	Annexure-A.3	560/1149	6	The Power Transformer shall be designed for suitable duty cycle considering at least 4 hours of operation at 110% of full (rated) load.	110% full (rated) load shall be for 1 hour only as per IS. Please accept.	Technical	Kindly refer S.No.34 of amendment 1.
140	Annexure-A.3	561/1149	16	For Plant internal lighting along internal roads, Solar LED type Garden/Landscape stake lights (Color Temperature 5700 K) shall be installed along with Solar Panels and rechargeable and replaceable battery units with minimum 8 hours of discharge.	Solar lighting shall be having maintenance issues and reduces the usable area for DC installation considerably when compared to normal peripheral lighting. Hence solar peripheral lighting may please be removed or option may be given to bidder to choose the option as per his techno-economic evaluation.	Technical	Kindly refer S.No.40 of amendment 1.

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141	Annexure-A	393/1149	4.2.1	The Inverter Supplier should have supplied minimum 5 GW capacity globally or 1 GW in India in the past 5 years	This clause in conjunction with Make in India policy and restriction on importing from land border sharing countries, it appears very restrictive. It may be reduced to 300 MW installation in India considering the project size	Technical	Terms and conditions of the tender document will prevail.
142	Annexure-A	390/1149	2.2.7	Cable gland (double compression metallic) of suitable size for DC cables shall be provided at the SMU output	Cable gland shall be poly amide or double compression metallic. Please accept.	Technical	Terms and conditions of the tender document will prevail.
143	Annexure-A	390/1149	2.3	The SMU unit shall be warranted against all material/ manufacturing defects and workmanship for minimum of 5 (five) years from the date of supply.	The standard warranty offered in the industry is 1 year. Please accept and revise.	Technical	Kindly refer S.No.50 of amendment 1.
144	Annexure-A	459/1149	19.6	All switchyard equipment shall be warranted for minimum of 5 (five) years against all material/ manufacturing defects and workmanship.	0	Technical	Query Not Clear
145	Annexure-A	453/1149	18.13	The control and relay panel unit shall be warranted for minimum of 5 (five) years against all material/ manufacturing defects and workmanship.	0	Technical	Query Not Clear
146	Annexure-A	442/1149	16.13	The power transformer shall be warranted for minimum of 5 (five) years against all material/ manufacturing defects and workmanship.	0	Technical	Query Not Clear
147	Annexure-A	364/1149	1	Distance to connecting substation (approx.) - 31 kMs.	Please confirm whether transmission line distance is 31 km or 33 km	Technical	SECI has not carried out any route survey for transmission line. However the length will be about 33km approx. Bidders are required to carefully access the length of transmission line from project site till 220/132kV CSPTCL's Thelkadih substation and quote accordingly as the complete scope design, approval, ROW, construction of transmission line is in the scope of contractor/developer
148	ESMF	850/1149	1.2	The power generated through the project is propose to be evacuated through overhead 132kV transmission line of length 33 km approx. to the nearest 132 kV CSPTCL's Substation at Thelkadi, Chhattisgarh.	0	Technical	Query Not Clear
149	Annexure-A	384/1149	2.3	Shadow free plant layout to ensure minimum losses in generation during the day time.	Location and layout shall be in such a manner that it cast no shadow on the PV Modules during 08:30 AM to 04:30 PM. Please confirm	Technical	Array layout shall be finalized during detailed engineering.
150	Annexure-A	389/1149	1.8.2	It is required to construct a temporary platform (graded) while keeping the modules at least above the highest flood level. If the contractor scheduled/ planned to mount the modules immediately after the receipt at site, then the module shall be kept in common storage area with proper arrangement.	Modules shall be kept at an appropriate location above the flood level for safe storage. Temporary platform for the modules is not practical for this project size and hence may please be removed.	Technical	Terms and conditions of the tender document will prevail.
151	Annexure-A	389/1149	1.8.3	The stacked modules, in any case, shall be stacked as per the manufacturer's recommendation only and shall be covered with tarpaulin sheet.	Covering the PV modules with tarpaulin is not practical for this project size and hence may please be removed.	Technical	Kindly refer S.No.55 of amendment 1.
152	Annexure-A	389/1149	2	String Monitoring Unit	Please clarify whether string monitoring can be avoided and zone monitoring at SMB level can be implemented at the PCU input level. This will help in optimizing the overall configuration as per the present industry practice.	Technical	Terms and conditions of the tender document will prevail.

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153	Annexure-A	423/1149	12.3.2	Each PV Module frame shall be earthed using copper wire of sufficient cross section. The copper wire shall be connected to the earth hole provided in the module frame using suitable arrangement in line with the manufacturer recommendation.	Each PV Module frame shall be earthed in accordance with PV module manufacturer guidelines inline with the prudent industry practice. Please accept and revise.	Technical	Terms and conditions of the tender document will prevail.
154	Annexure-A	423/1149	12.3.3	Continuous copper earthing wire shall be run to connect a group of modules and both ends of the loop shall be bolted to the DC earth grid using bimetallic lugs and stainless-steel fasteners.	Bimetallic lugs of copper and GI are not available. Hence this requirement may please be removed.	Technical	Terms and Conditions of the tender document will prevail.
155	Annexure-A	423/1149	12.3.6	The connection with the DC earth grid shall be done using suitable bimetallic lugs and stainless-steel fasteners.	Bimetallic lugs of copper and GI are not available. Hence this requirement may please be removed.	Technical	Terms and Conditions of the tender document will prevail.
156	Annexure-A	425/1149	13.2	Protection level for the entire plant shall be Level-I.	Please allow Level-III protection level inline with the industry prudent practice to minimize the usable area wastage and optimize the overall system.	Technical	Terms and conditions of the tender document will prevail.
157	Annexure-A	518/1149	38.1.1	Weather monitoring device shall be mounted on tubular steel pole of required height. The pole shall conform to IS: 2713.	IS 2713 is pertaining to transmission line poles, where the standard length of poles will be 9 m and above. In case of WMS & LA poles shall be as per the OEM recommendations. Please accept and remove the IS reference.	Technical	The terms and conditions of Bidding Document will prevail
158	0	0	38.3.1	The LA mast shall be a self-supporting structure with GI tubular pole of required height. The pole shall confirm to IS: 2713.	0	Technical	Query Not Clear
159	Annexure-A	518/1149	38.1.2	The pole shall be secured to an independent RCC foundation structure through Base plate and Anchor bolt assembly.	Base plate and anchor bolt are not the standard offering of the OEMs for WMS & LA OEMs for the foundations. Foundation design shall be as per the OEM recommendations. Please accept.	Technical	The terms and conditions of Bidding Document will prevail
160	Annexure-A	518/1149	38.3.2	The pole shall be supported on RCC pedestal and foundation structure through Base plate & Anchor bolt assembly.	0	Technical	Query Not Clear
161	Annexure-A	518/1149	38.3.4	The support structure shall be hot-dip galvanized. Min depth of foundations shall be 1200 mm below GL.	The depth of the foundation shall be decided based on the soil conditions during detailed engineering and this minimum requirement may please be removed.	Technical	Kindly refer S.No. 9 of amendment 1.
162	Annexure-A	518/1149	38.2.1	SMU shall not be supported from MMS and shall have an independent structural steel supporting frame of galvanized ISMC 75 with transverse diagonal bracings of ISA 65x65x6 to each column post.	SMU is proposed to be mounted on the MMS structure. The additional load of the SMU shall be considered for the design of structure. Please accept	Technical	The terms and conditions of Bidding Document will prevail
163	Annexure-A	518/1149	38.2.4	The support structure shall hot-dip galvanized and of adequate height to ensure min. ground clearance of 1.0 m to SMU unit.	Minimum ground clearance of the SMU unit shall be 500 mm inline with PV module ground clearance on MMS and prudent industry practice.	Technical	Kindly refer S.No.10 of amendment 1.
164	Annexure-A	465/1149	22.6	The system shall support video analytics in respect of the following: (i) Video motion detection (ii) Object tracking (iii) Object classification	Object classification & object tracking are not required for PV power plant monitoring purposes. Please remove these for optimizing the overall system design.	Technical	Terms and Conditions of the tender document will prevail.
165	Annexure-A	462/1149	21.1.1	The Contractor shall provide minimum 6 (six) number of secondary standard pyranometers (ISO 9060 classification) along with necessary accessories, two numbers each for measuring the incidental solar radiation at horizontal, inclined plane of array and albedo at each site.	Please confirm whether total requirement for the project is 6 nos or 12 nos.	Technical	Total nos. of pyranometers for the project shall be 6.

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166	Annexure-A	466/1149	23.4	Minimum two numbers of fire extinguishers (CO2 and Foam type each, of capacity 10 kg having BIS certification marking as per IS: 2171) shall be provided at every building/ enclose, transformer yard and switchyard.	The standard available CO2 fire extinguishers are of 9 kg capacity. Please accept and revise	Technical	Kindly refer S.No.48 of amendment 1.
167	Annexure-A	420/1149	11.2	110 V DC system (Battery, Battery Charger & DCDB) in accordance with this specification and standards stated herein, shall comprise of the following. (i) Sealed Maintenance Free (VRLA) Battery complete with racks & accessories. (ii) One No. Float charger. (iii) One No. Float cum Boost charger.	Suitably rated DC/AC converter connected to the UPS shall be used to meet the DC control supply requirement of switchgear panels instead of FCBC and battery. This will help in optimization of system design and improvement of maintenance Please accept.	Technical	Terms and conditions of the tender document will prevail.
168	Annexure-A	390/1149	2.2.8	UV resistant printed cable ferrules for solar cables & communication cables and punched/ embossed aluminum tags for DC cables shall be provided at cable termination points for identification.	There are no UV resistant ferrules available in the industry and also these ferrules will not be directly exposed to the sun light. Hence please remove this UV resistant requirement.	Technical	Kindly refer S.No.78 of amendment 1.
169	Annexure-A	427/1149	15.1.3	The interface shall allow integration with Surveillance System(s), Module Cleaning System and various other O&M support systems to provide a Data Analysis and Decision Support System for smooth and efficient Plant Operations.	CCTV shall be a independent system for better flexibility and operability. Module cleaning system shall be preferable as a manual operated system with no digital inputs in the maintenance point of view. Hence requirement of interfacing these systems to SCADA may please be removed.	Technical	CCTV Surveillance system may be independent system. For monitoring water usage, SCADA shall have provision to monitor the water consumption for Module Cleaning using smart/digital flow meter(s).Kindly refer S.No. 79 of amendment 1.
170	0	0	0	General	Its evident that project is scattered in multiple land parcels/sites. Please confirm the distance between these land parcels to ascertain the connectivity required between them.	Technical	Please refer the Plant Boundary Layout uploaded with amendment 1
171	Annexure-C	603/1149	2.4	Eac is the number of units recorded in the plant end ABT meter excluding auxiliary consumption, kWh	Please confirm the metering point for the Solar PV power plant CUF calculation, as BESS will be interconnected at 33 kV.	Technical	Plant Metering Point for CUF shall be at the 132 kV Pant end Switchyard
172	Annexure-A	413/1149	7.8.2	Cables within transformer yard and switchyard shall be laid through RCC cable trench with supports.	Please allow to lay the cables in transformer yard and switchyard directly buried as these are armored cables and will reduce the installation time considerably.	Technical	Terms and conditions of the tender document will prevail.
173	Annexure-A	422/1149	12.2.2	Inspection chamber and lid shall be provided as per IS 3043.	Please allow the prefab earthing inspection chamber and lids for easy and faster installation, as earth pits are generally maintenance free.	Technical	Pre-fab earthing inspection chamber and lids are acceptable as per IS 3043
174	Annexure-A	469/1149	24.6	Infra-red thermal imaging camera: Geometric resolution 640 x 480 pixels	Please accept the Infra-red thermal imaging camera of Geometric resolution 320 x 240 pixels, which will serve the O&M requirement of PV power plant.	Technical	640x480 pixels with Software enhancement shall be acceptable. Terms and conditions of the tender document will prevail.
175	Annexure-A	364/1149	1	Proposed AC capacity (MW): 100	When AC capacity at the injection is limited to 100 MW, inverter overload loss shall be 12 to 14% and hence PR shall be in the range of 66% to 68%. PR of 82% can never be achieved. Please clarify.	Technical	Considering use of Bifacial Modules, PR of 82% shall be achievable.
176	0	365/1149	0	PR: 82?	0	Technical	Kindly refer the PR formula given in Clause 2.1.1 of Annexure-C (PG Test Procedure) to Technical Specifications. The formula has in-built temperature correction. Terms and conditions of the tender document will prevail.
177	Annexure-A	364/1149	1	Cumulative Inverter Capacity (Min.): 175	When AC capacity is considered as 175 MW, in the available area, CUF of 36.5% can never be achieved. Please clarify.	Technical	Cumulative Solar Inverter Capacity shall be minimum 120 MW and CUF shall be Calculated in accordance with the Plant Capacity. Kindly refer S.No.57 of amendment 1.

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178	0	365/1149	0	CUF: 36.5?	0	Technical	Kindly refer the CUF formula given in Clause 2.4 of Annexure-C (PG Test Procedure) to Technical Specifications. The CUF is calculated based on plant AC capacity and radiation correction factor is also included. Kindly refer S.No 47 and S. No. 57 of amendment 1.
179	Annexure-A	364/1149	1	Cumulative Inverter Capacity (Min.): 175	Please confirm the required power transformer rating 2x50 MVA (100 MVA) to be connected to the cumulative inverter rating of 175 MVA	Technical	power transformer rating 2x50 MVA (100 MVA) shall be connected to the cumulative inverter Transformer rating of 140 MVA and 40 MVA BESS Transformer rating.
180	0	0	0	Power trx: 2x50	0	Technical	Query Not Clear
181	Annexure-A	393/1149	4.1	IEC 62116 Ed. 2 - Utility-interconnected photovoltaic inverters - Test procedure of islanding prevention measures	Please accept: IEC 62116 or IEEE 1547 or UL1741 - Utility-interconnected photovoltaic inverters - Test procedure of islanding prevention measures	Technical	Kindly refer S.No. of amendment 1.
182	Annexure-A	393/1149	4.1	As per the Solar Photovoltaics, Systems, Devices and Components Goods (Requirements for Compulsory Registration) Order, 2017, Inverters used in the grid connected solar power projects shall be registered with BIS and bear the Standard Mark as notified by the Bureau of Indian Standards	BIS certification procedure for MW scale inverters still under draft and is yet to be adopted by labs in India. Self certification from OEM to be allowed in line with BIS notification. Please confirm.	Technical	Self Certification shall be allowed as per the extant GoI Order.
183	Annexure-A	394/1149	4.4.2	Every DC input terminal of PCU shall be provided with fuse/MCB/MCCB of appropriate rating. The combined DC feeder shall have suitably rated isolators for safe start up and shut down of the system.	If MCB/MCCB is provided for each DC input terminal of PCU, isolator is not required at the combined DC input feeder. This repetitive requirement may please be avoided as OEMs don't have this type tested variant. Please accept and revise.	Technical	Terms and Conditions of the tender document will prevail.
184	Annexure-A	394/1149	4.4.3	Type-II surge protective device (SPD) conforming to IEC 61643-11 shall be connected between positive/ negative bus and earth.	IEC 61643 11 refers to requirements & test methods only. Please revise to IEC 61643-11 & 12.	Technical	Terms and conditions of the tender document will prevail.
185	Annexure-A	414/1149	9.1	LT Switchgear Standards and Codes: IS/IEC 61439-1, IS/IEC 61439-2	Compliance to IEC 61439 is very restrictive and many Indian credible OEMs are not getting qualified. Kindly remove this standard or revise this requirement to IEC 61439/IS 8623	Technical	Terms and conditions of the tender document will prevail.
186	Annexure-A	414/1149	9.1	IEC 60947-1, IEC 60947-2, IEC 60947-3, IEC 60947-4-1, IEC 60947-5-1	Please accept the LT switchgear complying to IEC 60947/ IS13947	Technical	LT switchgear complying to IEC 60947 and its Indian Equivalent IS 13947 shall be acceptable.
187	Annexure-A	468/1149	24.4	Digital Multimeter: Display - Minimum resolution: 5 ¾ places for DC, 4 ¾ places for AC	The specification of resolution/digits is becoming restrictive and credible vendors are not getting qualified. Please remove this specification.	Technical	Kindly refer S.No. of amendment 1.
188	0	469/1149	24.7	Digital lux meter: Display - 3½ digits, Backlit LCD/LED	0	Technical	Query Not Clear
189	0	0	0	General	Please provide the ACAD drawing with actual earmarked area for the proposed Solar PV power plant installation.	Technical	Please refer the Plant Boundary Layout unloaded.

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190	PCC	311 of 1149	PCC 10.3	The Employer shall facilitate the contractor in acquiring and obtaining for all permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in the country where the Site is located which (a) such authorities or undertakings are to obtain in the Employer's name, (b) are necessary for the execution of the Contract, including those required for the performance by both the Contractor and the Employer of their respective obligations under the Contract, and (c) are specified in the Appendix (Scope of Works and Supply by the Employer). The related payments/fees of obtaining permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in the country where the Site is located will be in the contractor scope.	SECI is requested to please consider remittance of related payments/fees of obtaining permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in Employer scope including ROW compensation for 132 kV T/L	Contractual	The terms and conditions of Bidding Document will prevail
191	Scope of Work	369 of 1149	Procurement & Supply Clause 4.1.26	Design & construction of Transmission line/ cable at required voltage level from plant take off point to the designated substation including right of way (ROW) and construction of bay at designated substation as per TRANSCO requirements/procedures	SECI is requested to support Contractor in expeditious settlement of ROW with respective agencies. Accordingly, we would request SECI to consider Completion schedule of 18 months from the date of ROW settlement w.r.t. complete land acquisitions	Technical	Original clause shall prevail.
192	0	0	General	0	SECI is requested to include vendor list if any at the tender stage itself for the project components, else the Approving Authorities are to accept vendors finalized by the Contractor at post award stage based on Contractor's evaluation. Such evaluation documents will be submitted to the approving agency for information and record only. Kindly confirm	Technical	Vendors finalized by the EPC Contractor in the post award stage meeting the technical specifications and qualifying criteria, if any, laid out in the tender shall be acceptable.
193	0	0	General	0	SECI is requested to provide documents to Bidders regarding approval/ license to establish the tendered project.	Technical	Necessary documents shall be provided after Award of Contract.
194	0	0	General	0	The project completion date will be extended proportionately in case the key regulatory / authority clearances are delayed beyond two months from the date of applications along with complete set of documents by the Contractor. Kindly confirm	Technical	It is in the scope of contractor to obtain all the necessary approval as required for the project and no extension will be given because of the delay in obtaining approvals. SECI will have right to examine such issues on case to case basis.

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195	0	0	General	0	In case contractor makes the project ready for commissioning as per contractual timeline, but the grid connectivity cannot be established within a month from such date due to reasons beyond Contractor's control; in such a case the project will be considered as deemed commissioned and payment will be released to contractor in full as per agreed T.O.P. Also the 10 year O&M will start from such date of deemed commissioning. Kindly confirm	Technical	As the construction of 02 Nos of 132kV feeder bay at 220kV Thelkadih Substation will be carried out by CSPTCL. If the project is ready for commissioning as per contractual terms conditions, scope and timelines and if there is any delay in construction of the bay from CSPTCL end then in this case only deemed commissioning shall be provided upon verification by SECI. However upon completion of feeder bay, the contractor has to demonstrate the required functional and operation guarantee without failure. If the plant fails to meet the required parameters then the commissioning date will be treated as date on which contractor will demonstrate the plant performance and the O&M will commence as per the timelines mentioned in the tender document.
196	0	0	General	0	Deferred payment for O&M is not practicable as this will create payment issue to the O&M agency. SECI is requested to kindly review and confirm	Financial	The terms and conditions of Bidding Document will prevail
197	Scope of Work	page - 369 of 1149	Cl. 4.1.26 & 4.1.27	4.1.26 Design & construction of Transmission line/ cable at required voltage level from plant take off point to the designated substation including right of way (ROW) and construction of bay at designated substation as per TRANSCO requirements/procedures. 4.1.27 Any re-arrangement/ replacement of substation equipment/ materials, including bay construction, if required, at the evacuating substation necessary for evacuation of power from the Plant.	i) We assume that bidders scope also include construction of 2 nos. line bays at 220/132kV CSPTCL Thelkadi Substation for termination of 132kV transmission line. Please confirm. ii) Kindly clarify the detailed scope of work required at 220/132kV Thelkadi Substation. iii) Kindly Clarify the scope of control and protection at Thelkadi Substation. iv) We understand that sufficient clear space is available at Thelkadi S/S for bay extension. v) We assume that spare AC & DC feeder are available for auxiliary supply of proposed bay extension work. Please confirm.	Technical	Construction of 02 Nos of 132kV feeder bay at 220kV Thelkadih Substation is not in the scope of bidder. SECI has obtained the approval for construction of 02nos of feeder bay from CSPTCL on deposit work basis . SECI will bear the cost of construction of the 2 nos of bay. However design , approval & construction of necessary infrastructure at substation end for interconnection of the 132kV transmission line to these 02 nos of feeder bay and complying all the rules and regulation of the state/central utility is in the scope of bidder
198	0	0	General	0	Kindly provide the following drawings of 220/132kV substation at Thelkadi. I) Single line diagram of existing substation. ii) Layout and section drawing of substation. Iii) Earthmat and Trench drawing. Iv) Control Protection scheme drawing.	Technical	Construction of Bay in the Scope of Owner. However, laying of PLCC at both end - Plant and Telkadih substation shall be in the scope of the Contractor. Kindly refer S.No.37 of amendment 1.
199	Scope of Work	370 of 1149	5.1.14	5.1.14 Suitable Communication System for telemetry, EMS/SCADA with remote monitoring capabilities and internet facility.	Kindly clarify the scope and type of communication system.	Technical	Communication protocol shall be IEC 60870-5-101 or IEC 60870-5-104 protocol as per Chhattisgarh SLDC Guidelines for Planning of Telemetry & Voice Communication
200	Scope of Work	372 of 1149	7.1	Operation and Maintenance	i) We understand that O&M of 132kV Substation and 132kV transmission line is also in scope of bidder. Please confirm. Ii) We understand that complete manpower, O&M spare, tools required for O&M is in scope of bidder. Please confirm. Iii) We understand that number of Manpower required for O&M shall be decided by bidder. Please confirm.	Technical	The O&M for complete plant , BESS, plant side switchyard, transmission line, PLCC, Equipments at s/s etc. except 02 no's of feed bay is in the scope of bidder. So, bidder has to properly assess the manpower, spares, tools , consumables etc. required for the complete O&M period .

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201	Scope of Work	372 of 1149	7.1	Operation and Maintenance	We understand that any Civil work for bay extension work at CSPTCL 220/132kV Thalkadi substation is not in scope. Please confirm.	Technical	O&M of feeder bay is not in the scope of bidder.
202	Scope of Work	375 of 1149	8.6	The Contractor will attend to any breakdown jobs immediately for repair/ replacement/adjustments and complete at the earliest working round the clock. During breakdowns (not attributable to normal wear and tear) in O&M period, the Contractor shall immediately report the accidents, if any, to the Employer showing the circumstances under which it happened and the extent of damage and/or injury caused.	We assume that emergency restoration of transmission line during breakdown of 132kV transmission line is not required. Only routine repair/replacement/adjustment (if required) is in scope. Please confirm.	Technical	Emergency and routine maintenance of transmission line is in the scope of the EPC Contractor.
203	Technical Specifications	517 of 1149	37.1	Galvanized 220 kV and 132 kV Transmission Line towers, Tower extensions & accessories and 11 kV, 22kV, 22kV & 33 kV transmission poles, towers & accessories shall be designed following latest guidelines of respective SEB (State electricity board)/…….....	We assume that only 132kV line is in scope. Any other transmission line is not required. Please confirm.	Technical	Power evacuation from the Plant is at 132 kV.
204	0	0	General	0	Kindly confirm whether any Mandatory spare is required for Switchyard or not. If yes, then kindly provide the list.	Technical	Kindly refer annexure 1 of amendment 1.
205	0	0	General	0	SECI is requested to clarify whether O&M of Overhead T/L is also in the Contractor's scope. Also, SECI may please inform key guiding requirements of SECI for the purpose of handing over of the asset at the end of 10 year O&M.	Technical	Yes routine and Emergency O&M of the transmission line is in the scope of the Contractor. This should include complete record of maintenance of the lines, foundations of transmission towers etc.
206	0	0	General	0	SECI is requested to provide details/ schedule of O&M to be carried out including relevant intervals for each activity.	Technical	Please refer Appendix 8 of the Annexure A of the RfS
207	0	0	General	0	SECI is requested to clarify about the agency who would be carrying out system studies for the tendered project.	Technical	Query Not Clear
208	0	0	General	0	SECI is requested to provide coordinates and profiles of land parcels acquired for the project duly marking/ assigning the plants and facilities. SECI is to provide such lands with clear title of ownership.	Technical	Please refer Plant boundary and contour details uploaded with Amendment 1.
209	0	0	General	0	During the course of execution of 132KV T/L package, if the route of the T/L and (or) associated substations is required to be altered due to any administrative / regulatory reasons; the associated financial implications including extension of delivery will be mutually agreed upon between SECI and Contractor before taking up project execution any further. To do this, contractor will submit detailed Bill of Material for inclusion of the same in the LOA/ Contract documents. Kindly confirm	Contractual	Route survey and erection of TL line up to connecting substation at Tehkadih is in the scope of the contractor. In case of change of interconnecting substation shall be dealt in line with the change order provision provided in tender.
210	0	0	General	0	SECI to share details of approving details of authority(ies) for project drawings and documents and ROW clearances – land, forest, highways, river, railways, town/city, etc.	Technical	Solar Plant related drawings shall be approved by SECI. Switchyard/transmission line related drawings shall be as per CSPTCL and to be approved by SECI/CSPTCL. RoW clearances are to be obtained by the Contractor from concerned authorities.

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211	0	0	General	0	During the period of 10 years O&M any upgrade or modification in any of the project / plant component that may arise due to changing grid requirements, will be done by the Contractor with additional price implications. For such new requirements fresh techno-commercial offer(s) will be submitted to SECI for approval before taking up execution of the same. Kindly confirm	Technical	Upgradation or modification of the Project mandated due to change in grid requirements shall be in the scope of the Owner.
212	0	0	General	0	Please furnish Tentative coordinates for the sending-end 132kV station (Generation end)	Technical	It shall be as per design finalized during detailed engineering.
213	0	0	General	0	Please furnish Overall System SLD/ Block Diagram showing following details 1. Electrical Single Line Diagram at Local end(s) 2. Overall Plot plan 3. Communication System with remote end, if any 4. Details regarding communication with SLDC	Technical	Shall be proposed by the Contractor during detailed Engineering.
214	0	0	General	0	Please furnish 1. Electrical Single Line Diagram at Remote CSPTCL end (220/132 kV Telkadih Substation) 2. Key Protection Diagram at Remote CSPTCL end 3. Please confirm whether earthing system, fire fighting system, illumination needs to be supplied at remote end. 4. Details of TRANSCO norms for control and protection of 132 kV Line 5. Equipment ratings for remote end station.	Technical	Construction of Bay in the Scope of Owner. SLD of connecting substation is enclosed with Amendment 1.
215	0	0	General	0	Please furnish Evacuation capacity required for each transmission line	Technical	Evacuation capacity for each line shall be 75 MW.
216	0	0	General	0	Scope of approvals for transmission line DBR/ route survey/ equipment drawings/ tower structure & foundation drawings/ vendor approvals - SECI scope or TRANSCO approval required.	Technical	It shall be per CSPTCL and SECI as per requirement
217	0	0	General	0	Please furnish Coordinates for take off gantry required.	Technical	Shall be as per design proposed by EPC Contractor.
218	0	0	General	0	Please specify fault level of 132kV s/s	Technical	Bidder has to properly assess the fault level and other details at substation end.
219	0	0	General	0	Please confirm if we can use moving blades of Al. with copper contacts	Technical	Terms and Conditions of the tender document will prevail.
220	0	0	General	0	Please clarify the overload duration for isolator.	Technical	Please refer Clause No.19.4.1 of TS.
221	GCC	207 of 1149	10.2	The Employer shall be responsible for acquiring and providing legal and physical possession of the Site and access thereto, and for providing possession of and access to all other areas reasonably required for the proper execution of the Contract, including all requisite rights of way, as specified in the Appendix to the Contract Agreement titled Scope of Works and Supply by the Employer. The Employer shall give full possession of and accord all rights of access thereto on or before the date(s) specified in that Appendix.	As per GCC clause 10.2, the scope of Right of Way (ROW) in the scope of SECI. However the clause no. 4.1.26 of Scope of Work and Cl 25.3 of Technical specification. We request you to kindly confirm that the scope of Right of Way (ROW) shall be in the scope of SECI. Kindly confirm.	Technical	ROW for transmission line is in scope of contractor.

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222	Scope of Work	369 of 1149	4.1.26	Design & construction of Transmission line/ cable at required voltage level from plant take off point to the designated substation including right of way (ROW) and construction of bay at designated substation as per TRANSCO requirements/procedures.	0	Technical	Query Not Clear
223	Technical Specifications	470 of 1149	25.3	The ROW for the TL/UG cable shall be obtained prior to the construction of the line from the concerned authorities.	0	Technical	Query Not Clear
224	Scope of Work	371 of 1149	6.1	Forest Department, if required	We understand that the Forest Clearance and obtaining tree felling permission for the entire project including transmission line is in the scope of SECI/State Agency. Kindly confirm.	Technical	Original clause shall prevail. However SECI will assist in obtaining any approvals required for the project.
225	Environmental and Social Due Diligence Report	739 of 1149	Table 4-4	Forest Clearance for land diversion is in the scope of SECI/State Agency	0	Technical	Kindly refer S.no. 72 of amendment 1.
226	Environmental and Social Due Diligence Report	786 of 1149	Table 4-9	Obtain statutory forest clearances from the Government is in the scope of SEC/State Agency Compensatory plantation to be done against the tree felling as per rule	0	Technical	Original clause shall prevail
227	Environmental and Social Due Diligence Report	816 of 1149	7.1	Permission for tree felling (if any) shall be obtained from the Forest Department	0	Technical	Kindly refer S.no. 72 of amendment 1.
228	Environmental and Social Due Diligence Report	739 of 1149	Table 4-4	Tree felling permission for tree cutting for establishment of solar-wing hybrid park or transmission line is in the scope of SECI/State Agency	0	Technical	Kindly refer S.no. 72 of amendment 1.
229	Environmental and Social Due Diligence Report	816 of 1149	7.1	Permission shall be obtained for the use of water for construction purpose from irrigation department/CGWA (for Surface or Ground Water) respectively.	We request SECI to kindly consider the scope to obtain permission from irrigation department/CGWA in the scope of employer.	Technical	Original clause shall prevail
230	Environmental and Social Due Diligence Report	689 of 1149	0	Environmental and Social Impacts and their Mitigation	We request SECI to kindly the scope of Environmental and Social Impact Assessment and mitigation in the scope of Employer.	Technical	SECI will carry out the ESIA of the project and the Environmental and Social Due Diligence Report has already been incorporated in the tender document. Based on the ESDDR report and site survey contractor will prepare and submit Environment and Social Management Plant to SECI for approval. The cost towards preparation of ESMP report and its mitigation plan, its implementation is in the scope of the contractor.
231	Environmental and Social Due Diligence Report	815	6	Responsibility to obtain 'Consent' from State Pollution control Board for establishment and operation of STPs is of SECI/EPC Contractor	We request SECI to kindly the consider the scope to obtain 'Consent' from State Pollution control Board in the scope of employer. However, Contractor will provide required support.	Technical	Kindly refer S.no. 73 of amendment 1.
232	0	0	0	Environmental and Social Impacts and their Mitigation	Kindly confirm that the scope of contractor shall be limited to Social Impact assessment i.e. study & Report and no other cost towards this shall be borne by Contractor.	Technical	SECI will carry out the ESIA of the project and the Environmental and Social Due Diligence Report has already been incorporated in the tender document. Based on the ESDDR report and site survey contractor will prepare and submit Environment and Social Management Plant to SECI for approval. The cost towards preparation of ESMP report and its mitigation plan, its implementation is in the scope of the contractor.

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				Clarifications to Queries raised during Pre-Bid Meeting on 30.09.2020			
233	0	0	General	Detailed risk assessment and mitigation plan.	Kindly confirm that the scope of contractor shall be limited to assessment and no other cost towards this shall be borne by Contractor.	Technical	SECI will carry out the ESIA of the project and the Environmental and Social Due Diligence Report has already been incorporated in the tender document. Based on the ESDDR report and site survey contractor will prepare and submit Environment and Social Management Plant to SECI for approval. The cost towards preparation of ESMP report and its mitigation plan, its implementation is in the scope of the contractor.
234	0	0	General		In the price bid format, bidder to put the values for BCD/SG/ADD/SWS. At present, on some items there is NIL BCD/SGD/ADD/SWS. Please clarify if BCD/SGD/ADD/SWS shall be re-imburse at actuals in case of imposition of same during the execution of contract.	Contractual	Clause No 36 of the GCC amply clarifies about the Change in law provisions. Kindly refer the same
235	0	0	General	0	It is requested to kindly share the share the generation curve for the working and preparation of offer.	Technical	Power from the Solar PV generation plant shall be injected into the grid either directly from the solar field or from the BESS. BESS shall be charged fully from solar power generation that is over and above the evacuation capacity during daytime. The energy stored in the BESS shall be discharged completely at the BESS rated Power during non-solar hours so as to deliver the expected dispatchable energy at the PCC as specified elsewhere in the specifications .
236	0	0	General	0	It is understood that there are area(s) which are scattered and Bidder has to install the plant over these scattered area(s). Kindly confirm that is there any Right of Way (ROW) issues to be involved in connecting the plant scattered over the different area(s). In cas eof any ROW issue associated with it, we request SECI to be considered in the scope of Employer.	Technical	The Forest clearance (if any) required for the identified land parcels of 188 hectare for setting up of the project will be obtained by CSPDCL/SECI . Its contractor scope to obtain the required approvals, ROW between the connecting patches . However SECI will assist in obtaining such approvals.
237	0	0	General	0	Estimated cost of 963 Cr for the project is seems to be very lower side as per the present market level. In case, L1 bidder's price is higher than Rs 963 Cr, what will be the methodology of award of work.	Technical	The project cost as specified is an estimated cost with various assumptions which has no relationship with the tender cost. This cost was assessed during the Environment and social due diligence. Bidders are requested to quote based on their due diligence of the scope of work and Technical specifications, timelines etc as specified in the tender document and has to the quote their best competitive price.
238	0	0	General	0	In cas eof Right of Way (ROW) issues/ mitigation, we request to consider that the required support will be provided by SECI and there will be joint responsibility of SECI and Contractor for any such issue arises.	Technical	SECI has not carried out any route survey for transmission line. However the length will be about 33km approx. Bidders are required to carefully access the length of transmission line from project site till 220/132kV CSPTCL's Thelkadih substation and quote accordingly as the complete scope design, approval, ROW, construction of transmission line is in the scope of contractor/developer
239	0	387 of 1149	1.5.1	PV modules must be warranted with linear degradation rate of power output except for first year (maximum 3% including LID) and shall guarantee 80% of the initial rated power output at the end of 30 years.	We request to kindly consider the module warranty up to 25 years instead of 30 years as this will restrict the module vendors.	Technical	Terms and Conditions of the tender document will prevail.

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				Clarifications to Queries raised during Pre-Bid Meeting on 30.09.2020			
240	0	0	General	0	As the plant's ownership will be of SECI during the O&M, we request SECI to take insurance of plant and transmission line.	Technical	The insurance of plant during construction and O&M period to be taken in the name of employer which is in the scope of contractor. Insurance of transmission line is not included in the scope of contractor. However necessary spares of tower, isolator, conductor etc has to be taken into account and has to be kept at site by the contractor.
241	GCC	246 of 1149	27.2	The Defect Liability Period shall be five hundred and forty (540) days from the date of Completion of the Facilities (or any part thereof) or one year from the date of Operational Acceptance of the Facilities	As the O&M period is of 10 years, there is no requirement of defect liability. We request SECI to kindly consider.	Contractual	Terms and Conditions of the tender document will prevail.
242	Appendix 1	330 of 1149	Schedule 1	10% - Advance Payment 70%- upon delivery to the destination within 45 days after receipt of materials and relevant documents 10%- upon successful erection, testing and commissioning of materials at site and Operational Acceptance of the plant pursuant to successful functional Guarantee Tests. 10 %- within 45 days of receipt of invoice after final acceptance of the Plant facilities or completion of First year of O&M of Plant, whichever is later, pursuant to submission of all requisite documentation including submission of all as-built drawings and documents.	We request to kindly accept the payment terms as per following. i. 10% of Supply Contract Value as Advance payment ii. 65% of supply contract value on dispatch of equipment on pro-rata basis against Letter of Credit (L/C) payable at sight iii. 15% on Material receipt Confirmation on site on pro-rata basis iv. 10% on commissioning of project	Financial	Kindly refer S.No.66 of amendment 1.
243	Appendix 1	330 of 1149	Schedule 2	10% - Advance Payment 70%- upon delivery to the destination within 45 days after receipt of materials and relevant documents 10%- upon successful erection, testing and commissioning of materials at site and Operational Acceptance of the plant pursuant to successful functional Guarantee Tests. 10 %- within 45 days of receipt of invoice after final acceptance of the Plant facilities or completion of First year of O&M of Plant, whichever is later, pursuant to submission of all requisite documentation including submission of all as-built drawings and documents.	We request to kindly accept the payment terms as per following. i. 10% of Supply Contract Value as Advance payment ii. 65% of supply contract value on dispatch of equipment on pro-rata basis against Letter of Credit (L/C) payable at sight iii. 15% on Material receipt Confirmation on site on pro-rata basis iv. 10% on commissioning of project	Financial	Kindly refer S.No.67 of amendment 1.

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244	Appendix 1	331 of 1149	Schedule 4	10%- Advance Payment 80% - of the measured value of work performed by the Contractor, as identified in the said Program of Performance, during the preceding month, as evidenced by the Employer's authorization of the Contractor's application, will be made monthly within 45 days after receipt of invoice. 5%- of the total or pro rata value of installation and other services within 45 days of Operational Acceptance of the plant pursuant to successful integration with existing internal grid system & functional Guarantee Tests and completion of all the civil works including finishing and debris removal. 5%- of the total or pro rata value of installation and services within forty-five (45) days after receipt of invoice after final acceptance of the Plant facilities or completion of First year of O&M of Plant, whichever is later, pursuant to submission of all requisite documentation including submission of all as-built drawings and documents.	We request to kindly accept the payment terms as per following. 1. 10% of Work Contract Value - Mobilization Advance Payment 2. 80 % of Work Contract Value - Against monthly RA bills for the Works executed at site 3. 10 % of Work Contract Value - Upon Commissioning	Financial	The terms and conditions of Bidding Document will prevail
245	GCC	259 of 1149	36.1	If, after the date twenty-eight (28) days prior to the date of Bid submission, in the country where the Site is located, any law, regulation, ordinance, order or by-law having the force of law is enacted, promulgated, abrogated or changed which shall be deemed to include any change in interpretation or application by the competent authorities, that subsequently affects the costs and expenses of the Contractor and/or the Time for Completion, the Contract Price shall be correspondingly increased or decreased, and/or the Time for Completion shall be reasonably adjusted to the extent that the Contractor has thereby been affected in the performance of any of its obligations under the Contract.	These two terms of tender documents are contradictory. At present, BCD/SGD/ADD/SWS may not be applicable on certain item/equipment but can be imposed by govt during the execution stage. Hence, we request SECI to kindly consider that the BCD/SWS/SGD and ADD will be re-imbursed at actuals without ceiling and as per the change in law clause no. 36.1 of GCC.	Contractual	Bidders are required to exercise utmost due diligence, while quoting the various taxation components as the BCD+SWS & SGD/ADD will be reimbursed as per the ceiling to the value as mentioned by the bidder doing its bid submission. The ceiling amount is applicable only for the purpose of Award, however, any change in such taxes and duties or introduction of new law during the entire course of the contract, will be treated in line with the "Change in Law & Regulations" GCC clause 36 of the RfB.

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246	0	0	Schedule -1	BCD+SWS & SGD/ADD being of reimbursement nature duties, Employer will reimburse the amount for BCD+SWS & SGD/ADD at actuals against the submission of documentary evidence only, with a MAXIMUM CEILING of BCD+SWS & SGD/ADD charges as mentioned by the Bidder in the Price Schedules No 1 at the time of bidding. Bidders are required to quote the applicable BCD+SWS & SGD/ADD with due diligence & appropriate financial prudence, as afterwards bidders will not be able to change or claim such taxes & duties already quoted during the bid. No BCD+SWS & SGD/ADD will be reimbursed to the contractor in the absence of documentary proofs	0	Contractual	Bidders are required to exercise utmost due diligence, while quoting the various taxation components as the BCD+SWS & SGD/ADD will be reimbursed as per the ceiling to the value as mentioned by the bidder doing its bid submission.The ceiling amount is applicable only for the purpose of Award, however, any change in such taxes and duties or introduction of new law during the entire course of the contract, will be treated in line with the "Change in Law & Regulations" GCC clause 36 of the RfB.
247	GCC	259 of 1149	36.1	If, after the date twenty-eight (28) days prior to the date of Bid submission, in the country where the Site is located, any law, regulation, ordinance, order or by-law having the force of law is enacted, promulgated, abrogated or changed which shall be deemed to include any change in interpretation or application by the competent authorities, that subsequently affects the costs and expenses of the Contractor and/or the Time for Completion, the Contract Price shall be correspondingly increased or decreased, and/or the Time for Completion shall be reasonably adjusted to the extent that the Contractor has thereby been affected in the performance of any of its obligations under the Contract.	These two terms of tender documents are contradictory. we request SECI to kindly consider that the GST/taxes will be re-imbursed at actuals without ceiling and as per the change in law clause no. 36.1 of GCC	Contractual	Bidders are required to exercise utmost due diligence, while quoting the various taxation components as the BCD+SWS & SGD/ADD will be reimbursed as per the ceiling to the value as mentioned by the bidder doing its bid submission.The ceiling amount is applicable only for the purpose of Award, however, any change in such taxes and duties or introduction of new law during the entire course of the contract, will be treated in line with the "Change in Law & Regulations" GCC clause 36 of the RfB.
248	0	0	Schedule -2	The payment of GST by the Employer shall only be at the CEILING of GST as mentioned by the Bidder in the Schedule No 2 at the time of bidding. Bidders are required to quote the applicable GST with due diligence & appropriate financial prudence, as afterwards bidders will not be able to change or claim the GST charges already quoted during the bid.	0	Contractual	Bidders are required to exercise utmost due diligence, while quoting the various taxation components as the BCD+SWS & SGD/ADD will be reimbursed as per the ceiling to the value as mentioned by the bidder doing its bid submission.The ceiling amount is applicable only for the purpose of Award, however, any change in such taxes and duties or introduction of new law during the entire course of the contract, will be treated in line with the "Change in Law & Regulations" GCC clause 36 of the RfB.

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249	GCC	259 of 1149	36.1	If, after the date twenty-eight (28) days prior to the date of Bid submission, in the country where the Site is located, any law, regulation, ordinance, order or by-law having the force of law is enacted, promulgated, abrogated or changed which shall be deemed to include any change in interpretation or application by the competent authorities, that subsequently affects the costs and expenses of the Contractor and/or the Time for Completion, the Contract Price shall be correspondingly increased or decreased, and/or the Time for Completion shall be reasonably adjusted to the extent that the Contractor has thereby been affected in the performance of any of its obligations under the Contract.	These two terms of tender documents are contradictory. we request SECI to kindly consider that the GST/taxes will be re-imbursed at actuals without ceiling and as per the change in law clause no. 36.1 of GCC	Contractual	Bidders are required to exercise utmost due diligence, while quoting the various taxation components as the BCD+SWS & SGD/ADD will be reimbursed as per the ceiling to the value as mentioned by the bidder doing its bid submission.The ceiling amount is applicable only for the purpose of Award, however, any change in such taxes and duties or introduction of new law during the entire course of the contract, will be treated in line with the "Change in Law & Regulations" GCC clause 36 of the RfB.
250	0	0	Schedule -3	The payment of GST/Taxation by the Employer shall only be at the CEILING of GST/Taxation as mentioned by the Bidder in the Schedule No 3 at the time of bidding. Bidders are required to quote the applicable GST/Taxation with due diligence & appropriate financial prudence, as afterwards bidders will not be able to change or claim the GST charges already quoted during the bid.	0	Contractual	Bidders are required to exercise utmost due diligence, while quoting the various taxation components as the BCD+SWS & SGD/ADD will be reimbursed as per the ceiling to the value as mentioned by the bidder doing its bid submission.The ceiling amount is applicable only for the purpose of Award, however, any change in such taxes and duties or introduction of new law during the entire course of the contract, will be treated in line with the "Change in Law & Regulations" GCC clause 36 of the RfB.
251	GCC	259 of 1149	36.1	If, after the date twenty-eight (28) days prior to the date of Bid submission, in the country where the Site is located, any law, regulation, ordinance, order or by-law having the force of law is enacted, promulgated, abrogated or changed which shall be deemed to include any change in interpretation or application by the competent authorities, that subsequently affects the costs and expenses of the Contractor and/or the Time for Completion, the Contract Price shall be correspondingly increased or decreased, and/or the Time for Completion shall be reasonably adjusted to the extent that the Contractor has thereby been affected in the performance of any of its obligations under the Contract.	These two terms of tender documents are contradictory. we request SECI to kindly consider that the GST/taxes will be re-imbursed at actuals without ceiling and as per the change in law clause no. 36.1 of GCC	Contractual	Bidders are required to exercise utmost due diligence, while quoting the various taxation components as the BCD+SWS & SGD/ADD will be reimbursed as per the ceiling to the value as mentioned by the bidder doing its bid submission.The ceiling amount is applicable only for the purpose of Award, however, any change in such taxes and duties or introduction of new law during the entire course of the contract, will be treated in line with the "Change in Law & Regulations" GCC clause 36 of the RfB.
252	0	0	Schedule -4	The payment of GST/Taxation by the Employer shall only be at the CEILING of GST/Taxation as mentioned by the Bidder in the Schedule No 4 at the time of bidding. Bidders are required to quote the applicable GST/Taxation with due diligence & appropriate financial prudence, as afterwards bidders will not be able to change or claim the GST charges already quoted during the bid.	0	Contractual	Bidders are required to exercise utmost due diligence, while quoting the various taxation components as the BCD+SWS & SGD/ADD will be reimbursed as per the ceiling to the value as mentioned by the bidder doing its bid submission.

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253	GCC	259 of 1149	36.1	If, after the date twenty-eight (28) days prior to the date of Bid submission, in the country where the Site is located, any law, regulation, ordinance, order or by-law having the force of law is enacted, promulgated, abrogated or changed which shall be deemed to include any change in interpretation or application by the competent authorities, that subsequently affects the costs and expenses of the Contractor and/or the Time for Completion, the Contract Price shall be correspondingly increased or decreased, and/or the Time for Completion shall be reasonably adjusted to the extent that the Contractor has thereby been affected in the performance of any of its obligations under the Contract.	These two terms of tender documents are contradictory. we request SECI to kindly consider that the GST/taxes will be re-imbursed at actuals without ceiling and as per the change in law clause no. 36.1 of GCC	Contractual	Bidders are required to exercise utmost due diligence, while quoting the various taxation components as the BCD+SWS & SGD/ADD will be reimbursed as per the ceiling to the value as mentioned by the bidder doing its bid submission.The ceiling amount is applicable only for the purpose of Award, however, any change in such taxes and duties or introduction of new law during the entire course of the contract, will be treated in line with the "Change in Law & Regulations" GCC clause 36 of the RfB.
254	0	0	Schedule -5	The payment of GST by the Employer shall only be at the CEILING of GST as mentioned by the Bidder in the Schedule No 5 at the time of bidding. Bidders are required to quote the applicable GST/Taxation with due diligence & appropriate financial prudence, as afterwards bidders will not be able to change or claim the GST charges already quoted during the bid.	0	Contractual	Bidders are required to exercise utmost due diligence, while quoting the various taxation components as the BCD+SWS & SGD/ADD will be reimbursed as per the ceiling to the value as mentioned by the bidder doing its bid submission.The ceiling amount is applicable only for the purpose of Award, however, any change in such taxes and duties or introduction of new law during the entire course of the contract, will be treated in line with the "Change in Law & Regulations" GCC clause 36 of the RfB.
255	0	0	General	0	Please confirm the number of bays and capacity, required to be considered at 220/132 kV Telkadih Substation	Technical	Construction of bay at connecting substation is in scope of owner. Kindly refer S.No. 38 of amendment 1.
256	Technical Specifications	529 of 1149	3.1.1	The BESS Supplier/sub-Contractor must have the experience of having successfully completed Design, Engineering, Procurement, Construction, Installation, Testing and Commissioning of Grid Connected Battery Energy Storage System (BESS) of at least 03 (Three) Grid connected BESS Plants, each having an individual capacity of 5 MWh (Five Mega Watt Hour) or above in last Five years. Also, such BESS Plant capacity must have been in satisfactory operation for at least 12 (Twelve) months from the date of commissioning.	BESS being fairly new technology, has got very few grid connected BESS plant installations by BESS OEMs/suppliers as of now. Further, China being the hub of Li-ion battery suppliers, the present import restrictions from China also restricts availability of such BESS Supplier/Sub-Contractors who meet this tender requirements. The stringent qualifying requirement for a BESS supplier/sub contractor at this stage may result into limited participation. Bidder requests to modify the qualifying requirement for a BESS supplier/sub contractor to "....and Commissioning of cumulative 5MWh of BESS with atleast 01 Grid Connected BESS Plant of capacity 2MWh or above in last FIve years...." to ensure maximum participation. Please accept.	Technical	Kindly refer S.No.28 of amendment 1.

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257	0	0	0	0	BESS ia a fairly new concept in India. The cumulative BESS installed capacity in India is very low at present and grid connected BESS even lower. As per Bidder's understanding, no BESS supplier in India is meeting the BESS QR locally. Bidder request that Indian subsidiaries/Indian registered Joint Venture Companies of Global BESS OEMs may please be allowed to qualify as BESS Supplier/Sub-Contractor based on their Parent Company's Credentials meeting the BESS QR globally. Please accept.	Technical	Kindly refer S.No. of amendment 1.
258	0	0	0	0	Bidder understands that the cut off date to calculate last 5 years and 1 year of operational experience shall be 180th day from the effective date of Contract Agreement. Please confirm.	Contractual	Query not clear
259	0	0	0	0	Whether BESS can be accepted from foreign vendors, meeting the BESS Supplier QR globally?	Technical	Kindly refer Section V, eligible countries for more clarity regarding this point.
260	0	0	0	0	Whether BESS OEMS from China will be acceptable? If yes, Bidder request SECI to arrange for necessary Government permission and approvals for the facilitating the imports. Please clarify.	Technical	Kindly refer Section V, eligible countries for more clarity regarding this point.
261	Section III - Evaluation and Qualification Criteria	65 of 1149	1.1	The bidders are required to meet following minimum functional requirements: • BESS Availability 99 %	BESS will be operational during day time charging the batteries and will discharge during evening peak hours after solar generation hours. Leaving little to no time for repair/maintenance of BESS. Also, any major repair/replacement situation during O&M period may require replacement of Li-ion battery cells/pack. BESS being an imported item will have some fixed lead time for procurement. The specified BESS Availability condition is on significantly higher side. Bidder request to revise assured BESS Availability to 95%. Please accept.	Technical	98 %, Refer S. no. 3 of amendment 1
262	0	0	0	0	Bidder understands/proposes that for desired 'BESS Availability' requirements; only the specified duration of "discharge during peak demand, for 3 hours after solar generation hours" shall be taken into consideration for calculations of BESS Availability. Please confirm/accept.	Technical	Please Refer Clause No. for BESS Availability.

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263	Technical Specifications	528 of 1149	3.1 Table 2	Watt-hour rating (dispatchable capacity): 150 MWh ,dispatchable at the beginning of life (i.e. at the time of Commissioning) and minimum throughput capacity at the beginning of each year as per below table:… Dispatchable capacity shall not be less than 80% of Beginning of Life capacity at any point of time up to End of Battery Life.	As per clause, linear annual degradation of 2%/year is specified for Dispatchable capacity from BESS. Fresh Li-ion batteries tends to degrade initially at relatively higher rate (>2%/year) and than after few years of operation annual degradation rate stabilizes to a lower rate (<2%/year). In view of this inherent characteristic of Li-ion batteries, Bidder request that Bidder should be allowed to design the BESS such that annual degradation should averages out to 2%/year over the system life of 10 years. Please accept.	Technical	Kindly refer S.No. 35 of amendment 1.
264	Technical Specifications	529 of 1149	3.1 Table 2	Peak Management: In the Peak Management Use Case scenario, power generated during the early and midday periods shall be stored in the BESS and discharged during peak demand, for 3 hours, after solar generation hours.	BESS will have only Peak management application for this Solar PV project. Please confirm.	Technical	BESS is intended for peak Management only.
265	Technical Specifications	532 of 1149	4.3.1	The BESS shall be containerized, using either standard International Organization for Standardization (ISO) 668 shipping containers or custom-designed power equipment centers.	From 'custom-designed power equipment centers'; Bidder understands that Pre-fab type housing structures meeting industrial standards can be provided for installation of BESS. Please confirm.	Technical	Terms and Conditions of the tender document will prevail.
266	Technical Specifications	541 of 1149	5.2.2	The communication protocol for the BESS shall be according to IEEE 1815-2010-Communications—Distributed Network Protocol (DNP3)or IEC 61850.	Whether IEC60870-5-104 and Modbus TCP/IP also acceptable as communication protocol for the BESS?	Technical	No.
267	Technical Specifications	544 of 1149	5.7.1	The BESS shall include a (Data Acquisition System) DAS to provide continuous monitoring and display of key operational parameters, as well as permanent archival.	DAS shall be part of BESS EMS system. Please accept.	Technical	DAS as part of EMS shall be acceptable.
268	Section I - Instructions to Bidders	41 of 1149	43.2	… Prior to signing the Contract, the corresponding Appendix to the Contract Agreement shall be completed, listing the approved manufacturers or subcontractors for each item concerned.	Bidder being a PSU has to finalize/shortlist the subcontractors for supply/services of the major item of the project through tendering process only. Bidder request that tentative manufacturers/subcontractors' name shall be furnished during signing of Contract. However, during detailed engineering stage after award of contract, acceptance of new/more vendors meeting the tender requirements, subject to customer's approval may please be accepted.	Contractual	The terms and conditions of Bidding Document will prevail
269	Technical Specifications	553 of 1149	14.2	At a minimum, the Contractor shall provide an unconditional, 5 (five) -year parts and labor warranty on all BESS equipment except battery (unit or racks).	As bidder has to operate and maintain plant for 10 years with penalty in place, bidder understands there is no need of 5 year warranty. Please accept.	Technical	Terms and Conditions of the tender document will prevail.
270	Annexure-XVI	1128 of 1149	-	The total land area identified at this stage is 377.423 ha.	Considering various hindrances/undulations in-between and the irregular shape of the offered land, the effective usable area will not be sufficient for installation of 200MW DC solar and 150MWh BESS. Bidder requests to provide additional land for project installation.	Technical	Please refer Plant boundary and contour details uploaded with Amendment 1.

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				Clarifications to Queries raised during Pre-Bid Meeting on 30.09.2020			
271	III	82	Note: BESS Supplier/sub-Contractor	The BESS Supplier/sub-Contractor must have the experience of having successfully completed Design, Engineering, Procurement, Construction, Installation, Testing and Commissioning of Grid Connected Battery Energy Storage System (BESS) of at least 03 (Three) Grid connected BESS Plants, each having an individual capacity of 5 MWh (Five Mega Watt Hour) or above in last Five years. Also, such BESS Plant capacity must have been in satisfactory operation for at least 12 (Twelve) months from the date of commissioning.	We Request the BESS Eligibility Criteria to modified as below: The BESS Supplier/sub-Contractor must have the experience of having successfully completed Design, Engineering, Procurement, Construction, Installation, Testing and Commissioning of Grid Connected Battery Energy Storage System (BESS) of at least 05 (Three) Grid connected BESS Plants, each having an individual capacity of 1 MWh (Five Mega Watt Hour) or above and cumulative capacity of 15MWH or above in last Five years. Also, such BESS Plant capacity must have been in satisfactory operation for at least 12 (Twelve) months from the date of commissioning.	Technical	Kindly refer S.No.28 of amendment 1.
272	A2	TS Page 19 of 182	4.4.9	In case of outdoor PCU, PCU without LCD display with provision for Data access over Bluetooth shall be acceptable.	In case of outdoor PCU, PCU without LCD display with provision for Data access over Bluetooth or over any other wireless communication method shall be acceptable.	Technical	Ok
273	VII	362 of PDF	1	Project Particulars; - Design and Engg Cumulative Inverter Capacity (Min.) - 175MW - Cumulative Inverter Capacity (Min.) - 175MVA	1. Can bidder optimize by proposing the DC-DC coupling solution for PV + BESS. The Inverter and Transformer capacity can be reduced to less then 125MW including reactive power compensation requirement? 2. Rationale behind considering 200 MWp DC and 175 MW AC and connecting BESS system on AC side instead of DC side. 3. As the BESS is only of energy application, can bidder propose DC coupled solution and reduce the number of inverters and transformers from 175 MW to most optimized capacity which fulfill the requirement of RFB 4. Can bidder propose 60/80 MVA, 2 Nos instead of 3 x 50 MVA transformers?	Technical	1. Terms and Conditions of the tender document will prevail. 2. Please refer S. No. 57 of Amendment No. 1 for revised capacities. 3. Terms and Conditions of the tender document prevail. 4. Please refer Annexure 1 to Aemendment 1 for revised transformer capacity.
274	III	65 of PDF	1.1	Technical Evaluation: Performance Guarantee Parameters:- - Performance Ratio (PR) - 82% - Capacity Utilization Factor (CUF) - 36.5% - BESS Availability - 99%	The 82% PR corresponds to PV seems to be high, Can Bidder propose 80% PR guarantee.	Technical	Terms and Conditions of the tender document will prevail.
275	Annexure A: A2 Tech Specification	526 of PDF	E.2.1	Table1 Procurement-Specific Location and Site Characteristics : Electrical infrastructure: AC system interconnection requirement at Point of Connection (PCC)	Can bidder propose DC-DC coupling solution. - What would be the voltage level for interconnection? - Patches are separated by the distance apart, in-between areas are FOREST LAND ? - Interconnection would be OVERHEAD or UNDER GROUND? -Construction of Terminal Bay and other facilities: Who will constructed by whom?	Technical	terms and conditions revail
276	AnnexureA: Employer's Requirements A.1. SCOPE OF WORKS	473 of PDF	3.1	3. Geotechnical Investigations:	The report shall include the study for "Liquefaction potential assessment of the ground and suggestions for any ground improvement measures" as required. The scope of ground improvement shall be clarify, in case of ground have Liquefaction potential.	Technical	The scope of ground improvement shall depend on the results of liquefaction potential assessment provided as a part of the geotechnical investigation report.

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277	AnnexureA: Employer's Requirements A.1. SCOPE OF WORKS	481 of PDF	6.9	Maintenance pathways of min. 1.0m width shall be provided between SPV arrays. The pathway area shall be generally levelled and well compacted manually/ mechanically. Areas of depression, valley zones or wherever there is noticeable change in topography, shall be levelled by laying min. 100mm thick PCC M10 or precast concrete paver blocks (min. 60mm thick, Grade M60) matching the top finished surface with ground topography/ grade to avoid accumulation of water in the region and allowing its free flow to keep the area devoid of mud/ sludge.	0	Technical	Query Not Clear
278	AnnexureA: Employer's Requirements A.1. SCOPE OF WORKS	481 of PDF	7	7 Surface/ Area drainage	The proposed land having water bodies inside the plant boundary and dams near by areas. To assure the RFP requirement of no water stagnation in side the plant, which may require more levelling, cutting and filling of water bodies/ variations of Topography.	Technical	Water Stagnation shan't be permitted in the area effectively utilized for the installation of plant.
279	AnnexureA: Employer's Requirements A.1. SCOPE OF WORKS	496 of PDF	13.31	The Bidder should design the structure height considering highest flood level at the site and the finished grade level. The minimum clearance between the lower edge of the module and the finished grade shall be the higher of (i) Highest flood level + 100mm and (ii) 500 mm, as applicable	The Finished Grade Level (FGL) of the proposed plant shall be fixed with reference to the highest flood level (HFL) and surrounding ground profile at proposed site to avoid flooding of plant site.	Technical	Terms and conditions of tender document shall prevail.
280	AnnexureA: Employer's Requirements A.1. SCOPE OF WORKS	515 of PDF	35	Potable Water Supply & PV Module Cleaning System	Can bidder proposed dry type robotic module cleaning system.	Technical	Terms and conditions of tender document shall prevail.
281	Annexure C	598 of PDF	2.1	PR Guarantee Test	PR test shall be commenced within 60 days from commissioning for 30 consecutive days. For every 0.01 shortfall in PR below the committed PR value, a penalty of 1% of the total Contract Value shall be levied.	Technical	Terms and conditions of tender document shall prevail.
282	Annexure A: A2 Tech Specification	385 of PDF	1	PV Modules	The PV Modules Supplier should have supplied minimum 5 GW capacity globally or 1 GW in India in the past 5 years	Technical	Kindly refer S.No.32 of amendment 1.
283	Annexure A: A2 Tech Specification	402 of PDF	6	HT Switchgear	HT Switchgear shall be outdoor type, installed on plinth comprising of RCC framed structure with foundations, columns and beams up to plinth level (FFL), with a suitable metal canopy on top.	Technical	Terms and conditions of tender document shall prevail.
284	Annexure A: A2 Tech Specification	433 of PDF	16	Power transformer	The Power Transformer shall be designed for suitable duty cycle considering at least 4 hours of operation at 110% of full (rated) load.	Technical	Kindly refer S.No.34 of amendment 1.

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285	Annexure 2	676 of PDF	E	Liquidated Damages for Shortfall in Annual CUF for Solar PV Plant If the Contractor fails to achieve guaranteed annual CUF, then the Contractor shall pay compensation to the Employer an amount equal to the difference in units (kWh) derived from guaranteed CUF and achieved CUF multiplied by Rs.4 per unit (kWh).	Rationale behind INR 4 per kWh?	Technical	Terms and Conditions of the tender document will prevail.
286	Annexure 2	680 of PDF	I	I. Liquidated Damages for Shortfall in Equipment Availability If the annual equipment availability for BESS is less than 99% during any year, then Contractor shall compensate the Employer an amount calculated as per the following formula. where, COM is Compensation payable to the Employer in rupees EA is Annual BESS Equipment Availability C is ₹8/kWh E is the intended energy output from BESS in kWh during the respective year in 99% availability condition after considering any degradation	Rationale behind C is 8 Rs/kWh	Technical	Kindly refer S.No 68. of amendment 1.
287	0	723 of PDF	3.1	Land Requirement for the Project: The proposed project falls under the villages listed in Table 13-6. It is also proposed to construct a transmission line of length 33 km approx. the exact route shall be determined at later stage by conducting a detailed route survey analysis.	Requesting for the existing line survey and tower location for transmission line.	Technical	Line survey and tower location is in the scope of the Contractor.
288	X	331 of PDF	Appendix 3	Insurance Requirements:	As the area is near vicinity of the Naxal area and terrorism insurance is not mentioned in the requirement. Please clarify if SECI is having it or need to be taken by the bidder. Should Contractor take complete insurance ?	Technical	It is the responsibility of the contractor to take the insurance during construction and O&M period as per requirement and as per the details mentioned in the tender and amendments.
289	Annexure A:Employers requirements A1: Scope of Works	371 of PDF	6.1	· Pollution control board clearance, if required; Mining Dept if required	In case of any delay in obtaining the permits and approval is the bidder liable for time extension.(focused mainly on mining and forest clearances)	Technical	All other approvals for the project and transmission line is in the scope of contractor. Bidder has to clearly identify all the approvals required for the said project. Only the Forest clearance (if any) required for the land parcels will be obtained by CSPDCL/SECI.
290	VIII	259 of PDF	36	Change in Laws and Regulations	Change in law will not be applicable for customs duty? As per clause 36 of GCC, we can claim but in another clause we can't. Also, Change in law for safeguard duty needs to be clarified?	Contractual	Clause No 36 of the GCC amply clarifies about the Change in law provisions. Kindly refer the same. Introduction of any new law/regulation/Tax will be treated in line with the "Change in Law & Regulations" clause of the RfB.

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291	X	313 Of PDF	0	PCC 14 Taxes and Duties	how will we ascertain the max amount of GST, BCD, SGD, ADD etc. we should be allowed a change in law on these grounds as we can only quote based on the current duties and cant anticipate the tax/ regulatory changes. Taxes amount is fixed. Tax on reimbursement of custom/safeguard duty should be clarified. At Bid submission, prices to be submitted are without BDC+SWS, SGD/ADD or any other duty. If duty increase whether we will be paid by SECI for extra duty?	Contractual	Clause No 36 of the GCC amply clarifies about the Change in law provisions. Kindly refer the same. Introduction of any new law/regulation/Tax will be treated in line with the "Change in Law & Regulations" clause of the RfB.
292	VIII	259 of PDF	37	Force Majeure	In case of Force Majeure, will SECI pay any cost incurred to Force Majeure?	Contractual	Exigencies emerged as an outcome of Force Majeure will be dealt on case to case basis during the contractual execution. However, the overall cost of the project will remain same.
293	VIII	209 of PDF	12	Terms of Payment	Do we need to submit payment proof of compliance payment on monthly basis for all the labors? Payments to be made in USD / INR? Currency shall be specified.	Financial	Compliance proof along with undertaking of monthly compliance needs to be submitted. Payments to be made in currency as quoted by bidder in ITB 18.1 Currencies of the Bid.
294	VIII	255 of PDF	34	Insurance	Why cargo insurance need to be taken for 110% of the (Ex-works value CIP value) Why EAR is to be taken for 110% of contract price? Why not insurance be taken at price at which we sign order with contractor?	Contractual	This is the standard Insurance sought for all of our EPC based projects & all prospective bidders are required to abide by the same.
295	X	345 of PDF	2G	Water Supply Network	What is scope of water supply network? As repair and maintenance of water supply network would be in O&M activity	Technical	Water supply system refers to the module cleaning system as per Annexure A.2 Technical Specifications.
296	Annexure A: A1 Scope of Work	365 of PDF	0	Construction of Work: It is the responsibility of the EPC contractor	Construction water mentioned in EPC contractor scope? It is World bank funded project so whether any special approval is required for drilling of borewell?	Technical	Only the Forest clearance (if any) required for the land parcels will be obtained by CSPDCL/SECI. However all other approvals for tree cutting ,ROW etc for the project and transmission line is in the scope of contractor . Bidder has to clearly identify all the approvals required for the said project.
297	Environmental and Social Due Diligence Report	739 of PDF	4.6	COMPLIANCE TO REGULATORY REQUIREMENTS	Forest clearance is SECI/State Agency responsibility. It is contradictory with 6. Statutory Approvals (on page 371 of PDF) where it says Forest Approval is responsibility of Contractor	Technical	All other approvals for the project and transmission line is in the scope of contractor. Bidder has to clearly identify all the approvals required for the said project. Only the Forest clearance (if any) required for the land parcels will be obtained by CSPDCL/SECI.
298	III	65 of PDF	0	Evaluation of Bids	What is the bid evaluation criterion for Foreign bidders	Contractual	Bid evaluation criteria is constant for all categories of bidders, whether Local or international. Only, the bid currencies other than Indian Rupees will be first converted to INR in line with the provisions of the RfB and then evaluation will be conducted.
299	I	42 of PDF	J	Award of Contract	If bidder is a foreign company, then how contracts will be awarded? Also, how EPC and O&M contracts are structured in that case?	Contractual	In case of Foreign bidders also, the award will be done as per regular practice only, which is there in case of local bidders. There is no requirement of Company being registered in India for the award purpose. However, for the payment purposes of O&M contract, the bidder would be required to have an Indian Arm/subsidiary as the payments will be done in Indian Rupees and other tax compliance like GST registration will be required to perform at that point of contract.
300	I	16 of PDF	4	Eligible Bidders	Request for clarification on entity doing the bidding and signing the contract. Is it allowed if Foreign Company submit the bid and its Indian subsidiary signs the contract on award.?	Contractual	In case of award, the award will be done to the entity who has acted as the bidding company & have presented its Technical and Financial credentials.

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Clarifications to Queries raised during Pre-Bid Meeting on 30.09.2020

301	I	27 of PDF	18	Currencies of Bid and Payment: The currency(ies) of the Bid and the currency(ies) of payments shall be the same. The Bidder shall quote in the currency of the Employer's country the portion of the Bid price that corresponds to expenditures incurred in the currency of the Employer's Country, unless otherwise specified in the BDS	who will take FOREX risk?	Contractual	This is into the scope of Bidders only.
302	Layout	NA	NA	Layout provided by SECI	Auto cad layout provided is not valid. Please provide the cad layout of the land in AutoCAD 2011 format. Nos of days required for approval of the drawing not mentioned in the RFQ	Technical	AutoCAD file of plant layout is uploaded on SECI website.
303	Annexure A: Employers RequirementsA 1 Scope of work	364 of PDF	1	Project Particulars; - Site Locations and Land	Confirmation form SECI for encroachment free and encumbrance free land for the construction.	Technical	Kindly refer S.no. 69 of amendment 1.
304	3: Technical specification of Battery Energy Storage System	153	3.1.1	The BESS Supplier/sub-Contractor must have the experience of having successfully completed Design, Engineering, Procurement, Construction, Installation, Testing and Commissioning of Grid Connected Battery Energy Storage System (BESS) of at least 03 (Three) Grid connected BESS Plants, each having an individual capacity of 5 MWh (Five Mega Watt Hour) or above in last Five years. Also, such BESS Plant capacity must have been in satisfactory operation for at least 12 (Twelve) months from the date of commissioning.	Proposed amendment : The BESS Supplier/sub-Contractor must have orders under execution for Design, Engineering, Procurement, Construction, Installation, Testing and Commissioning of Grid Connected Battery Energy Storage System (BESS) of at least 15 (Fifteen) MWh. 03 (Three) of these Grid connected BESS Plants, each having an individual capacity of 2 MWh (Two Mega Watt Hour) or above. Also, such BESS Plant capacity are to be commissioned within 12 (Twelve) months from date of bid submission.	Technical	Please refer S. No.28 of Amendment 1
305	BESS : Rated nos of cycles	152	3.1	4000 cycles at rated energy capacity at 80% Depth of Discharge (DoD) at 25oC and up to C/3 Rate of Discharge	Proposed amendment : 6000 cycles at rated energy capacity at 80% Depth of Discharge (DoD) at 25oC and up to C/3 Rate of Discharge	Technical	For higher no. of cycles, 4000 cycles at higher DoD shall be acceptable. Kindly refer S.No.80 of amendment 1.

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306	3	82	Note: BESS Supplier/sub-Contractor:	Bidders are not required to propose the BESS Supplier/sub-Contractor along with the Bid. After the Contract is signed with winning Bidder, the winning Bidder will be required to finalize a BESS Supplier/sub-Contractor meeting following requirements and establish subcontracting agreement/work order with the BESS Supplier/sub-Contractor within 180 days from the effective date of the Contract Agreement. Further, any delay beyond 180 (One Hundred and Eighty) days in signing of the subcontracting agreement as mentioned above, shall attract @ 1.25% as liquidated damages per month on the total price of the BESS Plant (Supply) as mentioned under Schedule No 1/Schedule No 2, calculated on pro-rata basis accordingly. The BESS Supplier/sub-Contractor must have the experience of having successfully completed Design, Engineering, Procurement, Construction, Installation, Testing and Commissioning of Grid Connected Battery Energy Storage System (BESS) of at least 03 (Three) Grid connected BESS Plants, each having an individual capacity of 5 MWh (Five Mega Watt Hour) or above in last Five years. Also, such BESS Plant capacity must have been in satisfactory operation for at least 12 (Twelve) months from the date of	Selection of BESS should be made during the bidding itself i.e. before selecting L1 bidder. BESS technology is new to our part of the world and its risks are not well understood. Under current structure, bidders have an incentive to win the bid first and assess BESS related risks to the project later. If BESS criteria are assessed only after the winning price is discovered, either BESS will become unfeasible at the time of financial closure or a substandard solution will be installed or it will lead to a dispute later on. Procurement of BESS cannot be compared with procurement of solar PV modules, as was stated on the pre-bid call. Following are some key differences between the two: Solar PV - 1.Solar PV module is a standardized, commoditized product. 2.A module assembly does not require further integration except with power electronics. 3.Solar PV does not store electrical energy and the flow of energy is one way. 4.A solar PV module over next 25 years will be used for one purpose only – to produce electrons when the sun is shining. BESS - 1.BESS is not standard/commoditized product yet. 2.BESS is a software controlled interactive	Technical	terms and conditions prevail.
307	3	82	Note: BESS Supplier/sub-Contractor:	0	Additionally we believe that the bid strategy with the additional 6-12 months added to timeline to select BESS vendor may be successful in qualifying more BESS vendors but without the track record and operating history such solutions will not get financed. We humbly request that BESS qualification criteria address the above capabilities and bidders are required to select BESS solution provider at the time of bidding.	Technical	Terms and conditions prevail.
308	3	61	1.1 Technical Evaluation	BESS Availability 99 %	BESS availability has been specified at 99%. On the pre-bid call, it was mentioned that this will translate to roughly 10 days of downtime in a year. Can you please explain how because based on our calculations the allowable downtime is less than 4 days for the full year.	Technical	BESS availability is revised to 98%. Kindly refer S.No.47 of amendment 1.
309	10	326	Terms of Payment	0	What is the performance security for the Operations and Maintenance Contract? Is it a percentage of O&M contract value or the Equipment Contract value?	Contractual	Kindly refer PCC clause No 13 for the same. The Second Stage Performance Security will cover the O&M part.

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310	C	103	6.3	However, following minimum road section details shall be followed: (i) Topping: Surface dressing with gravel or gravel-soil mixture conforming to Cl. 402 of MORD specifications for rural roads published by IRC (MORD specs). However, for sites with average annual rainfall > 1500mm, either 2 course surface bituminous dressing conforming to Cl. 505 of MORD specs or 20 mm thick open graded pre-mix carpet + Type □ B or Type □C seal coat conforming to Cl. 506 of MORD specs. shall be provided. (ii) Base course WBM (CBR>100%) conforming to Cl. 405 of MORD specs: 75mm compacted thick, Grade III (iii) Base course WBM (CBR>100%) conforming to Cl. 405 of MORD specs: 75 mm compacted thick, Grade II (iv) Granular/ gravel sub-base course (CBR>20%), conforming to Cl. 401 of MORD specs: 175 mm compacted thick, compacted to 100% of max dry density (v) Compacted subgrade: 300mm thick below sub-base (non-expansive soil with max. dry density > 1.65 kN/m3) conforming to Cl 303 of MORD specs, compacted up to 98% of standard proctor density in layers of 150mm thickness. In case of expansive soils like black cotton soil suitable	Bidder is requested to confirm that said specs needs to be considered for all type of road and if not then please provide the separate specs for each type of road.	Technical	Specifications provided here are applicable for all road types except peripheral road.
311	C	106	8.1	The plant peripheral boundary shall be provided with either Chain link or barbed wire fencing or masonry boundary wall as specified.	Bidder is requested to confirm the Plant boundary type i.e. Masonry Boundary or Chain link fence or Barbed wire Fencing.	Technical	Plant boundary shall be as per the chain link fence drawing provided as annexure to Amendment 1.
312	C	107	8.3.1	The fencing shall be of Chain link (GI or poly coat GI as specified) mesh fabric with internal, corner and stay posts of RCC (min 200mm x 200mm size, M30 grade) or Hot dipped GI angle (min. ISA 75x75x6 mm), as applicable, along with 230 thick brick/ 300 thick RR masonry toe wall, with 100mm thick M15 PCC foundation (min. width 450mm and min. depth 450 mm below GL).	Bidder is requested to confirm the requirement of the toe wall of the all peripheral boundary, If the plant boundary is chain link or barbed wire type.	Technical	Plant boundary shall be as per the chain link fence drawing provided as annexure to Amendment 1.
313	C	108	8.4	The boundary wall structure shall be a RCC beam-column structure with wall of either brick (min. 230mm thick), concrete block (min. 200mm thick) or of Pre-cast RCC columns and wall panels (min. 75mm thick). The top of the wall shall be provided with concrete coping (min. 50mm thick with 40mm projection on either side).	Bidder is requested to dilute the requirement of 50mm thick wall panel instead of 70mm for Precast Wall Panels considering the standard and easily availability of the same.	Technical	Plant boundary shall be as per the chain link fence drawing provided as annexure to Amendment 1.

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314	C	117	13.2	In MMS analysis the column support shall be assumed at EGL/NGL.	As bottom of column shall be start at the top of the pile Cap so kindly clarify that pile design can be done considering with column design at the top of pile.	Technical	The terms and conditions of Bidding Document will prevail
315	C	120	13.28	In case the contractor proposes to extend the column leg to embed it in the pile/pedestal as an alternate fixing arrangement, the column member shall be extended for full depth of the pile (100mm cover at tip of the pile) with an end plate of min. 4mm thickness to be welded at the bottom of column leg.	Bidder is proposing Embed column concept in Pile design so kindly provide the confirmations on the following points:- 1. Reinforcement bar needs to be provided in pile along with MMS Column or not. 2. MMS Column may be provided without end plate of 4mm thick however If any plate is required then 8mm bar in column end may be used as a replacement of end plate.	Technical	1. Reinforcement bars need not be provided in pile along with MMS column. 2.The terms and conditions of Bidding Document will prevail
316	B	54	15.4.11	Mobile User Interface: Summary of the plant performance & issues should be accessible in a mobile Native or browser UI	Bidder is requested to clarify that Mobile user interface required either for Solar plant or for Battery Plant system or both systems.	Technical	Mobile user interface for SCADA shall be for complete Plant facility including BESS.
317	B	51	15.1.3(VIII)	(viii) Transfer of plant data reliably, to an Owner designated server or Cloud on any kind of remote network including low bandwidth and wireless links such as 2G/3G/VSAT	SCADA system can provide DATA to an Owner designated server or Cloud on OPC-DA/OPC-UA/SQL so please provide the confirmation on mentioned server / format type.	Technical	Plant data shall be replicated on Cloud server. Please refer Clause No. 15.2.7 of TS.
318	B	52	15.2.7	A virtual/cloud server running SCADA & Monitoring Software shall be configured in parallel with Plant Server to enable easy access to plant data from outside the plant without having to login to plant server. Effectively, the plant data shall be replicated in both places i.e. between systems at the Plant Server and Remote Server to provide data redundancy for complete plant data. Note: Configuration of Cloud server and procurement of associated subscription services shall be in the scope of the EPC Contractor.	M/s SECI may have the cloud server for multiple project at multiple location so Bidder is requested to consider the cloud server space and its subscription charges in M/s SECI scope.	Technical	Terms and Conditions of the tender document will prevail.
319	B	53	15.3.9	Shall not require a static public IP address, at the plant for the purpose of remote access.	Static IP address shall be required for remote monitoring as without Static IP Address, web remote access is not possible. So kindly allow static IP address.	Technical	Contractor may use DNS updator services. Terms and Conditions of the tender document will prevail.
320	B	55	15.4.14	Forecasting and Scheduling: SCADA shall provide day ahead and week ahead forecasting and scheduling for power generation at the plant as per SLDC/Utility stipulations.	Forecasting and Scheduling will be done by third party and it is generally not in EPC scope so kindly dilute the clause accordingly.	Technical	Terms and Conditions of the tender document will prevail.
321	B	55	15.4.15	Predictive Maintenance: SCADA system shall have in-built or pluggable frameworks to support AI based Predictive Maintenance for all key equipment including inverters, transformers and switchgear at the plant.	SCADA system can provide DATA to Ai base predictive maintenance system on OPCDA/OPCUA/SQL, Bidder requested to confirm the required format.	Technical	Terms and Conditions of the tender document will prevail.
322	B	56	15.9.2	Operating System and Database shall be of enterprise scale (RedHat Linux or equivalent Linux OS, Oracle/MySQL or equivalent DB), with required AMC for 5 years.	Bidder is requested to allow to usage of WINDOWS SERVER 2016 ESSENTIAL and SQL server-Standard edition for Historical database.	Technical	Kindly refer S.No.22 of amendment 1.

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323	B	16	4.1	As per the Solar Photovoltaic, Systems, Devices and Components Goods (Requirements for Compulsory Registration) Order, 2017, Inverters used in the grid connected solar power projects shall be registered with BIS and bear the Standard Mark as notified by the Bureau of Indian Standards.	As of now BIS is applicable for below 150W inverter so said clause may be diluted accordingly.	Technical	Extant Regulations of GoI as per the Quality Control Order at the time of Supply shall apply.
324	B	18	4.4.3	Type-II surge protective device (SPD) conforming to IEC 61643-11 shall be connected between positive/ negative bus and earth.	Kindly also allow SPD DC side : Type I+II, complying EN 50539-11	Technical	Kindly refer S.No. 31 of amendment 1.
325	B	38	8.3	Auxiliary system shall be provided with two independent sources for reliable auxiliary power supply.	Bidder is requested to clarify the following points regarding the aux. system requirement: 1. Two independent sources are applicable for Master control room & Switchyard load or it shall also provided at Inverter block level. Please confirm. 2. If two independent sources are required at inverter block level then the same may be derived either from two separate LV winding of one Inverter trafo or secondary source needs to be extended from nearer inverter block. Please confirm.	Technical	1. Two independent supply sources are required for reliable auxiliary power supply to the entire SPV plant. 2. Bidder may opt for any configuration based on the site conditions.
326	B	44	11.2	General 110 V DC system (Battery, Battery Charger & DCDB) in accordance with this specification and standards stated herein, shall comprise of the following. (i) Sealed Maintenance Free (VRLA) Battery complete with racks & accessories. (ii) One No. Float charger. (iii) One No. Float cum Boost charger. (iv) DC Distribution Board (DCDB)	Bidder is requested toi allow DCDB as an integral part of Battery charger.	Technical	DCDB shall be an integral part of battery charger panel board. Kindly refer S.No.30 of amendment 1.
327	B	14	2.2.5	Type-II surge protective device (SPD) conforming to IEC 61643-11 shall be connected between positive/ negative bus and earth.	Shall EN 50539-11 applicable?	Technical	Kindly refer S.No.29 of amendment 1.
328	B	25	5.6.1.1	1.Lighting impulse (full & chopped wave) test on windings as per IEC 60076-3 2.Temperature rise test at a tap corresponding to maximum losses as per IEC 60076-2	Kindly allow said type test from CPRI/ERDA as per IS 2026	Technical	Type test report for Lighting Impulse (full & chopped wave) test on windings and Temperature rise test at a tap corresponding to maximum losses as per relevant part of IS 2026 are acceptable.
329	Section II (Bid Data Sheet)	47	ITB 4.1	(iii) In case of the award, the Performance Security, to be submitted by a JV shall be in the name of the JV that has been awarded the NOA/Contract Agreement. If the JV has not been legally constituted into a legally enforceable JV, the Performance Security shall be in the names of all the partners/members of the JV & not in the name of "only lead bidder". The Performance Security Bank Guarantee shall be executed in the names of all the partners/members of the JV.	The said clause says that, the performance security shall be in the names of all the partners/members of the JV & not in the name of "only lead bidder". Can we give the whole performance security amount in the name of either member of JV instead of all or each partner/member. If not, we request you to kindly provide such amendment.	Contractual	The terms and conditions of Bidding Document will prevail.

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330	Section X - Bid Forms	344	2 (E) (ii)	ii) If the Contractor fails to achieve the annual guaranteed CUF at the end of 10th year, then the Contractor shall pay compensation to the Employer an amount equal to the Net Present Value (NPV) of the revenue loss for 10th to 25th year calculated as below: (a) % CUF drop i.e. [(Guaranteed CUF of 10th year – Actual CUF of 10th year) / Guaranteed CUF of 10th year]*100 in the 10th year shall be considered as the representative CUF drop for each subsequent year starting from 11th to 25th year	The particular clause says compensation to be paid for 11th to 25th year, for non-achievement of PR at the end of 10th year. We request to kindly dilute this clause as said below: "The LD/penalty shall only be applicable for the period up to 10th year only"	Technical	Kindly refer Synod. 1 of amendment 1.
331	B - Electrical System (1.5 - Warranty)	387	15.1	PV modules must be warranted with linear degradation rate of power output except for first year (maximum 3% including LID) and shall guarantee 80% of the initial rated power output at the end of 30 years	0	Technical	Query Not Clear
332	B - Electrical System (6.11 - Warranty)	410	6.11	Warranty The HT panel unit shall be warranted for minimum of 5 (five) years against all material/ manufacturing defects and workmanship.	Requested to kindly amend the warranty period requirement of 5 years for HT panel to 2 years only. As the same is market standard and offered by the OEM's.	Technical	Kindly refer S.No. 51 of amendment 1.
333	B - Electrical System (19.6 - Warranty)	459	19.6	Warranty All switchyard equipment shall be warranted for minimum of 5 (five) years against all material/ manufacturing defects and workmanship	Requested to kindly amend the warranty period requirement of 5 years for Switchyard Equipment's to 2 years only except for Power transformer (PT). As the same is market standard and offered by the OEM's.	Technical	Kindly refer S.No. 53 of amendment 1.
334	B - Electrical System (18.3 - Warranty)	453	18.13	Warranty The control and Relay Panel shall be warranted for minimum of 5 (five) years against all material/ manufacturing defects and workmanship	Requested to kindly amend the warranty period requirement of 5 years for control and relay panel to 2 years only. As the same is market standard and offered by the OEM's.	Technical	Kindly refer S.No. 52 of amendment 1.
335	TERMS OF PAYMENT Schedule No. 1. Plant and Equipment Supplied from Abroad Schedule No. 2. Plant and Equipment Supplied from within the Employer's Country	330/331	0	Schedule 1 and Schedule 2 70% -Total or pro rata amount upon delivery to the destination within forty-five (45) days after receipt of materials and relevant documents	The schedule 1 and Schedule 2 is having 70% portion which will be given after 45 days of receipt of materials and relevant invoice documents. We request you to kindly allow this portion of payment through L/C (Letter of Credit) against delivery. Same procedure is duly followed by NTPC in their all tenders and is also a market practice. Kindly accept the request.	Financial	The terms and conditions of Bidding Document will prevail

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336	4 Experience (Note: With reference to clause No 4.2 (a):)	86	3	3. For participation as an EPC Bidder under Route I: In case the bidder is a subsidiary of a holding company, financial eligibility criteria referred to in the clause above, shall be of that subsidiary company only (i.e. excluding its holding company). A job executed by a Bidder for its own plant/ projects cannot be considered as experience for the purpose of meeting the Eligibility Conditions of the tender. Also, the jobs executed for Subsidiary/ Fellow subsidiary/ Holding company will not be considered as experience for the purpose of meeting Eligibility Conditions	Requested to kindly amend this clause as per given below: Projects executed by Bidder's group company, Holding Company or Subsidiary Company shall also be considered as Bidder's experience for meeting the Eligibility criteria, provided Bidder is an Indian company registered in India. Same is also followed in the NTPC tenders, which makes a good amount of participation by the bidders like us.	Contractual	The terms and conditions of Bidding Document will prevail
337	General	0	0	0	0	Technical	Query Not Clear
338	General	0	0	0	For 2nd to 10th year O&M period - The maximum aggregate LD amount shall be restricted to 5% of the O&M value only.	Contractual	The terms and conditions of Bidding Document will prevail
339	A.1 SOW	3	Scope of work page no: SOW Page 3 of 15	Cumulative inverter capacity : 175MW	Please confirm the cumulative inverters capacity as this is 100MW ac project	Technical	Minimum cumulative inverter capacity is 120 MW. Kindly refer S.No.57 of amendment 1.
340	A.1 SOW	4	Scope of work page no: SOW Page 4 of 16	Capacity utilization factor 36.5%	Seems higher side, Bidder requests to confirm again.	Technical	Please refer S. No. 47 of amendment 1
341	-	-	Layout/Contour drawing	General layout plan (draft for information)	Pl. share the AUTOCAD layout drawing .	Technical	Land boundary for the project site has been attached as annexure.
342	A.1 SOW	4	2 Function guarantee test for solar PV plant Scope of work page no: SOW Page 4 of 16	Minimum required PR: 82%	The required Performance ration 82% is seems higher side, Bidder requests for 78% to be guaranteed.	Technical	Kindly refer the PR formula given in Clause 2.1.1 of Annexure-C (PG Test Procedure) to Technical Specifications. The formula has in-built temperature correction. Terms and conditions of the tender document will prevail.
343	A.1 SOW	8	2.4 CAPACITY UTILIZATION FACTOR (CUF)Page no. ANNEXURE-C Page 8 of 11	DF is module degradation factor, 0.55% per year	Bidder requests for degradation to be 0.7% as most of manufacturers are offering.	Technical	Terms and Conditions of the tender document will prevail.
344	-	-	General	--	Kindly arrange to confirm the coordinates of 132 kV switchyard in the solar plant from which the transmission line is proposed to start	Technical	Bidders are free to design and identify suitable plant switchyard location in the defined land parcels.
345	0	0	0	0	0	Technical	Query Not Clear
346	0	0	0	ANNEXURE A A.2. TECHNICAL SPECIFICATIONS	0	Technical	Query Not Clear
347	A.2 TS	97	3	Geotechnical Investigations	0	Technical	Query Not Clear
348	A.2 TS	0	0	There shall be minimum 1 nos. of BH per 5 acres of the area (However, total number of boreholes shall not be less than 5), 3 nos. of Trial pits, 5 nos. of CBR test & ERT, 5 nos. of Ground water samples for laboratory investigations.	Bidder suggests that, for a site of 100MW, 20nos. of Pull-out and 10 nos. of Lateral Tests to be conducted as per general industry practices. Kindly confirm.	Technical	Kindly refer S.No. 11 of amendment 1.

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349	A.2 TS	101	5	Area Grading and Land Development	0	Technical	Query Not Clear
350	A.2 TS	0	0	The filling for levelling/ reclaiming the ground/ area shall be done in layers not more than 150mm of compacted thickness in case of cohesive (clayey) soils and 250mm compacted thickness in case of granular (sandy) soils with compaction up to 95% (of modified proctor density) and 80% (of relative density) respectively. The slope at edge of graded areas shall not be steeper than 1:1.5 (1 Vertical: 1.5 Horizontal) in cutting and 1:2 (1 Vertical: 2 Horizontal) in filling. In case of filling with rock material, the edges shall be provided in line with provisions of relevant BIS standard	Bidder proposes that Fill shall normally be made up of Cohesive Non swelling material capable of being compacted upto 95% Standard Proctor density instead of Modified Proctor density. Kindly confirm.	Technical	The terms and conditions of Bidding Document will prevail
351	A.2 TS	103	6	Roads	0	Technical	Query Not Clear
352	A.2 TS	0	0	The Approach road connecting nearest public road and the Main gate shall be of 4.5m wide carriage way with 0.5m wide shoulders on either side. The access road connecting Main gate and MCR and internal access road(s) connecting MCR to various facilities/ buildings/ open Installations shall be of 3.75m wide carriage way with 0.5m wide shoulders on either side while the peripheral road shall be of 2.5m wide carriage way with 0.5m shoulders on either side.	Bidder proposes 1. Approach road(Public road to Main gate) to be WBM type with a road width of 3m and 0.5m shoulders on both sides. 2. Internal road (MCR to all inverter stations) to be WBM 3m wide and 0.5m shoulders on both the sides. 3. Peripheral road to be simple compacted 2.5m wide. Kindly confirm.	Technical	1.Kindly refer S.No. 2 of amendment 1 for the details on road width. Minimum road section details shall be as per cl. 6.3 of Annexure A2 (Technical Specifications). 2. Same as above. 3. Kindly refer S.No. 12 of amendment 1.
353	A.2 TS	105	7	Surface/ Area drainage	0	Technical	Query Not Clear
354	A.2 TS	0	0	The coefficient of run-off for estimation of design discharge shall be considered as per catchment characteristics, however it shall not be less than 0.6	Bidder suggests that surface run-off coefficient to be 0.3 instead of 0.6. Drain(Trapezoidal) to be provided at locations where required as per the contour study and shall not be required everywhere along side of the road. Kindly provide the contours of outside land and the percentage of the catchment to be considered for the drain design and estimation. Kindly confirm.	Technical	The terms and conditions of Bidding Document will prevail Topographical Survey Report has been provided for reference. However, detailed topographical survey is in the scope of contractor.
355	A.2 TS	0	0	Suitable size plant peripheral drain as per design (min. 500mm wide x 500mm deep) along inside of plant boundary wall/ fence shall be provided for smooth channelization of outside storm water and to avoid flooding in the plant. The size of all internal and road side drains shall not be less than 450mm (bottom width) x 500mm (depth).	0	Technical	Query Not Clear

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				Clarifications to Queries raised during Pre-Bid Meeting on 30.09.2020			
356	A.2 TS	0	0	All trapezoidal drains shall have side slopes not steeper than 1:1 and shall be lined with either brick or RR masonry/ concrete or stone slabs as suitable to the site conditions. The min. Thickness of the lining shall be 115mm for brick masonry, 75mm for concrete slabs, 150mm for RR masonry and 100mm for stone slabs. The lining shall be in CM (1:4) and the joints shall be raked and pointed with CM (1:3), however, the joints in lining of plant peripheral drain may be left without pointing.	Bidder proposes earthen drains instead of Brick lining with PCC lining. Bidder proposes 40mm thick stone slab will suffice instead of 100mm thick for stone slab. Kindly confirm.	Technical	Terms and conditions of tender document shall prevail.
357	A.2 TS	109	10	Design Loads	0	Technical	Query Not Clear
358	A.2 TS	0	0	To calculate the design wind speed (Vz), the factors K1 (probability factor or risk coefficient), K2 (terrain roughness and height factor) and K3 (topography factor) shall be considered as per IS 875 (Part-3) (However, minimum values for K1, K2 and K3 shall be 1.0, 1.05 and 1.0 respectively)	Bidder proposes that Design wind speed factors K1,K2,K3 shall be considered as per IS:875. Kindly confirm.	Technical	Kindly refer S.No. 13 of amendment 1.
359	A.2 TS	109	10.1	Notes for MMS Design	0	Technical	Query Not Clear
360	A.2 TS	111	10.10.2	For estimation of design wind loads on purlins (Table 8 of IS 875- Part 3), WL (downward) and WL (upward) on modules (laid in the profile of mono slope canopy) shall be applied such that the center of pressure should be at (0.3 × length of canopy) from windward end (for simplicity, the wind load distribution may be taken as triangular with max. value at windward end). Solidity ratio (ø) shall be taken as 0.5.	Bidder proposes uniform loading on MMS instead of 0.3W loading. Solidity ratio shall be taken as 0 instead of 0.5. Kindly confirm.	Technical	Kindly refer S.No. 6 of amendment 1.
361	A.2 TS	113	12	MMS Foundation	0	Technical	Query Not Clear
362	A.2 TS	113	12.2.1	In case the contractor proposes to provide bored cast-in-situ concrete pile; the type, dia. and length of pile shall be as per recommendations of Geotechnical investigation report corresponding to prevalent soil characteristics at site. However, the min. dia. and depth of the pile shall be 300mm (Min 350 mm for column depth more than 175 mm) and 1800mm respectively except when very hard strata/ rock (N>100) is encountered at a higher level, the pile shall be extended in to the hard strata minimum 1.5 times the diameter of the pile with total depth of the pile not less than 1200mm below cut-off level.	Bidder suggests that pile depth shall be based on geotechnical report, Instead of min specified depth. Kindly confirm.	Technical	Terms and conditions of tender document shall prevail.

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363	A.2 TS	0	0	As specified above, the MMS support shall project minimum 200mm above FGL (Finished grade level) to avoid any damage to the MMS column/sub support due to direct contact of rain water/ surface run-off. This shall be ensured through either single stage construction of entire pile length including portion above FGL or by providing a collar (to be cast in second stage) which shall project min. 75mm in plan beyond the pile face and shall extend min. 250mm below GL.	Bidder requests to reduce the collar height to 150mm instead of 250mm. Kindly confirm.	Technical	Terms and conditions of tender document shall prevail.
364	A.2 TS	117	13	Module Mounting Structure (MMS)	0	Technical	Query Not Clear
365	A.2 TS	118	13.7	The minimum thickness excluding anti corrosive treatment (BMT) of various elements of MMS structure shall be as following: Stub/ column – 3.15mm, Rafter – 2.5mm & Purlin & other members – 2.0mm	Bidder proposes following member specifications for MMS structures :- 1)Purlins to be 0.9mm thick of Galvalume with AZ150 coating. 2) Rafters to be min. 1.4mm thick Galvalume with AZ150 Coating. 3) Legs to be min. 2mm thick HDG with average 80 micron coating. 4) Bracings to be min.1.6mm thick pregal with 550 GSM Coating. Kindly Confirm .	Technical	For members other than purlin, terms and conditions of tender document shall prevail. For purlin members, kindly refer S.No.5 of amendment 1.
366	A.2 TS	119	13.16	The MMS structure shall be hot dip galvanized with minimum GSM 610 kg/ sqm and/or minimum coating thickness of 80 microns for protection against corrosion. Galvanization shall conform to IS-2629, 4759 & 4736 as applicable.	0	Technical	Query Not Clear
367	A.2 TS	119	13.23	Fasteners and washers to be used for erection of mounting structures and those for fixing Module over MMS shall be of stainless steel grade SS 304 & SS 316 with property class A2-70 conforming to relevant ISO standard and must sustain the adverse climatic conditions to ensure the life of the structure for 25 years.	Bidder proposes fasteners shall be HDG 4.6 Gr for structure and SS 304 for module fixing. Kindly confirm.	Technical	Kindly refer S.No. 7 of amendment 1.
368	A.2 TS	120	13.32	The length of one unit (Table) of MMS shall not generally be more than 20m.	Bidder suggests that length of the table shall be based upon string configuration instead of 20m. Kindly confirm	Technical	The terms and conditions of Bidding Document will prevail
369	A.2 TS	122	16	Buildings and Plinth for Open Installations	0	Technical	Query Not Clear
370	A.2 TS	0	0	Roof slab shall have projection of 450mm beyond external walls with RCC parapet wall of 450 mm clear height all-around which shall form a projected band at roof level. For weather protection all doors and windows shall be provided with 450mm wide RCC chajja. However, chajja for rolling shutter shall be 750mm wide.	1) Bidder proposes that RCC Canopy of 750mm shall be provided over doors and 450mm over windows instead of projecting the roof all around the building by 450mm. Kindly confirm.	Technical	The terms and conditions of Bidding Document will prevail
371	A.2 TS	127	16.2.5	Pre-Engineered Building (PEB)	0	Technical	Query Not Clear
372	A.2 TS	127	16.2.5.2	Structure and material specification	0	Technical	Query Not Clear
373	A.2 TS	0	0	Primary Structural Members: Steel frame members with minimum thickness 4 mm with minimum yield strength of 345 Mpa.	Bidder proposes min thickness of secondary members shall be 1.6 mm instead of 3.15mm. Kindly confirm.	Technical	The terms and conditions of Bidding Document will prevail

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374	A.2 TS	0	0	Secondary Members: Minimum thickness 3.15 mm. Secondary members for purlins and Girts shall have minimum yield strength of 345 MPa. Miscellaneous secondary members shall have minimum yield strength of 250 MPa.	Bidder proposes min thickness of secondary members shall be 1.6 mm instead of 3.15mm. Kindly confirm.	Technical	The terms and conditions of Bidding Document will prevail
375	0	--	General	Kindly provide the boundary , contours and Detail soil report for the plot.	0	Technical	Contour Drawings with Plant boundary uploaded with tender.
376	0	0	0	0	0	Technical	Query Not Clear
377	VIII-GCC	194	1.1	"Subcontractor," including manufacturers, means any person to whom execution of any part of the Facilities, including preparation of any design or supply of any Plant, is sub-contracted directly or indirectly by the Contractor, and includes its legal successors or permitted assigns.	Such consent should not be unreasonably withheld or denied.	Contractual	The terms and conditions of Bidding Document will prevail
378	VIII-GCC	199	6.1	Fraud and Corruption	It is advisable to propose Indian laws for fraud and corruption.	Contractual	This being a WB financed project, the procurement regulations as defined by WB will prevail. Hence, The terms and conditions of Bidding Document will prevail
379	VIII-GCC	199	0	0	The implementation of Indian laws shall be more convenient as compared to Bank's Anticorruption Policy.	Contractual	This being a WB financed project, the procurement regulations as defined by WB will prevail. Hence, The terms and conditions of Bidding Document will prevail
380	VIII-GCC	201	8.1	Time for Commencement and Completion	It is suggested that the time for commencement shall start after the handlining over the access to the site.	Technical	SECI shall handover the land parcels to the contractor and after which SECI will issue NTP. The timelines for commencement and completion will begin from NTP
381	VIII-GCC	201	0	0	Furthermore, any delay by the Employer in granting access shall result in extension of time and additional costs, if any, caused to the Contractor.	Contractual	If it is prudently established and accepted by the employer that the delay so happened is on account of the Employer & such delays/exigencies emerged as an outcome of it will be dealt on case to case basis during the contractual execution. However, the overall cost of the project will remain same.
382	VIII-GCC	201	0	0	0	Technical	Query Not Clear
383	VIII-GCC	201	9.2	Contractor's Responsibilities	Even after inspection, there could be obstacles, hardships which could not be foreseen even after reasonable diligence. Hence, the Contractor should be compensated for such shortfall.	Contractual	The terms and conditions of Bidding Document will prevail
384	VIII-GCC	201	0	0	Thus, the following can be added if possible- However, in case of any data or information which could not have been reasonably known to the Contractor by such inspection, then the Contractor shall be entitled to additional costs or time due to such hurdles/hardships in completion of the Contract.	Contractual	The terms and conditions of Bidding Document will prevail
385	VIII-GCC	201	0	0	0	Technical	Query Not Clear
386	VIII-GCC	201	9.3	Contractor's Responsibilities	The list of permits/ approvals has to be reviewed and verified beforehand.	Contractual	Employer will facilitate the best possible support in case of permits/approvals & its verifications.
387	VIII-GCC	201	0	0	Thus, the following can be added if possible, it is understood between the Parties that any delay in the project caused due to delays in obtaining permits/approvals/licenses even after all reasonable efforts taken by the Contractor, the Contractor shall be entitled to reasonable costs and extension of time as per the provisions of the Contract.	Contractual	The terms and conditions of Bidding Document will prevail

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388	VIII-GCC	208	15.2	License/Use of Technical	Prior to use, copy and communicate the Contractor Documents to any third party, Employer shall obtain prior written approval from the Contractor. Further, in order to modify, alter, amend, change the Contractor's Documents, the Employer shall obtain prior written consent of the Contractor.	Contractual	The terms and conditions of Bidding Document will prevail
389	VIII-GCC	208	0	Information	0	Technical	Query Not Clear
390	VIII-GCC	209	16.5	Confidential Information	Insert the following clause:	Contractual	Query not clear
391	VIII-GCC	209	0	0	This clause shall survive for a period of two (2) years from the termination or the expiry of the Agreement whichever is earlier.	Contractual	Query not clear
392	VIII-GCC	210	17.2	Contractor's Representative & Construction Manager	Such consent should not be withheld or denied unreasonably.	Contractual	The terms and conditions of Bidding Document will prevail
393	VIII-GCC	212	18.2	Program of Performance	Please ensure that the costs incurred in the progression of performance activity is not borne by the Contractor. The decisions taken in this regard should be mutual.	Contractual	The terms and conditions of Bidding Document will prevail
394	VIII-GCC	214	19	Subcontracting	Such consent should not be withheld or denied unreasonably.	Contractual	The terms and conditions of Bidding Document will prevail
395	VIII-GCC	215	19.5	Subcontracting	The Contractor shall not be responsible for any defects extending beyond the DLP Period. It is advisable to business to thoroughly evaluate the risks involved.	Contractual	The terms and conditions of Bidding Document will prevail
396	VIII-GCC	219	21.3	Transportation	It would have been better if force majeure conditions would have mentioned in transportation.	Contractual	The terms and conditions of Bidding Document will prevail
397	VIII-GCC	231	22.5.4	Opportunities for Other Contractors	Business to take a clarity as to what other contractor' shall be covered under this clause. Ideally, the Contractor is only responsible for its part of work and its subcontractor's or agencies employed. There should be no onus of promptly notifying anything that is related to any other contractor.	Contractual	The terms and conditions of Bidding Document will prevail
398	VIII-GCC	233	23.2	Test and Inspection	Prior notice of 24-hours shall be required before such inspection by the Employer.	Technical	Original clause shall prevail.
399	VIII-GCC	234	23.4	Test and Inspection	Under such circumstances, the tests shall be deemed approved by the Employer.	Technical	Original clause shall prevail.
400	VIII-GCC	247	30	Limitation of Liability	The exclusion to consequential losses and limitation of liability should be a notwithstanding clause without any exception to it.	Contractual	The terms and conditions of Bidding Document will prevail
401	VIII-GCC	247	0	0	0	Technical	Query Not Clear
402	VIII-GCC	247	0	0	0	Technical	Query Not Clear
403	VIII-GCC	255	36	Change in Laws and Regulations	If a change in legislation leads to extra costs for the Contractor, the Employer shall reimburse such costs.	Contractual	The terms and conditions of Bidding Document will prevail
404	VIII-GCC	255	0	0	The said costs should be mutually decided by the Parties.	Contractual	Query not clear
405	VIII-GCC	255	37	Force Majeure	In case of FM events, the Contractor shall be entitled for the cost sustained.	Contractual	Exigencies emerged as an outcome of Force Majeure will be dealt on case to case basis during the contractual execution. However, the overall cost of the project will remain same.
406	VIII-GCC	269	42.2.4	The Employer may enter upon the Site, expel the Contractor, and complete the Facilities…….	Prior notice of 15-days required by the Employer.	Contractual	The terms and conditions of Bidding Document will prevail
407	0	0	0	0	0	Technical	Query Not Clear

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408	X-Contract Forms	307	10.3	Employer's Responsibility	To provide ROW in a timely manner is the core responsibility of the Employer.	Technical	The activities like design, obtaining approval, ROW, construction, land compensation, O&M of transmission line is in the scope of contractor/developer. However SECI will assist in obtaining such approvals
409	X-Contract Forms	307	0	0	0	Technical	Query Not Clear
410	X-Contract Forms	313	PCC 14 (Pg. 313)	Taxes and Duties	Variation should be capped at 15%.	Contractual	The terms and conditions of Bidding Document will prevail
411	X-Contract Forms	313	0	0	The Contractor should be compensated for statutory variation applicable in respect of the items/services procured from the third party/sub-contractor.	Contractual	The terms and conditions of Bidding Document will prevail
412	X-Contract Forms	315	PCC 26 (Pg. 315)	Completion Time Guarantee	The Contractor should not be entitled for LD in case able to achieve the cumulative completion of the Project in a timely manner.	Contractual	Liquidated Damages are only applicable in case the project timelines are not met in line with the provisions of the RfB. Kindly refer PCC clause 26 for more clarity on this point, as no intermediate LDs are applicable for this project.
413	3	529/1149	3.1.1	The BESS Supplier/sub-Contractor must have experience of having successfully completed Design, Engineering, Procurement, Construction, Installation, Testing and Commissioning of Grid Connected Battery Energy Storage System (BESS) of at least 03 (Three) Grid connected BESS Plants, each having an individual capacity of 5 MWh (Five Mega Watt Hour) or above in last Five years. However, such BESS Plant capacity must have been in satisfactory operation for at least 12 (Twelve) months from the date of commissioning.	The BESS Supplier/sub-Contractor must have experience of having successfully completed Design, Engineering, Procurement, Construction, Installation, Testing and Commissioning of Grid Connected Battery Energy Storage System (BESS) of at least 03 (Three) Grid connected BESS Plants, having cumulative capacity of 15 MWh (Fifteen Mega Watt Hour) or above in last Five years. However, such BESS Plant capacity must have been in satisfactory operation for at least 12 (Twelve) months from the date of commissioning.	Technical	Kindly refer S.No.28 of amendment 1.
414	EMS	556/1149	F - 2.1	HMI mode or manual mode: in this mode, the operator has the possibility to: o Select the operation point o Direct control of active and reactive setpoints of the PCS. o Command of the balance of plants	Is it required to provide these controls through EMS HMI? We have a separate windows based tool to configure these behavior. As an alternate, these behavior can be set from SCADA also. We can provide MODBUS register to set these properties from SCADA. on the same page, there is requirement to get set point from SCADA. So Manual mode settings can also be received from SCADA	Technical	Provision to issue EMS Set-point Control commands set from SCADA HMI shall be preferred.
415	F	555/1149	F - 2.1	The Communication protocol may be IEC 61850 or MODBUS over a serial or Ethernet connection (Modbus RTU or MODBUS TCP).	We support MODBUS TCP/IP for SCADA communication	Technical	The Communication Protocol shall be as per IEC 61850 or DNP 3. Kindly refer S.No.44 of amendment 1.
416	E	541/1149	E - 5.2.2	The communication protocol for the BESS shall be according to IEEE 1815-2010-Communications Standard for Electric Power —Distributed Network Protocol (DNP3) or IEC 61850.	As per clause mentioned in F - 2.1 its mentioned MODBUS protocol, So here in this clause there should be option for MODBUS communication protocol also (i.e DNP3 or IEC 61850 or MODBUS)	Technical	Terms and conditions of the tender document will prevail.

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417	E	541/1149	E - 5.2.3	If data points and/or control functions outside the standard point definitions in DNP3 AN2011-001/IEC 61850 are created by the Contractor, the Contractor shall maintain a systematic log of the same for the purpose of maintaining/facilitating interoperability with future standards/protocols for distributed energy resources	As per clause mentioned in F - 2.1 its mentioned MODBUS protocol, So here in this clause there should be option for MODBUS communication protocol also (i.e DNP3 or IEC 61850 or MODBUS)	Technical	Terms and conditions of the tender document will prevail.
418	E	541/1149	E - 5.3.1	The start and stop controls shall be as per DNP3 AN2011-001 standard specifications or IEC 61850	As per clause mentioned in F - 2.1 its mentioned MODBUS protocol, So here in this clause there should be option for MODBUS communication protocol also (i.e DNP3 or IEC 61850 or MODBUS)	Technical	Terms and conditions of the tender document will prevail.
419	E	545/1149	E - 5.7.2	The DAS shall be capable of making all monitored data and events available through the DNP3 / IEC 61850 communication interface	As per clause mentioned in F - 2.1 its mentioned MODBUS protocol, So here in this clause there should be option for MODBUS communication protocol also (i.e DNP3 or IEC 61850 or MODBUS)	Technical	Terms and conditions of the tender document will prevail.
420	E	545/1149	E - 5.7.3	Provision of monitoring and event data via the communication interface shall adhere to DNP3 AN2011-001 / IEC 61850 to the extent possible and capture at least the following data points:	As per clause mentioned in F - 2.1 its mentioned MODBUS protocol, So here in this clause there should be option for MODBUS communication protocol also (i.e DNP3 or IEC 61850 or MODBUS)	Technical	Terms and conditions of the tender document will prevail.
421	E	528/1149	Table 2	System ac-dc-ac efficiency	Test Procedure to be verified as per Annexure - F Annexure - F not found in the Tender document	Technical	Annexure F: Procedure for Plant Testing, Commissioning and Documentation is enclosed with the RfB. Kindly refer page no. 607 of 1149 of tender document.
422	E	528/1149	Table 2	Use Case requirements - Peak Management In the Peak Management Use Case scenario, power generated during the early and midday periods shall be stored in the BESS and discharged during peak demand, for 3 hours, after solar generation hours.	For SECI as employer to get the maximum value with regards to: Lower investment, higher output, better O&M and more competition, Both DC and AC coupled BESS should be allowed. This will ensure more competitiveness and throughput for SECI	Technical	Terms and conditions of the tender document will prevail.
423	E - 4.9	537/1149	4.9.1.2	The PCS may consist of one or more parallel units. Paralleling may be at the DC or AC terminals. The PCS circuit topology shall be voltage source (that is, the PCS at its AC terminals shall appear to the grid as a voltage source rather than as a current source and, at its DC terminals, shall be capable of reversing current flow in the battery without reversing the polarity of the DC bus).	PCS appearing as AC Voltage source in presence of Grid is not possible & at DC terminals current should be reversed, so PCS must work as Current source (PQ Mode). Due to representation complexity of current source-voltage source (PQ Mode / UF Mode) topology -- better to remove the related words "The PCS circuit topology shall be voltage source....."	Technical	tender terms and conditions prevail.
424	0	526/1149	2	The BESS will be coupled with the PV System at the AC Bus on the LV (415 V) or the MV (33 kV) side of the Inverter Transformers. The BESS shall be designed for maximum flexibility with regard to site-specific voltages, frequency, phase imbalance, and protection requirements.	The BESS will be coupled along with the PV System at the AC Bus on the LV (415 V) or the MV (33 kV) side of the Inverter Transformers. The BESS shall be designed for maximum flexibility with regard to site-specific voltages, frequency, phase imbalance, and protection requirements.	Technical	Query Not Clear
425	0	364/1149	1	Cumulative Inverter Capacity (Min.) 175 MW	There should not be min. value, Also it should be Inverter / Converter	Technical	Minimum Solar Inverter Capacity shall be 140 MW as per revised capacity.

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				Clarifications to Queries raised during Pre-Bid Meeting on 30.09.2020			
426	0	369/1149	4.1.126	Design & construction of Transmission line/ cable at required voltage level from plant take off point to the designated substation including right of way (ROW) and construction of bay at designated substation as per TRANSCO requirements/procedures.	As per the site visit undertaken at the site , getting right of way is tedious job involving various stakeholders (owners), request if SECI can indicate the extent up to which SECI shall support the bidder on getting Right of Way. We would further request you to kindly have the ROW incorporated in Scope of Bidder	Technical	SECI has not carried out any route survey for transmission line. However the length will be about 33km approx. Bidders are required to carefully access the length of transmission line from project site till 220/132kV CSPTCL's Thelkadih substation and quote accordingly as the complete scope design, approval, ROW, construction of transmission line is in the scope of contractor/developer
427	0	0	Site Visit Related Query	1. Plant Area coming under 11 KV & 400 KV Line 2. Small trees avail be in plant area need to cut (It may required forest/local authority approval)	Please clarify who will remove the existing 11 KV & 400 KV line. Please clarify on the availability of approval to remove the trees.	Technical	It is clarified that the 400kV transmission line should not be disturbed and all the state/central guidelines should be followed while installing solar modules. The existing 11/33kV towers/transmission line may be removed and reallocated by the contractor after obtaining necessary approval from the state authority bodies. All the cost towards shifting, approval etc has to be borne by the contractor.
428	0	0	Transmission line query	ROW With EPC company and harvest land area. Village Road Crossing, NH approval required.	Request you to kindly include ROQ in scope of SECI as it involves highway crossing	Technical	ROW approval of transmission line is in the scope of contractor/developer. However SECI will assist in obtaining such approvals
429	0	0	Transmission line query	Please specify the technical specifications of Transmission line for 33 kV	0	Technical	Query Not Clear
430	Section X - Contract Forms	Page 311 of 1149	PCC 10.3	The Employer shall facilitate the contractor in acquiring and obtaining for all permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in the country where the Site is located which (a) such authorities or undertakings are to obtain in the Employer's name, (b) are necessary for the execution of the Contract, including those required for the performance by both the Contractor and the Employer of their respective obligations under the Contract, and (c) are specified in the Appendix (Scope of Works and Supply by the Employer). The related payments/fees of obtaining permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in the country where the Site is located will be in the contractor	Kindly request employer to pay all statutory fees. Also request to provide list of approvals of each parties under this contract.	Contractual	The terms and conditions of Bidding Document will prevail
431	Section X - Contract Forms	Page 314 of 1149	22	PCC 22.2.5 Working Hours Normal working hours are: 08 Hours Shift	Kindly permit bidder to work at extended work hours with sufficient arrangements	Technical	The staff working hours will be permitted by the SECI site in charge as per the requirement and request of the contractor .
432	Section X - Contract Forms	Page 350 of 1149	-	Performance Security Form: This guarantee shall expire no later than the earlier of: (a) twelve months after our receipt of (a) above; or (b) eighteen months after our receipt of: (i) a copy of the Completion Certificate; or (c) the day of , 2 .	The PBG conditions have contingent clauses for which banks will have reservations while giving PBG. It is requested to give an expiry date instead of the linking to completion certificate date	Financial	Kindly refer PCC clause No 13 for the same.

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433	Section X - Contract Forms	Page 353 of 1149	-	Advance Security Form: A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number _____ at _____.	Since advance is paid after the receipt of advance BG, the required data under this Advance BG draft can not be provided. Kindly clarify.	Financial	This paragraph ("A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number _____ at _____.") is only an instruction at this stage and blanks are not to filled now. These will be filled-up while issuing an demand under this BG
434	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 369 of 1149	4.1.27	4.1.27 Any re-arrangement/ replacement of substation equipment/ materials, including bay construction, if required, at the evacuating substation necessary for evacuation of power from the Plant.	Kindly clarify the scope of Bay extension. As understood during pre-bid meeting that Bay extension is in Employer scope.	Technical	Kindly refer the S. no. 70 of Amendment 1.
435	Section VIII – General Conditions of Contract	Page 195 of 1149	Contract and Interpretation	Effective Date" means the date of fulfillment of all conditions stated in Article 3 (Effective Date) of the Contract Agreement, from which the Time for Completion shall be counted	There shall be a separate definition for commencement date (Date of actual work commencement on site). Kindly incorporate.	Contractual	The terms and conditions of Bidding Document will prevail
436	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 385 of 1149	B.1.2	Module requirement: Cell type Mono-crystalline or Multi-crystalline, Bifacial Bifacialitiy Factor, ø (Pmp Back / Pmp Front at STC) 0.7 ± 0.05	Kindly request to confirm that Contractor shall use either Bifacial multicrystalline/monocrystalline and/or monofacial multicrystalline/monocrystalline.	Technical	Only Bifacial PV modules are allowed. Kindly refer S. no. 24 of ammendment-1.
437	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 495 of 1149	13.24	In case of fixed tilt, min. two number of bolts shall be provided at each joint.	Kindly request to confirm that Contractor shall use either fixed tilt/ seasonal tilt and/or tracker.	Technical	PV module shall be installed with fixed tilt.
438	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 389 of 1149	2.2.3	Every SMU input shall be provided with fuses on both positive and negative side.	Since PCU is provided with negative grounding kit, at SMU/SCB level negative fuse shall not be required. Request to accept the same.	Technical	Kindly refer S. no. 23 of amendment 1.
439	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 391 of 1149	3.3	DC cables shall be single core, armored, Flame Retardant Low smoke (FRLS), PVC outer sheath conforming to IS 7098-I.	Since the system voltage is 1500V, DC cables (from SMU to PCU) shall be be provided as per IS 7098-Part-2.	Technical	Kindly refer s.no. 27 of ammendment-1
440	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 391 of 1149	3.5	The average voltage drop in the cables (Modules to Inverter) shall be limited to 1.5 % of the rated voltage.	Bidder proposes to consider average voltage drop up to 2% of rated voltage from module to inverter.	Technical	Terms and conditions of the tender document will prevail.
441	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 364 of 1149	1	Proposed AC capacity (MW) :100MW	It is presumed that proposed AC capacity is the base for calculating the CUF. However, there will not be any restriction in pumping the power to the grid based on the installed actual capacity and various site conditions as per design requirements.	Technical	Owner has obtained the connectivity approval for the stated project capacity. Therefore, project shall be designed to restrict the injected energy into grid within this limit.
442	Annexure – C - PG Test Procedure	Page 603 of 1149	2.4	Reference Irradiation = 1828 kWh/m2	Bidder request to confirm the month wise reference irradiation for estimation / bidding purpose..	Technical	Annual CUF guarantee is base on annual radiation data only. Please refer the CUF calculation formula provided in tender.

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443	Environmental and Social Due Diligence Report	Page 720 of 1149	3.1	The location of different plots are identified and same was marked in Google Maps and shown in Figure 3-2(a) and (b).	Bidder request employer to provide the CAD file and TOPO file which clearly indicating the available land for Solar field and BESS.	Technical	Based on preliminary site survey carried out by SECI, Contour Survey drawings of the project sites/plots are being uploaded for information purposes only. The Contractor is advised to inspect the site and study the topography and other conditions to decide the extent of scope of area grading, ground compaction etc. to be provided before submission of the Bid. The Employer shall not be responsible for any variations, between information provided herein and detailed investigations to be carried out by the Contractor during contract execution.
444	Environmental and Social Due Diligence Report	Page 720 of 1149	3.1	The location of different plots are identified and same was marked in Google Maps and shown in Figure 3-2(a) and (b).	Since the land shape is very much irregular and scattered in to smaller pieces, the identified land (200Ha) would be insufficient to install the required capacity of PV plant. Bidder request to provide additional land suitable for PV installation in case the identified land (200Ha) is found to be insufficient during detail engineering stage or plant capacity to be reduced based on the available land area as per mutual agreement.	Technical	Kindly refer S.No.57 of amendment 1.
445	0	0	0	General	Bidder presume that the ROW for the plant interconnection shall be in the scope of customer. Kindly confirm.	Technical	SECI has not carried out any route survey for transmission line. However the length will be about 33km approx. Bidders are required to carefully access the length of transmission line from project site till 220/132kV CSPTCL's Thelkadih substation and quote accordingly as the complete scope design, approval, ROW, construction of transmission line is in the scope of contractor/developer
446	ANNEXURE A1: SCOPE OF WORKS & ANNEXURE 2: Functional Guarantees	Page No: 365 / 1149 &C26 Page No: 679 / 1149	2 Project Particulars/ 2 BESS Availability	BESS Availability - 99% & Equipment Availability includes the availability of Batteries, Battery Management System (BMS), Power Conversion System (PCS), Energy Management System (EMS) as well as power evacuation system for BESS up to interface with solar PV arrays	Considering the availability guarantee from Battery till power evacuation, availability guarantee of 99% is stringent. Request to allow bidder to propose 95% BESS Availability as per industry standard practice.	Technical	Kindly refer S.No.47of amendment 1
447	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page No: 528 /1149	Table 1	Electrical infrastructure: AC system interconnection requirement at point of connection (PCC) : 33kV / 415V, 50Hz, 3 phase & Watt-hour ratings (dispatchable capacity)	Bidder request to confirm the dispatchable capacity from battery will be measured at 415V level in case of LV coupling and 33kV plant level in case of MV coupling. E21	Technical	Dispatchable capacity from BESS will be measured at the MV Level (33 kV) Level. Intermediate Voltage Transformer Losses shall be accounted for in BESS sizing, in case of LV Coupling with BESS.
448	ANNEXURE 2: Functional Guarantees	2. BESS Availability Page 681/1149	Procurement Specific Location and Site Characteristics & Table 2 Supply Specific Ratings and Requirements for each system	Scheduling and Forecasting ….If any penalty is imposed on the employer due to such deviations beyond allowed limit the same shall be recovered from the CPS given by the contractor	Bidder request to confirm whether BESS design should consider the mitigation of deviation and settlement as primary or secondary application along with Energy shifting. This may effect the battery charging/discharging cycles and degradation. Please confirm whether the same is considered in design and planning aspects.	Technical	Mitigation of DSM penalties is not considered for BESS Application.

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449	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 539/1149	clause 4.9.4.3	The PCS transformer may be used to aid in harmonic cancellation and may include tertiary windings to supply BESS auxiliary power requirements. The transformer must be dry type	Bidder request to allow the selection of transformer type can be oil/dry type as per his design.	Technical	Transformer May be Oil Type. Please refer Amendment S. No.33
450	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page No: 528 /1149	Table 2 Supply Specific Ratings and Requirements for each system	Charge-discharge Cycles - One discharge cycle per day is envisaged	Bidder request to confirm incase if the battery is not operated at one discharge cycle per day, the next day the battery will require less charging energy from solar and in case Solar export is curtailed due to inability to charge BESS, whether the correction on the CUF due to this limitation is allowed.	Technical	BESS shall be discharge completely during non solar hours and available for charging the next day. In case the BESS is not discharged for reasons not attributable to he Contractor, CUF correction on this account (to the extent of Battery SoC at the beginning of the day) shall be allowed.
451	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page No: 528 /1149	Table 2 Supply Specific Ratings and Requirements for each system	Charge-discharge Cycles - One discharge cycle per day is envisaged	As Bidder is also requested to provide services of DSM, Ramp rate control along with Energy shifting. Bidder requests to confirm the only one charge/discharge cycle is sufficient for consideration of BESS design. In case not, pls confirm the additional cycles envisaged from BESS for each application.	Technical	BESS is only to be used for Energy Shifting application. DSM and Ramp Rate Rate Control is not intended application.
452	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page No: 528 /1149	Table 2 Supply Specific Ratings and Requirements for each system	System ac-dc-ac efficiency - >80%	Bidder request to confirm the RTE value is applicable only for one cycle of charge/discharge test during annual performance test including auxiliaries.	Technical	Please refer Annexure – F Procedure for Plant Testing, Commissioning and Documentation, Clause 6 for BESS for methodology for measurement of RTE.
453	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page no: 527/1149	2.3 Codes and Standards	IEC 62485-2: Safety requirements for secondary batteries and battery installations - to meet requirements on safety aspects associated with the erection, use, inspection, maintenance and disposal: Applicable for Lead Acid and NiCd / NiMH batteries	The standard IEC 62485-2 covers lead acid and Nicd/NiMH batteries. Alternately, bidder proposes applicable IEC standards for safety and operation of Batteries. Please accept.	Technical	IEC 62485-2 applies to lead acid and Nicd/NiMH batteries only.
454	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page no: 527/1149	2.3 Codes and Standards	IEC TS 62933- 5-1:2017 Electrical energy storage (EES) systems - Part 5-1: Safety considerations for grid-integrated EES systems - General specification	Bidder understand that the contractor shall only required to follow the design safety in consideration for grid integrity as per IEC 62933-5-1:2017 and third party certification is not applicable. Please confirm.	Technical	Contractor is required to follow the design safety in consideration for grid integrity as per IEC 62933-5-1:2017. Third party Certification is not applicable.
455	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page no: 527/1150	2.3 Codes and Standards	UL 9540 Standard for Energy Storage Systems and Equipment	Bidder request to accept the UL 9540 applicable for Battery system alone.	Technical	UL 9540 shall be applicable to the complete BESS
456	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page No: 528 /1150	Table 2 Supply Specific Ratings and Requirements for each system	Watt-hour ratings (dispatchable capacity)	Bidder understand that specified year-on-year dispatchable energy from the BESS system is excluding the auxiliary energy consumption Auxiliary energy required during discharge / charge / standby can be drawn separately from utility. Kindly confirm.	Technical	It is clarified that specified year-on-year dispatchable energy from the BESS system is excluding the auxiliary energy consumption Auxiliary energy required during discharge / charge / standby can be drawn separately from utility or from Solar PV plant.

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457	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page No: 528 /1149 & 530/1149	1. Table 2 Supply Specific Ratings and Requirements for each system/2. 3.2.2 Overall System Reactive Power Rating page no:	1. Reactive Power Rating: NA (mentioned in table 2) 2. The BESS shall be capable of dispatching both leading and lagging reactive power at the PCC, up to the rated VAR capacity specified in Table-2	1. Kindly specify design operating power factor for the BESS system. 2. Kindly confirm the rated power capacity of BESS shall be designed at nominal voltage only.	Technical	BESS shall be designed for operating at Unity Power Factor. However, PCS should have facilities to provide reactive power support to grid as and when required.
458	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	page no: 529/1150	3.2 Nameplate Ratings	The nameplate watt-hour rating shall be achievable during discharge for the full range of stated environmental conditions	Bidder requests to confirm the design ambient temperature for BESS components.	Technical	Design Ambient temperature for BESS shall be 25 deg C.
459	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	page: 531/1149	4.2 System-Level Design and Performance Requirements	The major equipment items shall include a battery, battery management system (BMS), PCS, output/isolation transformer, and SCADA which is to be integrated with the solar plant SCADA system defined elsewhere in this document	As per bidder understanding, both Solar and BESS shall have common SCADA. Please confirm.	Technical	It is conformed that Solar and BESS shall have common SCADA and HMI.
460	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 406 of 1149	6.4.3	The rated control voltage of the spring charging motor shall be 110 VDC/230 VAC. Closing coil shall operate at all values of voltages between 85% and 110% of rated voltage. Opening coil shall operate correctly under all operating conditions of the circuit breaker up to the rated breaking capacity and at all values of supply voltage between 70% and 110% of rated voltage.	Contractor request a leniency of using DC (battery charger)/ or AC (UPS) supply at inverter room for HT switchgear control supply & SCADA related Equipments. At MCR HT switchgear shall have 110V battery bank supply Kindly confirm .	Technical	Tender does not restrict contractor to select the type/voltage level of auxiliary supply to HT switchgear. Terms and conditions of the tender document will prevail.
461	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 407 of 1149	6.5.13	The numerical relay shall have RS-232/RS-485/RJ-45/USB ports on front side forlocal communication with PC and on rear side for remote communication to SCADA system.	Bidder proposes the communication of numerical relays in HT switchgears at solar plant side (ie. Inverter room& Main control room) with Modbus protocol (RS 485 port).	Technical	Terms and conditions of the tender document will prevail.
462	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 407 of 1149	6.5.7	The numerical relay shall have the following protection functions with at least two independent protection setting groups.	Numerical relay shall have one set of protection group only. Kindly accept and confirm the same.	Technical	Terms and conditions of the tender document will prevail.
463	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 413 of 1149	7.5	Cables shall be sized based on the following considerations: Short circuit withstand capability as per design for 1s.	Bidder proposes , HT cable sizing with SC capability of conductor (actual fault current) by considering breaker operating time .	Technical	Terms and conditions of the tender document will prevail.
464	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 458 of 1149	19.5.1	Current Transformer: Accuracy class - 0.2s for metering, 5P20 for protection	Bidder proposing, 0.2S class for outgoing feeder and 0.5 class for other feeders. Kindly confirm	Technical	Terms and conditions of the tender document will prevail.

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465	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 409 of 1149	6.9.2	All feeders except main outgoing feeder shall be provided with digital Multi-Function Meter (MFM). Tri Vector Meter (TVM) shall be provided for the main outgoing feeder (in the HT Panel). Accuracy class of MFM shall be 0.2 and that of TVM shall be 0.2S	Bidder proposing, accuracy class of 0.2S for TVM and 0.5 for MFM. Kindly confirm	Technical	Terms and conditions of the tender document will prevail.
466	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 410 of 1149	6.9.3	Measuring instruments shall have provision to display the following parameters. (i) Line and phase voltages (ii) Line and phase currents (iii) Active power, Reactive power, Apparent power (iv) Frequency (v) Power factor (vi) Total Harmonic Distortion (THD)	Bidder proposing, TVM (outgoing feeder) with below parameters (i) Line and phase voltages (ii) Line and phase currents (iii) Active power, Reactive power, Apparent power (iv) Frequency (v) Power factor (vi) Total Harmonic Distortion (THD) MFM with below parameters (i) Line and phase voltages (ii) Line and phase currents (iii) Active power, Reactive power, Apparent power (iv) Frequency (v) Power factor Kindly confirm	Technical	Terms and conditions of the tender document will prevail.
467	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 413 of 1149	7.5	For HT cables (from inverter transformer to interconnection point), maximum voltage drop shall be limited to 0.5 % of the rated voltage.	For HT cable voltage drop within solar plant boundary shall be considered 0.5 % . Kindly confirm	Technical	Kindly refer s.no. 25 of ammendment-1
468	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 414 of 1149	8.3	Auxiliary system shall be provided with two independent sources for reliable auxiliary power supply	Bidder proposing, two independent incomer for ACDB in main control room and single for ACDB in inverter rooms. Kindly confirm	Technical	Terms and conditions of the tender document will prevail.
469	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 405 of 1149	6.3.10	Panel shall be provided with local bus-bar protection	Kindly provide the exact protection requirement for busbar, OC earth fault protections have been provided in i/c & outgoing feeders	Technical	Local Busbar protection shall be provided over and above the protection specified elsewhere in the tender document. Terms and conditions of the tender document will prevail.
470	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 420 of 1149	11.2	110 V DC system (Battery, Battery Charger & DCDB) in accordance with this specification and standards stated herein, shall comprise of the following. (i) Sealed Maintenance Free (VRLA) Battery complete with racks & accessories. (ii) One No. Float charger. (iii) One No. Float cum Boost charger (iv) DC Distribution Board (DCDB)	Bidder understands that 110V DC system has one float cum boost charger, SMF VRLA battery and DCDB. Kindly confirm	Technical	Terms and conditions of the tender document will prevail.
471	0	0	0	General	Bidder suggest Rcc trench at MCR room only, within solar plant shall be as per bidders choice to suit the site condition.	Technical	RCC tench shall be provided at MCR building and inverter yard. Also, kindly refer S.No. 20 of amendment 1.
472	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 478 of 1149	5.3	If any ground undulations at column locations are observed the same shall be filled up with PCC (1:3:6) up to surrounding ground level immediately after pile installation before start of erection of other MMS members.	Earth filling shall be provided and compacted instead of PCC, kindly confirm	Technical	The terms and conditions of Bidding Document will prevail

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473	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 478 of 1149	5.3	In case of pile, the PCC fill shall extend min. 500mm outside pile cap all around and remaining area may be filled up with local soil properly compacted.	Earth filling shall be provided and compacted instead of PCC, kindly confirm	Technical	The terms and conditions of Bidding Document will prevail
474	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 479 of 1149	6.2	The Approach road connecting nearest public road and the Main gate shall be of 4.5m wide carriage way with 0.5m wide shoulders on either side. The access road connecting Main gate and MCR and internal access road(s) connecting MCR to various facilities/ buildings/ open Installations shall be of 3.75m wide carriage way with 0.5m wide shoulders on either side while the peripheral road shall be of 2.5m wide carriage way with 0.5m shoulders on either side	Bidder Proposes 1. Approach Road (Nearest Public road to Main gate) - 4.0m wide carriage way with 0.5m wide shoulders on either side - WBM road 2. Access Road (Main gate and MCR and internal access road(s) connecting MCR to various facilities/ buildings/ open Installations) - of 3.0m wide carriage way with 0.5m wide shoulders on either side - Murram Compacted 3. Peripheral road - 3.0m wide carriage way with no shoulders - Compacted Road Kindly Confirm	Technical	1.Kindly refer S.No. 2 of amendment 1 for the details on road width. Minimum road section details shall be as per cl. 6.3 of Annexure A2 (Technical Specifications). 2. Same as above. 3. Kindly refer S.No. 12 of amendment 1.
475	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 479 of 1149	6.2	The roads shall be provided with alongside drains as per design requirements of drainage system for effective disposal of storm water and to avoid cross flow of storm water over the road.	Bidder suggests Drain shall be provided wherever necessary as per the rainfall intensity and land topography. Kindly Confirm.	Technical	Kindly refer S.No.14 of amendment 1 for information on peripheral drain. For other drains, terms and conditions of bidding document shall prevail
476	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 479 of 1149	6.2	The roads shall be designed as per IRC SP-72 corresponding to traffic category T3 and critical field CBR value of the subgrade.	Bidder Proposes traffic category of T1 as per IRC SP-72. Kindly confirm.	Technical	Kindly refer S.No. 2 of amendment 1.
477	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 480 of 1149	6.4	When the subgrade is silty or clayey soil and the annual rainfall of the area is more than 1000 mm, a drainage layer of 100 mm over the entire formation width should be provided conforming to the gradation given in Chapter 6 of IRC SP-20. This layer will form a part of the designed thickness of sub-base.	Kindly provide the number of years for which rainfall intensity should be considered. The type of drain also be mentioned If soil is not silty clay can we provide earthen drain.	Technical	Kindly refer Cl.7 of special technical specifications (Annexure A3).Drains shall be lined as per terms and conditions of bidding document.
478	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 481 of 1149	6.9	The pathway area shall be generally levelled and well compacted manually/ mechanically. Areas of depression, valley zones or wherever there is noticeable change in topography, shall be levelled by laying min. 100mm thick PCC M10 or precast concrete paver blocks (min. 60mm thick, Grade M60) matching the top finished surface with ground topography/ grade to avoid accumulation of water in the region and allowing its free flow to keep the area devoid of mud/ sludge.	Bidder proposes pathways shall be cleaned and levelled for access without any PCC and Paver blocks, if required. Kindly confirm.	Technical	Kindly refer S.No. 2 of amendment 1.
479	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 481 of 1149	7.2	The storm water drainage system shall be designed and planned to ensure no water stagnation in the plant.	Bidder suggests Drain shall be provided wherever necessary as per the rainfall intensity and land topography. However water shall be stagnant for a while during raining and shall be drained off through the drains provided in the plant. Kindly Confirm.	Technical	Kindly refer S.No. 14 of amendment 1 for information on peripheral drain. Drains shall be adequately designed to prevent stagnation of water in the plant area.

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480	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 482 of 1149	7.8	Suitable size plant peripheral drain as per design (min. 500mm wide x 500mm deep) along inside of plant boundary wall/ fence shall be provided for smooth channelization of outside storm water and to avoid flooding in the plant. The size of all internal and road side drains shall not be less than 450mm (bottom width) x 500mm (depth).	Bidder suggests Drain shall be provided wherever necessary as per the rainfall intensity and land topography. And Size of drain shall be designed as per the design. Kindly Confirm.	Technical	Kindly refer S.No.14 of amendment 1 for information on peripheral drain. For drain size, Terms and conditions of bidding document shall prevail.
481	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 482 of 1149	7.12	The drain outfall shall be connected to the nearest existing natural drain(s)/ water body outside plant premises and it shall be ensured that the drainage water shall not re-enter the plant nor encroach/ flood in the adjacent property/ plot.	Bidder suggests the drainage water shall not re-enter the plant nor encroach/ flood in the adjacent property/ plot based on the land topo. Kindly Confirm.	Technical	Topographical Survey drawing has been shared for reference. Outfall locations shall be suitably planned and the same is in the scope of bidder.
482	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 482 of 1149	7.14	The scheme for rain water harvesting along with design calculations shall be submitted for approval.	Rain water harvesting shall b e proposed for buildings. Plant drain outfall shall be provided till plant boundary. Client shall give ROW to connect to the natural nala/drain adjacent to plant boundary.	Technical	As per the preliminary site survey, drains and water body to be used for discharging water are located in the close vicinity of the land patches.. All ROW issues shall be in the scope of the contractor.
483	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 483 of 1149	8.3.1	230 thick brick/300 thick RR masonry toe wall, with 100mm thick M15 PCC foundation (min. width 450mm and min. depth 450 mm below GL).	Bidder suggests that the toe wall shall not required for the plant boundary fencing. Kindly confirm	Technical	Plant boundary shall be as per the chain link fence drawing provided with Annexure A3 of tender document.
484	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 483 of 1149	8.3.3	The brick masonry toe wall shall be plastered with 15thick CM (1:4) plaster on both faces and shall have min. 50 thick PCC (1:2:4) coping finished smooth and projecting 35mm on either side of the wall with top sloping inwards..	0	Technical	Query Not Clear
485	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 483 of 1149	8.3.6	In case of pond/ drain crossing the fence, RCC beam of adequate size supported on RCC columns on either side and suitable grill of MS square rods (vertical spacing not more than 150mm) of min. Size 25x25 mm and min. 3 no. horizontal 20 SQ MS rods or 50 mm x 8 mm thick flats secured to RCC beam and columns; shall be provided in place of toe wall for smooth flow of water.	Bidder suggests 10/12mm MS rod shall be provided on horizontally. Kindly confirm.	Technical	Terms and conditions of tender document shall prevail.
486	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 483,484 of 1149	8.3, 8.4, 8.5	Chain link fencing, Boundary wall & Barbed wire fencing.	Bidder requests the Chain link type of fencing. Kindly confirm.	Technical	Plant boundary shall be as per the chain link fence drawing provided as annexure to Amendment 1.
487	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 497 of 1149	15.1	Unless otherwise specified elsewhere, all structural steel work shall be designed as per provisions of IS: 800 with working stress method of design (WSD).	Bidder suggests all structural steel work for Buildings shall be designed as per provisions of IS: 800 with Limit state method of design (LSD).	Technical	Kindly refer S.No.15 of amendment 1.
488	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 487 of 1149	10.5	To calculate the design wind speed (Vz), the factors K1 (probability factor or risk coefficient), K2 (terrain roughness and height factor) and K3 (topography factor) shall be considered as per IS 875 (Part-3) (However, minimum values for K1, K2 and K3 shall be 1.0, 1.05 and 1.0 respectively)	Bidder proposes below wind coefficients as per IS :875 (Part-3)-2015. K1 = 0.91 (For 44m/s wind speed) for 25 year design life of structure. K2 = 1 (terrain roughness and height factor) K3 =1 (Topography factor) K4 =1.	Technical	Kindly refer S.No. 13 of amendment 1.

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489	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 487 of 1149	10.10.2	For estimation of design wind loads on purlins (Table 8 of IS 875- Part 3), WL (downward) and WL (upward) on modules (laid in the profile of mono slope canopy) shall be applied such that the center of pressure should be at (0.3 × length of canopy) from windward end (for simplicity, the wind load distribution may be taken as triangular with max. value at windward end). Solidity ratio (ø) shall be taken as 0.5.	Wind load shall be considered as UDL on the Purlin, since the 0.3 W loading is applicable for monoslope canopy roofs of buildings. The solidity ratio shall be 0 as per IS:875 (Part-3)-2015, since there are no obstructions below the module for wind flow. Kindly confirm	Technical	Kindly refer S.No. 6 of amendment 1.
490	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 488 of 1149	10.10.3	In design of MMS (for height of structures less than 10 m from ground), 20% reduction in wind pressure as per Note under Cl. 6.3 of IS 875 – Part 3 is not permitted in case of purlins (members supporting modules), which shall be designed against action of WL corresponding to full wind pressure.	As per IS code it is permitted to consider 20% reduction in the wind pressure. Same is allowed in all international standards (American , Australian, British etc). Hence bidder requests client for allowance of 20% reduction in wind pressure. Kindly confirm	Technical	Terms and conditions of tender document shall prevail.
491	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 489 of 1149	12.2.1	In case the contractor proposes to provide bored cast-in-situ concrete pile; the type, dia. and length of pile shall be as per recommendations of Geotechnical investigation report corresponding to prevalent soil characteristics at site. However, the min. dia. and depth of the pile shall be 300mm (Min 350 mm for column depth more than 175 mm) and 1800mm respectively except when very hard strata/ rock (N>100) is encountered at a higher level, the pile shall be extended in to the hard strata minimum 1.5 times the diameter of the pile with total depth of the pile not less than 1200mm below cut-off level.	Bidder proposes MMS foundation depth and diameter based on the geotechnical properties of soil. Kindly confirm	Technical	Terms and conditions of tender document shall prevail.
492	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 493 of 1149	13.1	The module mounting structure design shall generally follow the existing land profile. The top of the table shall be in one plane.	The module mounting structure is a contour following structure the top of structure shall be parallel to the ground profile, hence the top of table shall not be flat. Kindly confirm	Technical	Terms and conditions of tender document shall prevail.
493	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 489 of 1149	11.3	Min. depth of foundation for all buildings and plinth for open installations shall be 1.5 m below NGL. For all other structures, min. depth of foundation shall be 1.0 m unless specified otherwise.	Bidder request to decide the foundation depth with respect to the Geo-investigation report. However the minimum depth shall be 1m below FGL. Kindly confirm	Technical	Terms and conditions of tender document shall prevail.

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494	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 493 of 1149	13.5	The MMS stub/ column, rafter, purlin, ties and bracing members shall conform to following Indian standards. • IS: 2062 – Hot rolled Medium and High tensile structural steel • IS: 811 – Cold formed light gauge structural steel sections • IS: 1161 – Steel tubes for structural purposes • IS: 4923 – Hollow steel sections for structural use • Minimum grade of steel for sections conforming to IS: 811 & IS: 4923 shall be E350 conforming to IS: 2062 and YSt 310 conforming to IS: 1608 respectively.	Bidder proposes structural steel as per below standards for the MMS members Post - As per IS 2062 E 350 Grade A/ Grade C, minimum yield strength shall be 350Mpa. Bracing, Rafter and Purlin - As per IS:15961-2012, minimum yield strength shall be 550Mpa. Kindly confirm	Technical	For members other than purlin, Terms and conditions of tender document shall prevail. For purlin members. Kindly refer S.No. 5 of amendment 1.
495	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 495 of 1149	13.16	The MMS structure shall be hot dip galvanized with minimum GSM 610 kg/ sqm and/or minimum coating thickness of 80 microns for protection against corrosion. Galvanization shall conform to IS-2629, 4759 & 4736 as applicable.	Bidder proposes galvanization as per below standards For post - Minimum 560 GSM (80 microns) as per IS:4759. For bracing, Rafter and Purlin - 150 GSM (Average) as per IS:15961-2012. Kindly confirm	Technical	For members other than purlin, Terms and conditions of tender document shall prevail. For purlin members. Kindly refer S.No. 5 of amendment 1.
496	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 494 of 1149	13.7	The minimum thickness excluding anti corrosive treatment (BMT) of various elements of MMS structure shall be as following: • Stub/ column – 3.15mm, • Rafter – 2.5mm & • Purlin & other members – 2.0mm	Bidder proposes the following minimum member thickness: -Stub / Column -2mm (BMT) -Rafter & Bracing members – 1.2mm (BMT) -Purlin – 1.0mm (BMT)	Technical	For members other than purlin, Terms and conditions of tender document shall prevail. For purlin members. Kindly refer S.No. 5 of amendment 1.
497	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 494 of 1149	13.9	The maximum permissible deflection/ side sway limits for various elements of MMS under serviceability conditions shall be as following: • Lateral deflection/ side sway for Column – Span/ 240 • Vertical deflection for Rafter and Purlin – Span/ 180 • Lateral deflection for Purlin – Span/240	The maximum permissible deflection/ side sway limits for various elements of MMS under serviceability conditions shall be as following: - Lateral deflection/ side sway for Column – Span/ 240 -Vertical deflection for Rafter and Purlin – Span/ 180 -Vertical deflection for Purlin in Cantilever– Span/ 150	Technical	Terms and conditions of tender document shall prevail.
498	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 494 of 1149	13.13	The vertical diagonal bracing shall be provided in end spans and every alternate span .of each unit (table) of MMS.	The bracings shall be provided if required based on the design requirement. Kindly confirm	Technical	Terms and conditions of tender document shall prevail.
499	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 495 of 1149	13.23	Fasteners and washers to be used for erection of mounting structures and those for fixing Module over MMS shall be of stainless steel grade SS 304 & SS 316 with property class A2-70 conforming to relevant ISO standard and must sustain the adverse climatic conditions to ensure the life of the structure for 25 years.	Bidder proposes 5.6 grade GI bolts for Structural connections and SS 304 stainless steel bolts for Module mounting connections.	Technical	Kindly refer S.No. 7 of amendment 1.

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500	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 495 of 1149	13.24	Min. diameter of bolt for MMS connections shall be 10mm (12 mm in case of single bolt connection for seasonal tilt) except at column-rafter connection, where it shall not be less than 12mm (not less than 16mm in case of single bolt connection for seasonal tilt). In case of fixed tilt, min. two number of bolts shall be provided at each joint	Bidder proposes to provide 1 number of bolt for Purlin to Rafter connection and Bracing to rafter connections. The connection design shall be provided for all the connections.	Technical	Terms and conditions of tender document shall prevail.
501	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 496 of 1149	13.28	In case the contractor proposes to extend the column leg to embed it in the pile/pedestal as an alternate fixing arrangement, the column member shall be extended for full depth of the pile (100mm cover at tip of the pile) with an end plate of min. 4mm thickness to be welded at the bottom of column leg.	In case of ground undulation , bidder proposes to pull out the stub for 200mm to have cover 250mm. Necessary design validation shall be performed.	Technical	Terms and conditions of tender document shall prevail.
502	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 496 of 1149	13.31	The Bidder should design the structure height considering highest flood level at the site and the finished grade level. The minimum clearance between the lower edge of the module and the finished grade shall be the higher of (i) Highest flood level + 100mm and (ii) 500 mm, as applicable	Bidder proposes a minimum clearance of 500mm from bottom of module to ground level. HFL level considered as 0mm. Kindly confirm	Technical	Kindly refer S.No. 19 of amendment 1.
503	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 496 of 1149	13.32	The length of one unit (Table) of MMS shall not generally be more than 20m.	Bidder proposes a maximum structure length of 32m for one table matching the modules in series	Technical	Terms and conditions of tender document shall prevail.
504	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 496 of 1149	13.33	The contractor shall submit the foundation and structural design basis for MMS along with the list of reference standards in his Bid duly certified by a Chartered Engineer having adequate successful experience in similar works which shall be finalized with the prospective bidder during pre-award.	Bidder proposes to share the details after award of the contract.	Technical	Clause Updated Kindly refer S.No. 8 of amendment 1.
505	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 496 of 1149	13.35	The length of any cold formed section (CFS) shall not be more than 5.5 m.	Bidder requests client to consider a length of 6.5m for cold form steel sections	Technical	Terms and conditions of tender document shall prevail.
506	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 496 of 1149	13.36	In case of seasonal tilt, the front and back bracing members (subject to seasonal rotation) shall be connected to rafter or column through gusset plate and shall not be connected directly to the column or rafter.	The connection shall be decided based on the suitability of the Seasonal tilting arrangement.	Technical	MMS shall be of fixed tilt type. Accordingly, Terms and conditions of tender document shall prevail.
507	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 487 of 1149	10.7	Provisions of IS: 15498 shall also be followed to ensure general safety of the structure.	The provisions of IS: 15498 are for cyclone relief structures, MMS cannot be used as cyclone relief structures, hence the standards cannot be followed. Kindly confirm	Technical	Kindly refer S.No. 16 of amendment 1.

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508	ANNEXURE A - A.2. SCOPE OF WORKS	Page 368 of 1149	4.1.14	SCADA: Providing necessary communication and Data Acquisition System to transfer real time data to SLDC, Danganiya, Raipur, Chhattisgarh as per the specifications of SLDC wing and as per grid connectivity approving authority.	Bidder assumes that Communication protocol for SLDC communication shall be IEC-104 & Communication medium shall be wireless GPRS. Please confirm that bidder's assumption is correct.	Technical	Communication protocol shall be IEC 60870-5-101 or IEC 60870-5-104 protocol as per Chhattisgarh SLDC Guidelines for Planning of Telemetry & Voice Communication
509	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 419 of 1149	10.3.2	UPS: SCADA communications : RS-232 & RS-485 Interface Port	Bidder proposal is, there shall be only 1 port in the UPS for communication with SCADA. The Port shall be preferably RS 485 Modbus type as per standardly followed in Solar projects Kindly provide your acceptance for the same.	Technical	Bidder may opt for either RS-232 or RS 485 interface port for communicating UPS with SCADA. Kindly refer S.No. 36 of amendment 1.
510	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 426 of 1149	14.2.3	14.2 Communication Cable (Modbus) Communication cable shall be laid through underground with suitable HDPE ducts.	Bidder proposes to use armored Communication Cable (Modbus). In view of this HDPE duct/conduit is not required for underground installation. Please provide your acceptance.	Technical	Terms and conditions of the tender document will prevail.
511	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 427 of 1149	15.1.3	SCADA: (iv) Support for O&M Activities: The interface shall allow integration with Surveillance System(s), Module Cleaning System and various other O&M support systems to provide a Data Analysis and Decision Support System for smooth and efficient Plant Operations.	Bidder wants to inform that, CCTV Surveillance System is an independent system which will have its own hardware and workstation. Hence integration of CCTV with SCADA is not recommended as per standard practices followed in Solar projects. Integration of Module Cleaning System with SCADA is not required as per standard practices followed in Solar projects, As Module cleaning system is a manual activity done at site and as it is not a continuous operating system (like Inverters, Meters etc.), we request Owner to void this requirement. Kindly provide your acceptance for the same.	Technical	CCTV Surveillance system may be independent system. For monitoring water usage, SCADA shall have provision to monitor the water consumption for Module Cleaning using smart/digital flow meter(s).
512	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 427 of 1149	15.1.3	SCADA: (v) AI based Distributed Analytics for Predictive Maintenance, trend analysis and Alerts.	Bidder wish to clarify that features like "AI based Distributed Analytics for Predictive Maintenance, trend analysis and Alerts" are not available in standard SCADA systems". We request Owner to void this requirement.	Technical	Terms and conditions of the tender document will prevail.
513	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 427 of 1149	15.1.3	SCADA: (viii) Transfer of plant data reliably, to an Owner designated server or Cloud on any kind of remote network including low bandwidth and wireless links such as 2G/3G/VSAT	Bidder wish to clarify that to achieve this requirement, bidder will provide OPC-UA interface at plant SCADA end. Owner's existing SCADA system can fetch entire Solar plant data on OPC-UA interface. Please confirm your acceptance for the same.	Technical	A virtual/cloud server running SCADA & Monitoring Software shall be configured in parallel with Plant Server to enable easy access to plant data from outside the plant without having to login to plant server. Effectively, the plant data shall be replicated in both places i.e. between systems at the Plant Server and Remote Server to provide data redundancy for complete plant data. Please refer Clause 15.2.7
514	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 428 of 1149	15.2.1	The SCADA System shall be built over Industrial IoT architecture with integrated Analytics, secure web access, enterprise software and Database	Bidder requests to accept the option of having PLC processor based architecture for SCADA design. Bidder wants to inform that, PLC processor based architecture is commonly used in Solar projects. Kindly provide your acceptance for the same.	Technical	Terms and conditions of the tender document will prevail.

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515	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 428 of 1149	15.2.8	Operator Workstation/PC shall be of Industrial Grade for browser-based access to plant data from Plant or remote server. Plant control & SLDC/Utility related operations shall only be initiated through browser-based interface requiring no client software or database to be installed on the Workstation. All critical software and Plant Data shall be installed/stored on local and remote servers only with user access control for protecting the software and data assets from accidental deletion or corruption.	Bidder informs Owner that, As the SCADA OEM's (Vendors) works on independent methodology as per their System design, Browser based interface / Server-Client based design / any other applicable as per technical needs, shall be finalized during detailed engineering based on SCADA vendor recommendation to meet the SCADA specifications. Kindly provide your acceptance for the same.	Technical	Terms and conditions of the tender document will prevail.
516	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 429 of 1149	15.2.10	GPS based Time Synchronization System: The SCADA system shall have a Master/Slave Clock system along with antenna, receiver, cabinet and internal interconnection cables. All SCADA controllers, servers, OWS and communicating equipment shall be synchronized to the GPS clock.	Bidder wants to inform that, as Data storage is done at SCADA servers, the SCADA server and OWS shall be time synchronized by GPS. There shall no requirement for time synchronizing the SCADA controller with GPS. Bidder informs that, the time synchronization of field devices (such as Meters etc.) with SCADA / GPS shall be subject to provision available in the field device's features. The same shall be confirmed during detailed engineering. Kindly provide your acceptance for the same.	Technical	Terms and conditions of the tender document will prevail.
517	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 429 of 1149	15.3.3 15.3.4 15.3.8	Industrial IoT Controllers & Data Acquisition: 15.3.3 Shall have local storage for a minimum of 2 weeks (in case of network failure). 15.3.4 Provide web-based interface to configure the controller for various equipment in the field. 15.3.8 Controllers shall be capable of sending data over Internet connections USB data cards	Bidder proposal is listed below - as the same is followed standardly in solar projects. 1. PLC processor based architecture shall be considered at Inverter rooms and Main control room 2. As Fiber optic ring network is formed between Inverter rooms and Main control room, network failure is not generally applicable, hence local data storage for a minimum of 2 weeks shall be not required. 3. Instead of Web based interface, the Controllers shall be configured from SCADA server through SCADA LAN network. 4. As Controllers are connected in the SCADA LAN network, data transfer shall be done through OFC network instead of Internet connection, as all these controllers are inside the Solar plant. Kindly provide your acceptance for the same.	Technical	Terms and conditions of the tender document will prevail.
518	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 430 of 1149	15.4.6	The SCADA system shall have user-friendly browser-based User Interface for secure access from anywhere, for minimum ten concurrent connections from the Operator PC or other securely connected laptop/mobile, for plant monitoring, O&M, daily reporting, and analysis.	Bidder requests Owner to confirm the exact requirement of Quantity (Nos) of 1. Browser (i.e. Laptop) based user access and 2. Mobile user licenses Kindly confirm	Technical	Will be decided at the time of detailed engineering
519	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 430 of 1149	15.4.9	The SCADA system shall be extensible to include maintenance of O&M schedules and related activities for plant equipment as per the O&M Manual.	Bidder wants to inform that, SCADA systems do not come with feature of O&M schedules & related activities. Bidder recommendation is to void this requirement of having O&M functions in SCADA. Kindly provide your acceptance for the same.	Technical	A hyperlink in the SCADA interface to Equipment Preventive Maintenance Schedules and related activities shall be acceptable.

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520	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 431 of 1149	15.4.14	Forecasting and Scheduling: SCADA shall provide day ahead and week ahead forecasting and scheduling for power generation at the plant as per SLDC/Utility stipulations.	Bidder understand that appointing and service charges for Forecasting and Scheduling agency is not part of bidder's scope and same shall be taken cared by owner. Bidder scope is to interface plant SCADA with Forecasting and Scheduling agency's system over standard protocol like FTP. Please confirm that bidder's understanding is correct.	Technical	Forecasting and scheduling is in scope of contractor. Kindly refer Clause 7.6 of scope of work for details.
521	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 431 of 1149	15.4.15	Predictive Maintenance: SCADA system shall have in-built or pluggable frameworks to support AI based Predictive Maintenance for all key equipment including inverters, transformers and switchgear at the plant.	Bidder wish to clarify that Predictive Maintenance feature is not available in SCADA. Bidder recommendation is to void this requirement of having O&M functions in SCADA. Kindly provide your acceptance for the same.	Technical	Terms and conditions of the tender document will prevail.
522	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 431 of 1149	15.6.1 15.6.2 15.6.3 15.6.4	Communication Cable Laying 15.6.1 All RS485, IO and CAT6 cables shall be laid in separate conduits with a minimum separation of 1.5ft from AC/DC power cables all along. 15.6.2 Power cables shall be laid deep in the trenches first. Data cables shall be laid in separate conduits after partially filling the trenches to ensure minimum 1.5 ft separation between power and communication cables all along the trench. 15.6.3 IO Cables between switch gear panels and SCADA panel shall be laid on separate cable trays, with a minimum of 1.5ft separation from trays carrying AC Power cables. 15.6.4 RS485 & CAT6 cables between switch gear panels or Inverters and SCADA panel shall be laid on separate cable trays, with a minimum of 1.5ft separation from trays carrying AC Power cables.	Bidder proposal is 1. Armored Communication cable (including RS 485 cable, OFC cable etc.) & Armored Instrumentation IO cables shall be laid directly in underground buried trenches or in cable trays without any conduit, as these cables are armored and conduits shall not be required. 2. Unarmored Communication cables (CAT-6 cable) shall be laid inside HDPE conduit in underground buried trenches. 3. As per IS 1255 standard, it is specified that, 300 mm (1 foot) clearance can be provided between Power and Communication cables, and hence the same can be followed for all communication & Instrumentation IO cables laid inside buried underground trenches and in cable trays. Kindly provide your acceptance for the same.	Technical	Terms and conditions of the tender document will prevail.
523	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 433 of 1149	15.9.2	Plant Server - Operating System: Operating System and Database shall be of enterprise scale (RedHat Linux or equivalent Linux OS, Oracle/MySQL or equivalent DB), with required AMC for 5 years	Bidder proposes that, it is recommended to consider Windows Server Operating System for Plant server as Windows Operating system is compatible for all standard SCADA software's. As per the Operator Workstation specifications, it is mentioned to consider Windows operating system, hence for integration of Plant Server and Operator Workstation, Bidder recommends to consider Windows based operating system for both Plant server and Operator Workstation. Kindly provide your acceptance for the same.	Technical	Kindly refer S. no. 22 of amendment 1.
524	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 463 of 1149	21.1.2	Specification of the pyranometer shall be as follows: Output: Analog output: 4 – 20 mA, Serial output: RS485	Bidder requests Owner to also accept the Milli-Voltage output type pyranometer without RS485 output. Kindly provide your acceptance for the same.	Technical	Terms and conditions of the tender document will prevail.

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525	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 463 of 1149	21.3	Anemometer: 1. Contractor shall provide minimum one no. ultrasonic wind sensor (no moving parts) for wind speed and direction monitoring. 2. Output RS232 and RS485	Bidder requests Owner to also accept the below options: 1. Cup type Anemometer for Wind speed measurement 2. Vane type Anemometer for Wind direction measurement Bidder requests Owner to accept the Output types of Voltage output, Current output, Pulse output for Wind speed and Wind direction sensors, as these above mentioned output types are standardly acceptable in Solar projects. Kindly provide your acceptance for the same.	Technical	Terms and conditions of the tender document will prevail.
526	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 464 of 1149	21.4.1	Data logger and Data Acquisition System: Provision for analog, digital and counter type inputs for interfacing with various type of sensors (i) Analog Input: Adequate nos. for all analog sensors with redundancy	Bidder's understanding on this clause is " Sufficient Analog inputs shall be provided in the Datalogger for interfacing with Analog sensors and spare Analog inputs shall be made available for future use" Kindly provide your acceptance for the same.	Technical	Terms and Conditions of the tender document will prevail.
527	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 464 of 1149	21.4.1	Data logger and Data Acquisition System: (v) Connectivity and Data transmission: Web interface with provision for user login to enable viewing and downloading of weather data in XLS/ CSV format	Bidder requests Owner to accept the below proposal. 1. To have data security, it is recommended that, Weather station shall communicate only with SCADA and Plant SCADA shall transfer all its data to owners remote server. 2. To have data security, it is recommended that, data shall be downloaded from Datalogger locally at site by service engineers and the same can be archived for records. Kindly provide your acceptance for the same.	Technical	Refer the S.no 21 of ammendment-1.
528	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 465 of 1149	22.1	CCTV Camera: CCTV Cameras along with monitoring stations (sufficient numbers) and all other accessories required for its proper operation must be installed to have complete coverage of following areas for 24 hours. (i) Main entry: Covering all the entry/exit (ii) Along the Plant Perimeter: Covering complete perimeter of Plant Area to capture all possible intrusion (iii) Control Rooms: Covering Entry/Exit and Equipment Rooms (iv) Switchyard	Bidder requests Owner to accept the below proposal. 1. Fixed type camera shall be provided at Main entry gate Covering all the entry/exit 2. Fixed/ PTZ type camera (as per coverage requirement) shall be provided across Plant perimeter and Switchyard 3. Fixed type camera shall be provided at Control Rooms Covering Entry/Exit and Equipment Rooms Kindly provide your acceptance for the same. Bidder understanding is Camera's are not required at Inverter rooms as per technical specifications. Kindly confirm the same.	Technical	Kindly refer STS clause 17, CCTV Camera network covering complete perimeter of plant area is not required. However, it shall include Main Entry, Control Rooms: Covering Entry/Exit and Equipment Rooms, Switchyard and BESS installation area. Type of camera for other location shall be finalized during detailed engineering.
529	0	0	0	General	Bidder understand that there is no requirement for Soiling station . Please confirm that bidder's understanding is correct.	Technical	Soiling station is not required.
530	0	0	0	General	Bidder understands that communication interfacing is not required between Solar plant SCADA and Existing Substation Automation System (if available in existing upstream substation). Please confirm that bidder's understanding is correction.	Technical	Communication between Plant 132 kV Switchyard and CSPTCL Telkadih Substation shall be over PLCC line. Kindly refer the S.no. of ammendment-1.

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531	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 480 of 1149	6.7	Drain cable or any other crossing shall be provided with RCC box or precast concrete pipe culvert. The culvert design shall conform to relevant IRC standard. The pipes for road culverts shall be of minimum class NP3 conforming to IS 458 with min. soil cover of 750mm above the pipe. In case of soil cushion less than 750mm the pipe shall be provided with 100 mm thick M20 reinforced concrete encasement with 10 dia. reinforcement rods @ 150mm c/c both ways. However, the water supply pipe for module cleaning and service/ drinking water shall be routed through Medium class GI steel pipe of required dia. conforming to IS: 1161.	Kindly confirm the pipe material for module cleaning system. (In page no. 481 it is specified as MCS system shall be routed using GI Pipe but in clause no 35.8 (page 516) it is specified as option as (GI / UPVC / HDPE). Bidder propose to consider HDPE pipe for routing pipe along PV area and tap off shall be made of GI pipe. Kindly confirm	Technical	Pipe Material for MCS shall be as per Cl. 35.8 of Annexure A.2. TECHNICAL SPECIFICATIONS. At locations of Road crossings, MCS pipe/Water supply pipe shall be routed through medium class GI steel pipe of required dia. conforming to IS:1161.
532	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 516 of 1149	35.8	The water supply mains could be either of GI, uPVC or HDPE, however, the vertical pipe connecting supply main to the discharge point shall be of GI.	0	Technical	Query Not Clear
533	ANNEXURE A - A.2. TECHNICAL SPECIFICATIONS	Page 427 of 1149	15.1.3	(iv) Support for O&M Activities: The interface shall allow integration with Surveillance System(s), Module Cleaning System and various other O&M support systems to provide a Data Analysis and Decision Support System for smooth and efficient Plant Operations.	In general practice complete module cleaning system is not monitored in SCADA. Since it is a Manuel process. Only the over all water consumption shall be monitored in SCADA using smart / digital flow meter. Kindly confirm.	Technical	SCADA shall have provision to monitor the water consumption for Module Cleaning using smart/digital flow meter(s).
534	IX - PCC	307	10.3	PCC 10.3	Please confirm that Employer shall facilitate all clearances and approvals from concerned authorities for any Railway crossings, highway and roads crossings for laying of Overhead Transmission line. Please also confirm that if there is delay in obtaining such clearances for reasons not attributable to contractor, then contractor would not be held liable for any consequent delays in the Project completion..	Technical	SECI will assist in obtaining such approvals for transmission line. However it will be the responsibility of the contractor to obtain all the necessary approvals in time and commission the project as per the timelines mentioned in the tender document.
535	IX - PCC	311	PCC 24.8	GCC: 24.8 Upon Completion, the Employer shall be responsible for the care and custody of the Facilities or the relevant part thereof, together with the risk of loss or damage thereto, and shall thereafter take over the Facilities or the relevant part thereof. PCC 24.8: NA as the comprehensive O&M for 10 years is in the scope of the contractor	Please confirm that risk of loss for plant and equipment shall lie with Employer during O&M. A such O&M, contractor cannot be held responsible for any damage to the plant/ equipment due to natural calamities or reasons beyond O&M contractor's control. Moreover, O&M contractor would not be able to take insurance for protection against such damages as Plant would be owned by SECI. Please clarify.	Technical	Original clause shall prevail.
536	Section X - Contract Forms	326	Appendix 1. Terms and Procedures of Payment	Appendix 1. Terms and Procedures of Payment Last stage payment to be released after completion of first year O&M.	It is suggested to release the last stage payment after Operational Acceptance and instead increase the validity of 10% CPS up to first year O&M.	Financial	Kindly refer S.No. 66 & 67 of amendment 1.

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537	Section X - Contract Forms	339	Appendix 8. Functional Guarantees	Annual CUF Guarantee: Clarifications to Queries raised during Pre-Bid Meeting on 30.09.2020 If the Contractor fails to achieve the annual guaranteed CUF at the end of 10th year, then the Contractor shall pay compensation to the Employer an amount equal to the Net Present Value (NPV) of the revenue loss for 10th to 25th year In the event the CUF is less than the Guaranteed CUF, the Contractor shall immediately, upon demand, indemnify the Employer, as liquidated damages and not as penalty, amounts equivalent to remuneration of the equivalent Energy, subject to a maximum of hundred (100%) percent of the Total Annual O&M Price.	There is no capping specifically mentioned against the LD due to shortfall in CUF at 10th year which shall be estimated as NPV for revenue loss for 10th to 25th year. As pr RfP document, capping of LD due to CUF shortfall is 100% of Total Annual O&M Price, so we infer that this capping is for LD due to total cumulative shortfall in CUF from 1st year to 25 th year of O&M. Please confirm.	Technical	Kindly refer S.No.1 of amendment 1.
538	Section X - Contract Forms	339-345	Appendix 8. Functional Guarantees	Capping of Performance LD	The LDs due to to under-achievement of Functional Guarantees and DSM penalties are independently stipulated. Please limit the total Performance LD (i.e LD under the contract for any performance related reasons other than delays) to 5% of contract value.	Technical	The LDs imposed due to under-achievement of Functional Guarantees will be recovered through CPS/O&M Payments/ any other Payments due to vendor . However, any DSM Penalties imposed in the event of Plant breakdown event attributable solely to the Contractor shall be borne by the Contractor.
539	Section X - Contract Forms	339-345	Appendix 8. Functional Guarantees	Performance LD	The shortfall due to Generation related equipment breakdown and also due unavailability of BESS is being double counted due to CUF shortfall. Kindly correct the CUF shortfall by subtracting the LDs so levied due to Generation related equipment breakdown and also due unavailability of BESS.	Technical	Kindly refer S.No.45 of amendment 1.
540	IV	90	Form	FORM - POWER OF ATTORNEY FOR BIDDER	We have one exhaustive Power of Attorney issued with Board's approval for our authorized signatory for all tenders and bids, which we submit for all govt and psu tenders like ntpc, nhpc, etc and is accepted by all the agencies. We shall submit its scanned copy for this tender as it will be very long process and time consuming for us go to board for new POA issuance as given format? Please allow.	Contractual	The case may be considered for the ease of Bid submission. However, any further observation in this regard during the bid evaluation will be sough from the bidder.
541	IV	135, 137	Appendix to Technical Part	Form FIN – 3.1 - Financial Situation Form FIN – 3.1 - Average Annual Turnover	Do we need to include financials of FY19-20 in last there years financials? As per tender form - FIN 3.1 AN fin 3.2, figures from FY18-9, FY17-18 and FY 16-17 are only to be specified and not FY 19-20.	Financial	The terms and conditions of Bidding Document will prevail
542	Price schedule	0	Schedule-1/2	Price schedule for 132 KV Substation scope at PV plant end.	Line item for Plant end 132 kV Substation scope -is not mentioned in price schedule. Pls confirm that same shall be included in PV Plant BoS or shall be added separately. We suggest it to NOT to be included in BoS as BOS and step-up sub-station are charged at different GST rates.	Contractual	Bidders are required to fill the relevant portion/Parts/Line items/scope of the respective Price Schedules only. In case, any line item is left blank by the bidder, it will be deemed assumed by the Employer that such portion/Parts/line item/Scope has been considered by the bidder suitably somewhere else in the Price schedules. In no case, the change/deviation in the Schedule of Rates is allowed.

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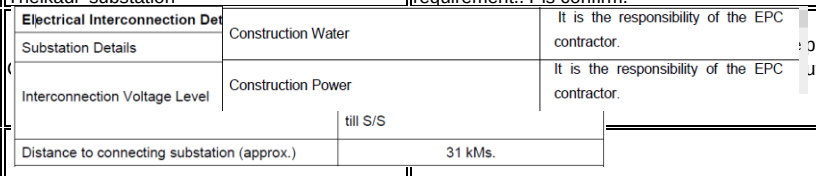
543	Price schedule	0	Schedule-1	132 Kv Double Circuit Double String (DCDS) overhead Transmission line of approx 33 Kms from Plant substation to CSPTCL 220/132 Kv Thelkadi substation	We understand that Double circuit double string means, each circuit will have twin conductor. EPC may select conductor type based on line loading requirement.. Pls confirm.	Technical	Conductor type may be selected as per CSPTCL requirement.
544	ANNEXURE A: Employer's Requirements A.1. SCOPE OF WORKS	Page 3 of 15	Project Particulars			Technical	Minimum Solar Inverter Capacity shall be 140 MW as per revised Plant Capacity. BESS shall be rated 40MW/120 MWh. Please refer S. No. 57 of Amendment 1
545	ANNEXURE A: Employer's Requirements A.1. SCOPE OF WORKS	Page 3 of 15	Project Particulars	Substation Details -220/132 kV Telkadih Substation	We understand that EPC scope of work is to terminate 132 KV D/C line on I/C gantry at 220/132 Telkadih Substation. The gantry & bay is already constructed & available at the substation, Pls confirm.	Technical	The construction of 02 Nos of 132kV feeder bay at 220kV Thelkadih Substation is not in the scope of bidder. SECI has applied for construction of 02nos of feeder bay to CSPTCL on deposit work basis for which CSPTCL has given the approval. SECI will bear the cost of construction of the 2 nos of bay. However design , approval & construction of necessary infrastructure at substation end for interconnection of the transmission line to these 02 nos of feeder bay and complying all the rules and regulation of the state/central utility is in the scope of bidder
546	ANNEXURE A: Employer's Requirements A.1. SCOPE OF WORKS	Page 3 of 15	Project Particulars	Power Transformer Capacity -2*50 MVA	We understand that EPC need to construct 132/33 KV Substation at PV plant end with 2*50 MVA Power transformer capacity. Due to un-availability of SLD for Substation, We purpose to go with Single busbar arrangement with bus sectionalizer as the substation bus configuration with 2 nos 132 KV Line & 2 nos Power transformer bay. Pls confirm our understanding.	Technical	SLD of the connecting Substation at Telkadih is uploaded with Amendment 1.
547	ANNEXURE A: Employer's Requirements A.1. SCOPE OF WORKS	Page 3 of 15	Project Particulars	Distance to connecting substation (approx.)-31 kMs.	Pls provide the route survey of proposed 31 KM line to assess the requirement of 132 KV D/C Line from PV plant to 220/132 KV Telkadih Substation. Also please confirm the TL length i.e. 31KM or 33kM.	Technical	SECI has not carried out any route survey for transmission line. However the length will be about 33km approx. Bidders are required to carefully access the length of transmission line from project site till 220/132kV CSPTCL's Thelkadih substation and quote accordingly as the complete scope design, approval, ROW, construction of transmission line is in the scope of contractor/developer
548	ANNEXURE A: Employer's Requirements A.1. SCOPE OF WORKS	Page 5 of 15	Design and Engineering	3.2 All documents and drawings shall be submitted to the Employer both in soft as well as hard copies (5 nos.) for review and approval.	We understand that the document & drawing approval will be done by SECI or its consultant , Pls confirm.	Technical	All the document and drawing approval will be done by SECI.
549	ANNEXURE A: Employer's Requirements A.1. SCOPE OF WORKS	Page 6 of 15	Design and Engineering	Geo technical investigation data and Topographical survey report including topographical survey data in digital format (Excel file) and Contour plan of the area.	A. We understand that the document related to following - will be provided by SECI along with Bids & same shall be used for bidding & detail engineering purpose. Pls confirm. 1. Geotech report 2. Topography survey 3. Countor Layouts 4. ERT report 5. TRT report B. Above documents & plot boundary (CAD Files) are missing from RFB document. Request you to provide same.	Technical	A. Based on preliminary site survey carried out by SECI, Contour Survey drawings of the project sites/plots are being uploaded for information purposes only. The Contractor is advised to inspect the site and study the topography and other conditions to decide the extent of scope of area grading, ground compaction etc. to be provided before submission of the Bid. The Employer shall not be responsible for any variations, between information provided herein and detailed investigations to be carried out by the Contractor during contract execution. All surveys/studies shall be in scope of contractor. B. Plant boundary and Contour Drawings are uploaded with Amendment 1.

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550	ANNEXURE A: Employer's Requirements A.1. SCOPE OF WORKS	Page 9 of 15	5.1.6	Installation, Testing and Commissioning of ABT meters with all necessary metering rated CTs and PTs as per CEA Metering Regulation 2006 as amended time to time and state metering code.	We understand that the ABT meters for tariff billing purpose will be installed on both 132 KV O/G lines from PV Plant with Main & Check arrangement. Pls confirm our understanding. We understand theirs is no scope of work associated to be carried out at 132 KV Side of 220/132 kV Telkadih Substation. Pls confirm.	Technical	Installation, Testing and Commissioning of ABT meters (Main, Check and standby) with all necessary metering rated CT's and PT's at the plant take off point as well as at the substation as per CEA Metering Regulation 2006 as amended time to time and state metering code.
551	ANNEXURE A: Employer's Requirements A.1. SCOPE OF WORKS	Page 12 of 15	7.11	Availability of vehicles for Employer staff during construction and O&M period as per requirement may be ensured, failing which Employer shall have full right for alternate arrangement at the risk & cost of the contractor.	EPC request to confirm no. of vehicles requirement for Employers staff during construction & O&M period for better understanding of requirement.	Technical	SECI will arrange its own vehicle for their own employee during complete construction and O&M period.
552	ANNEXURE A: Employer's Requirements A.1. SCOPE OF WORKS	Page 12 of 15	7.7	Procurement of spare parts, overhaul parts, tools & tackles, equipment, consumables, etc. required for smooth operation and maintenance of the plant as per prudent/ standard utility practices, OEM recommendations and warranty clauses for the entire O&M period.	EPC request to provide list of spares requirement or EPC can recommend spare list based on their experience which shall be treated as final during handover. Pls confirm.	Technical	List of mandatory spare is a provided in Annexure-D. In addition to the this, spares recommended by the OEM shall be provided by the EPC for smooth O&M of plant. Kindly refer annexure-1 to Amendment 1.
553	Annexure A A.2. Technical Specifications	Page No. 13 of 182	2.2.3	Every SMU input shall be provided with fuses on both positive and negative side.	We propose to provide fuses on positive side only.	Technical	Refer S. no. 23 of amendment 1
554	Annexure A A.2. Technical Specifications	Page 42 of 182	10.3.2	Capacity-100% UPS load for 2 hours	We understand that 2 hrs. UPS backup requirement is at Main Control building & at Inverter blocks UPS shall be designed for lower back up time of say 30 min., Pls confirm.	Technical	Terms and conditions of the tender document will prevail.
555	Annexure A A.2. Technical Specifications	Page 63 of 182	16.9.1	Radiators provided shall have sufficient cooling surface to limit the temperature rise to the values as specified in the 'Technical Requirements'. The radiators shall be seamless and made of mild steel/CRCA with minimum thickness not less than 1.2mm. It shall be suitably braced to protect them from mechanical shoc	We proposed to consider radiator thickness of 1.0 mm instead of 1.2 mm. Pls confirm.	Technical	Terms and conditions of the tender document will prevail.
556	Annexure A A.2. Technical Specifications	Page 103 of 182	6.1	Suitable approach road (as applicable) from nearest public road up to plant Main gate.	EPC request to provide land details & layout to assess the approach road requirement.	Technical	Plant land boundary is already provided as annexure. Bidders are requested to carefully assess the length and road connectivity.
557	Annexure A A.2. Technical Specifications	Page 106 of 182	8.1	The plant peripheral boundary shall be provided with either Chain link or barbed wire fencing or masonry boundary wall as specified.	We understand that we have to provide only Chain Link Fence as per the Drawings given in the RFB document for Plant Periphery Boundary. No Precast Concrete Boundary Wall is required for the same. Please Confirm.	Technical	Plant boundary shall be as per the chain link fence drawing provided as annexure to Amendment 1.
558	Annexure A A.2. Technical Specifications	Page 118 of 182	13.7	The minimum thickness excluding anti corrosive treatment (BMT) of various elements of MMS structure shall be as following: □ Stub/ column – 3.15mm, □ Rafter – 2.5mm & □ Purlin & other members – 2.0mm	EPC request to remove minimum thickness criteria for MMS members. The same shall be taken care during detail engineering considering full proof solution based on wind speed, module & land profile as per standard IS-2629, 4759 & 4736 as applicable. Pls confirm.	Technical	For members other than purlin, Terms and conditions of tender document shall prevail. For purlin members. Kindly refer S.No. 5 of amendment 1.
559	Annexure A A.2. Technical Specifications	Page 119 of 182	13.16	The MMS structure shall be hot dip galvanized with minimum GSM 610 kg/ sqm	EPC request to remove minimum thickness criteria for MMS. The same shall be taken care during detail engineering considering full proof solution as per standard IS-2629, 4759 & 4736 as applicable. Pls confirm.	Technical	For members other than purlin, Terms and conditions of tender document shall prevail. For purlin members. Kindly refer S.No. 5 of amendment 1.

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560	Annexure A A.2. Technical Specifications	Page 123 of 182	16.2.2 LCR/ ICR	The plinth supporting the ICR/LCR equipment shall have RCC framed structure with foundations, columns and beams up to plinth level (FFL).	We Proposed to us outdoor Skid arrangement with canopy at Inverter / trafo stations for placement of Inverter, MV panel, scada /data logger panel / UPS & other equipment. Pls confirm same is acceptable.	Technical	Terms and conditions of tender document shall prevail.
561	ANNEXURE A.3 Special Technical Conditions	Page 3 of 4	9	Main Entry gate for each plot shall be as per the drawing provided in this section.	We understand that we need to provide Main Entry Gate in all the 10 villages plot. Please Confirm.	Technical	Main Entry gate shall be provided for all the land patches as per the revised drawing provided with amendment 1.
562	ANNEXURE A.3 Special Technical Conditions	Page 3 of 4	20	Security cabins shall be provided in every patch as per specifications provided in ANNEXURE A.2	We understand that we need to provide Security Cabins in all the 10 villages plot. Please Confirm.	Technical	Security gate and cabins shall be provided in every patch. Location and number of security cabin shall be finalized during detailed engineering. Kindly refer S.No. 18 of amendment 1.
563	Environmental and Social Due Diligence Report	Page 33 & 34	0	Table 3-7 List of Project Affected Villages	Kindly provide all the villages plot auto cad file along with KMZ file for layout preparation.	Technical	Plant boundary and Contour Drawings are uploaded with Amendment 1.
564	General	0	0	0	Please confirm the location of PV Plant Substation to be considered in which plot out of 10 village plots or it can be decided by EPC during construction phase.	Technical	EPC contractor may finalize the location of substation in any of the plot.
565	ANNEXURE A: Employer's Requirements A.1. SCOPE OF WORKS	Page 3 of 15	Cumulative Inverter Capacity (min)	175 KVA	When the Solar AC capacity is 100MW and the BESS capacity is 50MW, what is the rationale behind selecting 175MVA inverter?	Technical	Solar Inverter size has been specified as per the Plant DC Capacity.
566	Annexure A A.2. Technical Specifications	Page 151 of 182	2.3	IEC 62485-2: Safety requirements for secondary batteries and battery installations - to meet requirements on safety aspects associated with the erection, use, inspection, maintenance and disposal: Applicable for Lead Acid and NiCd / NiMH batteries	This is not applicable for Lithium Ion Battery. Request to remove this requirement.	Technical	The standard applies to Lead Acid batteries only, as specified.
567	Annexure A A.2. Technical Specifications	Page 152 of 182	3.1	Rated No of Cycles (Minimum): 4000 cycles at rated energy capacity at 80% Depth of Discharge (DoD) at 25o C and up to C/3 Rate of Discharge	The DOD is a function of several factors like cycles per day, ambient conditions, C rate, years of usage etc. And DOD is calculated as an output during sizing. Actual DOD may be more than or less than 80% and the same can be confirmed during bid submission. Kindly accept.	Technical	Battery Parameters are not considered in bid evaluation. However, if the Bidder proposes a solution with higher no. of cycles (say 6000), the DoD (shall be minimum 80%) corresponding to 4000 cycles for such solution shall be acceptable for sizing purposes provided all other performance critria related to dispatchable energy, RtE, End of Life etc. as per tender specifications including OEM warranties remain the same. Please refer S. No.80 of Amendment.

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568	Annexure A A.2. Technical Specifications	Page 152 of 182	3.1	Watt-Hour Rating (Dispatchable Capacity) 150 MWh ,dispatchable at the beginning of life (i.e. at the time of Commissioning) and minimum throughput capacity at the beginning of each year as per below table: Year 1 147 MWh Year 2 144 MWh Year 3 141 MWh Year 4 138 MWh Year 5 135 MWh Year 6 132 MWh Year 7 129 MWh Year 8 126 MWh Year 9 123 MWh Year 10 120 MWh Dispatchable capacity shall not be less than 80% of Beginning of Life capacity at any point of time up to End of Battery Life.	Query 1: As per this table, linear annal degradation of 2% is acceptable. Generally, the degradation of Lithium Ion Battery in early years (year 1 to year3) is higher and then it reduces gradually to later years. Request you to accept following degradation scheme for better cost optimization. 1. The throughput capacity in year 10 should be equal to or more than 120MWh. 2. Degradation in any of the years should not be more than 4% 3. Actual Degradation table shall be submitted during Detailed Engineering which adheres to point 1 and point 2 given above. Query 2: Kindly confirm that the End of Battery Life in this clause is equal to 10 years. Query 3: Is the capacity mentioned in this table Including Auxiliary consumption or auxiliary consumption has to be separately accounted for?	Technical	Kindly refer S.No. 35 of amendment 1. Query 2: End of Battery Life in this clause is equal to 10 years. Query 3": Battery capacities mentioned in this clause are dispatchable capacities after meeting all auxiliary loads of BESS, as measured at the PCC on the MV (33 kV) side.
569	Annexure A A.2. Technical Specifications	Page 153 of 182	3.1	Use Case Requirements: Peak Management: In the Peak Management Use Case scenario, power generated during the early and midday periods shall be stored in the BESS and discharged during peak demand, for 3 hours, after solar generation hours.	Query 1: As the battery degrades over years, should the Discharge Rate of BESS (50MW) also reduce accordingly to be able to supply power for all three hours or the power (50MW) should remain constant and according the Battery Autonomy time will be reduced from 3 hours? Query 2: As per the application the BESS will only operate in grid-tied mode. In case of grid outage, the BESS need not be capable of providing any Black-Start/Grid-Formation support. In case of grid outage, the BESS will go on stand-by and await grid recovery. Kindly confirm.	Technical	Battery degradation is allowed to th extent allowed as per Clause 3.1. BESS is not envisaged to provide Black start support/ Grid support.
570	Annexure A A.2. Technical Specifications	Page 154 of 182	3.2.1	However, in no case will the energy discharged from the battery be greater than the nameplate watt-hour rating.	This clause basically means that an EMS (Energy Management System) shall monitor Discharged energy from battery and it will cut-off the battery after required energy from battery has been discharged. Is the understanding correct? Kindly confirm.	Technical	Yes, EMS (Energy Management System) shall monitor Discharged energy from battery and it will cut-off the battery after required energy from battery has been discharged.
571	Annexure A A.2. Technical Specifications	Page 151 of 182	2.3	IEC TS 62933- 5-1:2017: Electrical energy storage (EES) systems - Part 5-1: Safety considerations for grid-integrated EES systems - General specification	Request to accept IEC 60812:2018 -Failure modes and effects analysis (FMEA and FMECA) which is a more generic standard.	Technical	Terms and Conditions of the Tender prevail.

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572	II	58	ITB 20.1	A Bid Security shall be required. A Bid-Securing Declaration shall not be required. The amount and currency of the Bid Security shall be 7 Cr (Indian Rupees Seven Crores only) or USD 0.9 M (US Dollars Point Nine Million only)	As per Gazette notification dated 23/03/2012 for Public Procurement Policy notified by Government of India. Those who registered in Ministry of Micro, Small and Medium Enterprises, MSME's under UAM are exempted for EMD, Document fee, etc. Also, as you are aware that the COVID Pandemic have affected the companies cash flow and projects very badly and its very difficult to submit that amount of BG. Since Our Company is registered with MSME, we would like avail benefits of EMD and tender fee exemption. We request SECI to exempt the MSME's from paying Applicable Bid Security and allow us to participate. Kindly Confirm.	Contractual	This being a WB financed project, the procurement regulations as defined by WB will prevail. Hence, The terms and conditions of Bidding Document will prevail
573	III	78	3.3	3.3 Financial Resources: The Bidder must demonstrate access to, or availability of, financial resources such as liquid assets & lines of credit, other than any contractual advance payments to meet: (i) the following cash-flow requirement: INR 144 Crores (Indian Rupees One hundred & forty four Crores only) or USD 19 M (US Dollars Nineteen Million only)	We request to Kindly reconsider the Cash flow requirement as revise it to 50 Crore. As You are aware that in EPC projects there is not much margin to operate, so it is requested to revise the Cash flow requirement to INR 50 Crore so that bidder will able to qualify or SECI should allow meeting the 50% criteria by any member of JV and not lead bidder.	Financial	The terms and conditions of Bidding Document will prevail
574	III	80	4.1	4.1 General Experience: Experience in Renewable Energy under contracts in the role of contractor, subcontractor, or management contractor for at least the last 03 (Three) years starting Jan 1, 2015.	Please confirm that the experience of execution of Sub-stations for Normal projects and Renewable projects are accepted to meet this criteria.	Contractual	The terms and conditions of Bidding Document will prevail. Only relevant RE project experience is required to be established here

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575	III	81	4.2(a) Specific Experience	Bidders can participate through any one of the below mentioned qualifying routes. The Bidder shall be considered meeting Technical Eligibility criteria either from Route I or Route II Route I: Participation as contractor, joint venture member, management contractor, or subcontractor: (A) Must have experience in EPCexecution of Ground mounted Solar Projects on Turnkey basis including Design, Supply (Supply of Modules & Inverters can be inclusive or exclusive in the bidder's scope in the past experience), Installation and Commissioning of Grid connected Solar PV Power Plant(s) of total cumulative Capacity not less than 50 (Fifty) MW in last five years as on last date of bid submission. However, such Grid connected Solar PV Power Plant capacity must have been in satisfactory operation for at least six (06) months prior to the last date of bid submission. (B) The bidder must have experience in EPC execution of Ground mounted Solar Projects on Turnkey basis including Design, supply (Supply of Modules & Inverters can be inclusive or exclusive in the bidder's scope in the past experience), installation & commissioning of at least 02 (Two) Grid connected Solar PV Power Plant Projects having an individual capacity of 10 (Ten) MW	We request to please confirm that if Bidder submit details single plant of 50 MW to meet Route 1 (a), then for meeting Route 1 (b) Clause: 2 other plants need to show of 10 MW each or One plant of 50 MW and another plant of 10 MW acceptable.	Contractual	Both points of Route 1 (a) and 1 (b) are to be met by the bidders on separate/standalone basis
576	III	87	2.5	2.5 Personnel: The Bidder must demonstrate that it will have the personnel for the key positions that meet the following requirements	Please clarify that the list of personnel given in this clause: - Bidder should have all these employees in organization at time of Bid Submission or Bidder can hire the employees meeting these specific criteria post award of project.	Technical	Original clause shall prevail and bidders must demonstrate the personnel for the key position as per the tender requirement during the time of bid submission.
577	X	309	PCC 8	PCC 8. Time for Commencement and Completion PCC 8.2 The Time for Completion of the whole of the Plant Facilities shall be 18 (Eighteen) Months till commissioning from the Effective Date as described in the Contract Agreement or NTP, whichever is later.	We request to consider completion period of minimum 24 months in place of 18 Months considering ongoing Pandemic situation and also, being a hybrid project, finalization and engineering requires more time	Technical	Original clause shall prevail.
578	0	0	0	Change in Law: BCD, Safe-guard duty, change in GST etc.	We request to please clarify that if there will be any change in safe-Guard duty, levy of Basic custom duty and ADD etc, will that considered under change in law and the same will be pass on to Bidder. If the overall cost will be affected of project due to levy of additional duty, taxes etc, will SECI consider it under change in law or not and pay additional cost to Bidder.	Contractual	Clause No 36 of the GCC amply clarifies about the Change in law provisions. Kindly refer the same. Introduction of any new law/regulation/Tax will be treated in line with the "Change in Law & Regulations" clause of the RfB.
579	ANNEXURE A	364	0	Cell/Module Technology Bifacial, Mono-crystalline PERC	Is there any restriction on Minimum wattage of Module.	Technical	No

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580	ANNEXURE A	364	0	Interconnection Voltage Level 132 kV, through Double circuit Double string transmission line from project site till S/S	As per Bidder understanding, Bidder need to interconnect through voltage level of132 KV Transmission line and terminate at same voltage level at Substation. Also there is no requirement of step up @220 KV Voltage level.	Technical	Bidder is required to transmit and interconnect the project at 132kV level.
581	Section-I Instructions to Bidders	Page 22	17.5d	**<u>Bid Prices and Discounts</u>** Installation Services shall be quoted separately (Schedule No. 4) and shall include rates or prices for local transportation to named place of final destination as specified in the BDS, insurance and other services incidental to delivery of the plant, all labor, contractor's equipment, temporary works, materials, consumables and all matters and things of whatsoever nature, including operations and maintenance services, the provision of operations and maintenance manuals, training, etc., where identified in the bidding document, as necessary for the proper execution of the installation and other services, **including all taxes, duties, levies and charges payable in the Employer's Country as of twenty-eight (28) days prior to the deadline for submission of Bids;**	Refer to the clause ITB 17.5 d for Schedule No.4 and understood that when price in for the installation Services ,we shall consider all taxes, duties, levies and charges is payable in the Employer's Country as of twenty-eight (28) days prior to the deadline for submission of Bids; Kindly Clarify is it applicable to the other Schedules as well as listed below Schedule No.1: Plant (including Mandatory Spare Parts) Supplied from Abroad. Schedule No. 2: Plant (including Mandatory Spare Parts) Supplied from within the Employer's Country. Schedule No. 3: Design Services Schedule No. 5: Operation & Maintenance.	Contractual	No. For Schedule No 4 also, all applicable taxes & duties are to be mentioned separately in the given columns of the SOR sheet No 4, as the evaluation will be done excluding of all taxes & duties. The bais price & all other relevant taxes and duties should be mentioned separately as per the Schedule of Rates sheets
582	Section-I Instructions to Bidders & Notice Inviting Tender (NIT) in ETS	Page 54	20.1 Earnest Money Deposit (EMD)	The amount and currency of the Bid Security shall be 7 Cr (Indian Rupees Seven Crores only) or USD 0.9 M (US Dollars Point Nine Million only).	As per the Notice Inviting Tender (NIT) in ETS System the Bid security or Earnest money Deposit(EMD) for Domestic Bidders is INR 70,000,000.00 and for International Bidders is USD 900,000.00. In the event if an International bidder form a JV with a domestic bidder to submit the Tender , What shall be the basis of the currency to prepare the Bid Security or Earnest money deposit (EMD) . Kindly Clarify .	Contractual	That will be decided by the status of the Lead member of the JV.
583	Section III - Evaluation and Qualification Criteria	Page 73-74	-	**<u>3 Financial Situation</u>** 3.1 Financial Capabilities 3.2 Average Annual Turnover 3.3 Financial Resources	Pleas Clarify , as a International Bidder/Member of a JV, what shall be the document evidence to be provided to comply to the Financial Qualification requirement.	Financial	Financial documents acceptable as per the governing law of the respective country
584	Annexure A, Employer's Requirements A.1 Scope of Works	Page 3	-	1.Project Particulars Site coordinates- Refer Annexure E: Project Location	Please provide the Annexure E which is missing from the RFB and also the coordinates, individual Site boundary and the AutoCAD drawing. The drawing provided in the DWF format is not clear.	Technical	Plant boundary and Contour Drawings are uploaded with Amendment 1.
585	Annexure A, Employer's Requirements A.1 Scope of Works	Page 3	-	Villages : Rangakathera, Dundera, Dhaba,Kokha, Amlidih, Girgaon, Margaon,Ghugkhwa, Odarbandh, Tolagaon	Kindly provide the planned estimated Solar plant capacity for each locations	Technical	Location wise capacity shall be decided by the Contractor as per design.

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586	Annexure A, Employer's Requirements A.1 Scope of Works	Page 3	-	Electrical Interconnection Details	Please illustrate the concept of the interconnection as the location are splatted in to 10 different places. Is all the 10 solar plants will be connected to the same interconnection locations ? Some of the villages like Ghuhkhwa is not in the layout provided and its far from the other locations ,Kindly clarify.	Technical	Plant design and engineering are in the scope of the Contractor. Power shall be suitably pooled before the take-off point at the Plant end. Power from the project shall be evacuated at 132 kV level to the Telkadih substation
587	Section X Contract Forms Appendix 8. Functional Guarantees	Page 340	E(ii)	**Liquidated Damages for Shortfall in Annual CUF for Solar PV Plant** If the Contractor fails to achieve guaranteed annual CUF, then the Contractor shall pay compensation to the Employer an amount equal to the difference in units (kWh) derived from guaranteed CUF and achieved CUF multiplied by Rs.4 per unit (kWh).	With reference to the compensation , Please consider to reduce the unit price INR 4 per unit (kwh) to calculate the compensation as we think it's very high compare to the recently awarded solar tariff in online bidding which is INR 2.36 per unit (kwh).	Technical	Terms and conditions of the tender document will prevail.
588	Section X Contract Forms Appendix 8. Functional Guarantees	Page 343	H	**Penalty for For breakdown of generation related infrastructure** the generation loss estimated based on the outage equipment's weightage (Wi) multiplied by estimated total energy output in the outage period beyond 48 hours, in the event of no breakdown (East) multiplied by Rs. 4/kWh will be levied.	With reference to the Penalty , Please consider to reduce the unit price INR 4 per unit (kwh) to calculate the compensation as we think it's very high compare to the recently awarded solar tariff in online bidding which is INR 2.36 per unit (kwh) .	Technical	Terms and conditions of the tender document will prevail.
589	Section X Contract Forms Appendix 8. Functional Guarantees	Page 343	I	Liquidated Damages for Shortfall in Equipment Availability If the annual equipment availability for BESS is less than 99% during any year then Contractor s Employer an amc following $COM = \left(\frac{99 - EA}{EA}\right) \times C \times E$ where, COM is Compensation payable to the Employer in rupees EA is Annual BESS Equipment Availability C is ₹8/kWh E is the intended energy output from BESS in kWh during the respective year in 99% availability condition after considering any degradation.	With reference to the compensation , Please consider to reduce the unit price INR 8 per unit (kwh) to calculate the compensation as we think it's very high compare to the recently awarded solar tariff in online bidding which is INR 2.36 per unit (kwh) .	Technical	Terms and conditions of the tender document will prevail.
590	ANNEXURE A: Employer's Requirements A.1. SCOPE OF WORKS	Page 3	-		Please provide the proposed Route and ROW of the 31.5km of transmission lines	Technical	SECI has not carried out any route survey for transmission line. However the length will be about 33km approx. Bidders are required to carefully access the length of transmission line from project site till 220/132kV CSPTCL's Thelkadih substation and quote accordingly as the complete scope deisgn, approval, ROW, construction of transmission line is in the scope of contractor/developer

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				Clarifications to Queries raised during Pre-Bid Meeting on 30.09.2020			
591	ANNEXURE A: Employer's Requirements A.1. SCOPE OF WORKS	Page 4		**1.Project Particulars**	Please provide us the details of the nearest source for the incoming water and power supply to the respective Solar Power Plants.	Technical	It is the responsibility of the bidder to assess the water and power source for the project.
592	ANNEXURE A: Employer's Requirements A.1. SCOPE OF WORKS	Page 4		Topography survey and Geotechnical survey report	We understand that the topography and Geotechnical survey is mentioned as contractor's scope in the RFB , But during the tender stage we need the Topography survey , Geotechnical survey ,Soil resistivity test reports, Ground water study , Hydrology and Flood study report for the detail design and accurate costing and its not practical to be done by the contractor during the Tender stage . So we suggest to take over the above listed scopes by SECI and provide us the reports during the Tender Stage .	Technical	Based on preliminary site survey carried out by SECI, Contour Survey drawings of the project sites/plots are being uploaded for information purposes only. The Contractor is advised to inspect the site and study the topography and other conditions to decide the extent of scope of area grading, ground compaction etc. to be provided before submission of the Bid. The Employer shall not be responsible for any variations, between information provided herein and detailed investigations to be carried out by the Contractor during contract execution. All surveys/studies shall be in scope of contractor.
593	Section-I Instructions to Bidders & Section IV- Bidding Forms	Page 43 Page 113 & Page 114	ITB 4.1	**ELI 1.1 -Bidder Information Sheet & ELI 1.2 - Party to JV Information Sheet,**	With reference to the ITB 4.1 , it was understood that in case of JV , the members of the JV are required to execute a JV agreement as per the "FORM OF UNDERTAKING BY THE JOINT VENTURE PARTNERS. FORM 2a" under bidding forms and Formation of JV company (JVC) is not mandatory . However , reference to the forms ELI 1.1 -Bidder Information Sheet & ELI 1.2 - Party to JV Information Sheet, The attachment for the form still requires the certificate of incorporation & Article of Association & Memorandum of Association (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.4. Pleas clarify if bidder as a JVcompany is it just required to complete the Form 2a will comply to the Tender requirement or still need to provide the certificate of incorporation as per the Bidder information sheet & JV formation Sheet .	Contractual	CoI & AoA & MoA is required in case of registered JV only.
594					We request your kind consideration to revise the last date to raise queries from 28/09/2020, 1700 hours to 16/10/2020, 1700 hours.	Contractual	The last date of Pre Bid queries submission will remain same.
595					We request your kind consideration to revise the bid submission date from 27/10/2020, 1400 hours to 30/11/2020, 1400 hours.	Contractual	The final date of bid submission has already been suitably extended

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596	Annexure A . Employer's Requirements A.1 Scope of Works	Page 8 of 15	4.1.26 4.1.27		Please clarify that as per the the scope of works in the RFB the construction of Bay at designated substation is under EPCC scope but during the site visit on 1st October 2020 , it was clarified as the SCOPE is under PGCIL. Kindly provide us the clear demarcation on this scope of works with the Single line diagram .	Technical	The construction of 02 Nos of 132kV feeder bay at 220kV Thelkadih Substation is not in the scope of bidder. SECI has applied for construction of 02nos of feeder bay to CSPTCL on deposit work basis for which CSPTCL has given the approval. SECI will bear the cost of construction of the 2 nos of bay. However design , approval & construction of necessary infrastructure at substation end for interconnection of the transmission line to these 02 nos of feeder bay and complying all the rules and regulation of the state/central utility is in the scope of bidder
597	Annexure A . Employer's Requirements A.1 Scope of Works	Page 8 of 15	5.1.25	5.1.25 Construction of transmission line including Design, route survey, foundation, erection stringing, commissioning as per TRANSCO/DISCOM procedure from take-off point at plant end/ substation to the delivery point at the evacuation substation as per Project Particulars provided above.	Please share us the feasibility carried out on the routing of transmission lines between the sites and also the 132kv transmission line routing from the final site to the Telkadih Substation . We suggest SECI to take over the scope of land acquisition , routing and approval ROW as during the tender it's not feasible to carryout all the survey and estimate the costs to be incurred to get the ROW of the Transmission lines.	Technical	The tentative length of the transmission line is about 33km approx. Bidders are required to carefully assess the length of transmission line from project site till 220/132kV CSPTCL's Thelkadih substation and quote accordingly as the complete scope design, approval, ROW, construction of transmission line is in the scope of contractor/developer
598	Annexure A . Employer's Requirements A.1 Scope of Works	Page 10 of 15	6.1		Obtaining statutory approvals/clearance/compliance from various government departments should be under SECI scope shall not be under EPCC contractor Scope of Works . Please Confirm .	Technical	Obtaining Statutory approval/ clearance/compliance from various government departments shall be under contractor's scope.
599	Annexure A . Employer's Requirements A.1 Scope of Works	Page 13 of 15	7.12		Please clarify is there any Specific requirement for OEM as mentioned in the RFB documents? If yes please provide us the copy to quote as accurate as possible.	Technical	There are no OEM specified in the tender document so contractor has to follow the OEM recommendations as per their selection of OEM's.
600	Section III - Evaluation and Qualification Criteria	Page no 73 Page no 73 Page no 77	3.2 3.3 4.2(a)	Average Annual Turnover Financial Resources Specific Experience	We understand from the Qualification requirement criteria that in JV partnership whoever comply to the Turnover and Financial resources will be the lead Member and meet the Specific experience will be the Lead member . What if in JV partnership Company A comply to the Financial requirement and Company B comply to the Specific requirement and Vice Versa , who shall be the lead member . Please clarify.	Contractual	Nobody will be lead member in this case. Lead member has to suffice both the Technical & Financial requirements as per the percentage requirement mentioned in the RfB.

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Clarifications to Queries raised during Pre-Bid Meeting on 30.09.2020

601	ANNEXURE A A.2. TECHNICAL SPECIFICATIONS	530 of 1149	3.2.2	Overall System Reactive Power Rating In accordance with the VAR-related control modes identified in this specification, if any, the BESS shall be capable of dispatching both leading and lagging reactive power at the PCC, up to the rated VAR capacity specified in Table-2, regardless of whether the battery is being simultaneously discharged or charged. This rating shall be referred to in all project documentation, including this specification, as the nameplate VAR rating. The BESS shall be capable of simultaneously producing real and reactive power as long as no nameplate rating is exceeded. That is, the combination of operation at full nameplate watt rating and full nameplate VAR rating shall not exceed the nameplate VA rating.	At Table-2 - Reactive Power Rating is mentioned as "NA" Employer to confirm the exact requirement of Reactive Power rating to be met by BESS during Peak Management as well as overall operation.	Technical	The BESS is not required to supply Reactive power.
602	ANNEXURE A EMPLOYER'S REQUIREMENT A.1. SCOPE OF WORKS	364 of 1149	1. Project Particulars	Proposed AC capacity (MW) of solar power plant - 100 MW Cumulative Inverter Capacity (Min.) = 175 MW Cumulative Inverter Transformer Capacity (Min.) = 175 MVA	For solar plant : Cumulative Inverter Capacity (Min.) shall be 100 MW and Cumulative Inverter Transformer Capacity (Min.) shall be 100 MVA. However, for BESS part : Bidder shall be allowed to design and optimize the Cumulative Inverter Capacity (Min.) and Cumulative Inverter Transformer Capacity (Min.) for BESS part to meet the specified requirement of Energy. Bidder may be allowed to decide on capacity of Inverter instead of 75 MW minimum capacity specified in the bid to Minimum 50 MW and above as required to meet energy requirement of Peak Management.	Technical	For Solar Part: Cumulative Inverter Capacity (Min.) shall be 140 MW and Cumulative Inverter Transformer Capacity (Min.) shall be 140 MVA in accordance with the revised Project capacity. Kindly refer S.No. 57 of amendment 1. For BESS Part: The (bidirectional) inverter Capacity shall be min. 40MW and BESS Transformer Capacity 40 MVA in accordance with the revised Project Capacity. The dispatchable Energy (Kindly refer S.No.57 of amendment 1 for revised BESS Energy Capacity) from BESS shall be measured at the PCC on the MV side (33 kV).
603	4. Procurement & Supply	368 of 1149	4.1.2	String monitoring unit	Bidder suggests Sting combiner box and monitoring at inverter input level (zonal monitoring)	Technical	Terms and conditions of the tender document will prevail.
604	2. String Monitoring Unit	389 of 1149	2.2.3	SMU with fuse on both positive and negative	Fuse on negative side need not be mandated. It can be made optional based on the inverter side grounding requirements.	Technical	Refer the S. no. 23 of ammendment-1.
605	12.3. Earthing of PV array field	423 of 1149	12.3.3	Earthing: Module to module earthing	Module-to module earthing need not be mandated. It can be as per module OEM recommendations	Technical	Terms and conditions of the tender document will prevail.
606	8.3. Chain link fencing	483 of 1149	8.3.1	Chain link fence - with toe wall	Chain link fence without a toe wall can be considered given the site location and soil condition.	Technical	Plant boundary shall be as per the chain link fence drawing provided as annexure to Amendment 1.
607	ANNEXURE A.3 SPECIAL TECHNICAL CONDITIONS	561 of 1149	12	Underground cables in masonry trench	Underground cable can be directly buried type with sand and brick lining	Technical	Kindly refer S.No. 20 of amendment 1.
608	B. Electrical System 1. Photovoltaic Modules	385 of 1149	1.2	Solar module: Mono or poly - but BIFACIAL	Option to use monofcaial module also to be considered	Technical	Only Bifacial PV modules are allowed. Kindly refer S. no. 24 of ammendment-1.
609	13. Module Mounting Structure (MMS)	493 of 1149	13.1 - 13.40	MMS : specification given for fixed tilt only	Bidder should be allowed to use other types of structures like seasonal tilt or Single axis tracking	Technical	Terms and conditions of the tender document will prevail.

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610	3. Technical Specification of Battery Energy Storage System	529 of 1149	Table 2: Supply-Specific Ratings and Requirements for each system	Battery charging period	Bidder request more clarity on the intended charging period of battery system during the day . Also, during the day time is there any condition for minimum energy export? Or is there any pre-defined power export profile to be met?	Technical	Power from the Solar PV generation plant shall be injected into the grid either directly from the solar field or from the BESS. BESS shall be charged fully from solar power generation that is over and above the evacuation capacity during daytime. The energy stored in the BESS shall be discharged completely at the BESS rated Power during non-solar hours so as to deliver the expected dispatchable energy at the PCC as specified elsewhere in the specifications .
611	3. Technical Specification of Battery Energy Storage System	529 of 1149	Table 2: Supply-Specific Ratings and Requirements for each system	Battery discharge period and time zone	Bidder request more clarity on the 3 hour period for which the battery will get discharged. Is this a pre-defined time period ?	Technical	Battery shall be discharged completely in the non solar hours.
612	ANNEXURE A A.2. TECHNICAL SPECIFICATIONS	530 of 1149	3.2.2	Overall System Reactive Power Rating In accordance with the VAR-related control modes identified in this specification, if any, the BESS shall be capable of dispatching both leading and lagging reactive power at the PCC, up to the rated VAR capacity specified in Table-2, regardless of whether the battery is being simultaneously discharged or charged. This rating shall be referred to in all project documentation, including this specification, as the nameplate VAR rating. The BESS shall be capable of simultaneously producing real and reactive power as long as no nameplate rating is exceeded. That is, the combination of operation at full nameplate watt rating and full nameplate VAR rating shall not exceed the nameplate VA rating.	At Table-2 - Reactive Power Rating is mentioned as "NA" Employer to confirm the exact requirement of Reactive Power rating to be met by BESS during Peak Management as well as overall operation.	Technical	The BESS is not required to supply Reactive power.
613	ANNEXURE A EMPLOYER'S REQUIREMENT A.1. SCOPE OF WORKS	364 of 1149	1. Project Particulars	Proposed AC capacity (MW) of solar power plant - 100 MW Cumulative Inverter Capacity (Min.) = 175 MW Cumulative Inverter Transformer Capacity (Min.) = 175 MVA	For solar plant : Cumulative Inverter Capacity (Min.) shall be 100 MW and Cumulative Inverter Transformer Capacity (Min.) shall be 100 MVA. However, for BESS part : Bidder shall be allowed to design and optimize the Cumulative Inverter Capacity (Min.) and Cumulative Inverter Transformer Capacity (Min.) for BESS part to meet the specified requirement of Energy. Bidder may be allowed to decide on capacity of Inverter instead of 75 MW minimum capacity specified in the bid to Minimum 50 MW and above as required to meet energy requirement of Peak Management.	Technical	For Solar Part: Cumulative Inverter Capacity (Min.) shall be 140 MW and Cumulative Inverter Transformer Capacity (Min.) shall be 140 MVA in accordance with the revised Project capacity. Kindly refer S.No. 57 of amendment 1. For BESS Part: The (bidirectional) inverter Capacity shall be min. 40MW and BESS Transformer Capacity 40 MVA in accordance with the revised Project Capacity. The dispatchable Energy (Kindly refer S.No.57 of amendment 1 for revised BESS Energy Capacity) from BESS shall be measured at the 132 kV ABT Meter at the Plant end Switchyard.
614	ANNEXURE A EMPLOYER'S REQUIREMENT A.1. SCOPE OF WORKS	364 of 1149	1. Project Particulars	Proposed AC capacity (MW) of solar power plant - 100 MW Cumulative Inverter Capacity (Min.) = 175 MW Cumulative Inverter Transformer Capacity (Min.) = 175 MVA	For solar plant : Minimum DC Capacity Specified is 200 MWp. Bidders requests to consider the optimum design of DC capacity to be under the scope of the most competitive bidder and may only limit to the plant guarantee requirements to achieve CUF 36.5% at 100 MWac.	Technical	The Bidder is free to optimize the Plant DC capacity subject to the the minimum DC Capacity of the Plant being 160 MW as per the revised Project capacity in order to achieve the CUF of 35.5 % at 100 MWac at the Plant End Switchyard. Please refer relevant clauses for amended of CUF and Plant Capacity.

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Clarifications to Queries raised during Pre-Bid Meeting on 30.09.2020

615	ANNEXURE A EMPLOYER'S REQUIREMENT A.1. SCOPE OF WORKS	364 of 1149	1. Project Particulars	Proposed AC capacity (MW) of solar power plant - 100 MW Cumulative Inverter Capacity (Min.) = 175 MW Cumulative Inverter Transformer Capacity (Min.) = 175 MVA	Request to consider Inverter sizing under the scope of the bidder to achieve the plant guarantee parameters.	Technical	Inverter sizing is in the scope of the bidder subject to the minimum sizes specified in the tender.
616	ANNEXURE A EMPLOYER'S REQUIREMENT A.1. SCOPE OF WORKS	364 of 1149	1. Project Particulars	Module/Cell Technology: Bifacial, Mono-crystalline PERC	We request SECI to kindly consider monofacial , SAT options as well	Technical	Terms and conditions of the tender document will prevail.
617	4. Procurement & Supply	368 of 1149	4.1.2	String monitoring unit	Bidder suggests Sting combiner box and monitoring at inverter input level (zonal monitoring)	Technical	Terms and conditions of the tender document will prevail.
618	2. String Monitoring Unit	389 of 1149	2.2.3	SMU with fuse on both positive and negative	Fuse on negative side need not be mandated. It can be made optional based on the inverter side grounding requirements.	Technical	Refer the S. no. 23 of ammendment-1.
619	12.3. Earthing of PV array field	423 of 1149	12.3.3	Earthing: Module to module earthing	Module-to module earthing need not be mandated. It can be as per module OEM recommendations	Technical	Terms and conditions of the tender document will prevail.
620	8.3. Chain link fencing	483 of 1149	8.3.1	Chain link fence - with toe wall	Chain link fence without a toe wall can be considered given the site location and soil condition.	Technical	Plant boundary shall be as per the chain link fence drawing provided as annexure to Amendment 1.
621	ANNEXURE A.3 SPECIAL TECHNICAL CONDITIONS	561 of 1149	12	Underground cables in masonry trench	Underground cable can be directly buried type with sand and brick lining	Technical	Kindly refer S.No. 20 of amendment 1.
622	B. Electrical System 1. Photovoltaic Modules	385 of 1149	1.2	Solar module: Mono or poly - but BIFACIAL	Option to use monofcaial module also to be considered	Technical	Only Bifacial PV modules are allowed. Kindly refer S. no. 24 of ammendment-1.
623	13. Module Mounting Structure (MMS)	493 of 1149	13.1 - 13.40	MMS : specification given for fixed tilt only	Bidder should be allowed to use other types of structures like seasonal tilt or Single axis tracking	Technical	PV module shall be installed with fixed tilt.
624	3. Technical Specification of Battery Energy Storage System	529 of 1149	Table 2: Supply-Specific Ratings and Requirements for each system	Battery charging period	Bidder request more clarity on the intended charging period of battery system during the day . Also, during the day time is there any condition for minimum energy export? Or is there any pre-defined power export profile to be met?	Technical	Power from the Solar PV generation plant shall be injected into the grid either directly from the solar field or from the BESS. BESS shall be charged fully from solar power generation that is over and above the evacuation capacity during daytime. The energy stored in the BESS shall be discharged completely at the BESS rated Power during non-solar hours so as to deliver the expected dispatchable energy at the PCC as specified elsewhere in the specifications .
625	3. Technical Specification of Battery Energy Storage System	529 of 1149	Table 2: Supply-Specific Ratings and Requirements for each system	Battery discharge period and time zone	Bidder request more clarity on the 3 hour period for which the battery will get discharged. Is this a pre-defined time period ?	Technical	Battery shall be discharged completely in the non solar hours.

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626	General				Kindly provide further clarity on the pattern of energy export expected during the day.	Technical	Power from the Solar PV generation plant shall be injected into the grid either directly from the solar field or from the BESS. BESS shall be charged fully from solar power generation that is over and above the evacuation capacity during daytime. The energy stored in the BESS shall be discharged completely at the BESS rated Power during non-solar hours so as to deliver the expected dispatchable energy at the PCC as specified elsewhere in the specifications .
627	2A Tech Specifications	152 of 182	3.1 Table 2	Rated No of Cycles (Minimum) : 4000 cycles at rated energy capacity at 80% Depth of Discharge (DoD) at 25oC and up to C/3 Rate of Discharge	Can we offer solutions with better cyclic life, say upto 6000 cycles. This would avoid the necessity of complete battery bank replacement and this save future costs to SECI. Would this be treated as a better solution by SECI and its marginally higher costs be spread over the project life?	Technical	Battery Parameters are not considered in bid evaluation. However, if the Bidder proposes a solution with higher no. of cycles (say 6000), the DoD (shall be minimum 80%) corresponding to 4000 cycles for such solution shall be acceptable for sizing purposes provided all other performance critria related to dispatchable energy, RtE, End of Life etc. as per tender specifications including OEM warranties remain the same. Please refer S. No.80 of Amendment.
628	2A Tech Specifications	152 of 182	3.1 Table 2	System ac-dc-ac efficiency*: >80%	Can we offer the Systems with higher ac-dc-ac efficiency : say >85%, thereby enabling SECI to take advantage of the energy efficient and environmentally sustainable BESS solutions with increased energy throughput over the design life? Would this be treated as a better solution by SECI and its marginally higher costs be spread over the project life?	Technical	Battery Parameters are not considered in bid evaluation. However, if the Bidder proposes a solution with higher RtE (say 85%), the same shall be acceptable for sizing purposes provided other criteria i.e. minimum DoD 80% and minimum 4000 cycles are also met and all other performance critria related to dispatchable energy, End of Life etc. as per tender specifications including OEM warranties remain the same. Please refer S. No.80 of Amendment.
629	2A Tech Specifications	152 of 182	3.1 Table 2	Watt-hour rating (dispatchable capacity) : 150 MWh ,dispatchable at the beginning of life (i.e. at the time of Commissioning) and minimum throughput capacity at the beginning of each year as per below table: …. values .... Dispatchable capacity shall not be less than 80% of Beginning of Life capacity at any point of time up to End of Battery Life.	In case of higher degradation than anticipated, would the Battery augmentation be allowed during this 10 years period (as mentioned ion clause 4.5.2, Page 156 of 182)?	Technical	In case of higher degradation, Contractor shall be required to replace/augment the battery to the extent of the minimum specified daily dispatchable energy for the year. Further, the Contractor shall be liable for Liquidated Damages for Shortfall in Equipment Availability as per Annexure 2 to Annexure - C (Page 680/1149)

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630	2A Tech Specifications	152 of 182	3.1 Table 2	Reactive Power Rating : NA	However, in Section 3.2.2 (Page 154 of 182), Overall Reactive Power rating, it is mentioned as follows: In accordance with the VAR-related control modes identified in this specification, if any, the BESS shall be capable of dispatching both leading and lagging reactive power at the PCC, up to the rated VAR capacity specified in Table-2, regardless of whether the battery is being simultaneously discharged or charged. This rating shall be referred to in all project documentation, including this specification, as the nameplate VAR rating. The BESS shall be capable of simultaneously producing real and reactive power as long as no nameplate rating is exceeded. That is, the combination of operation at full nameplate watt rating and full nameplate VAR rating shall not exceed the nameplate VA rating. We want to know which condition prevails and how much reactive power is needed in this 50MW BESS system	Technical	The BESS is not required to supply Reactive power.
631	2A Tech Specifications	153 of 182	3.1 Table 2	Grid Charging : NO	During higher ambient temperatures (especially summer months), the HVAC might be needed in Post Sunshine hours to maintain batteries at desired temperature. Can we consider auxiliary power for HVAC and Yard lighting / other small needs from the GRID?	Technical	BESS auxiliary load may be met through any source. However, the required energy dispatch as measured at the PCC shall be as per the specifications.
632	2A Tech Specifications	156 of 182	4.5.2	It shall be the responsibility of the Contractor to make periodic replacements/replenishments of unit batteries, if and when required, up to the End of Battery Life as described above. Outage time as a result of replacement will also be accounted as an “Accountable BESS Outage” for the purpose of computing BESS Availability.	Can the Bidder consider the threshold capacity of 150 MWh (dispatchable) at the time of commissioning, and plan for periodic augmentation of battery capacity over the 10 years, to match the "minimum throughput capacity at the beginning of year, as per Table 2, page 152 of 182) in case of higher degradation?	Technical	BESS dispatchable capacity at the time of capacity shall be 120 MWh as per the revised project capacity (Please refer relevant amendment in this regard). The minimum dispatchable capacities year-wise specified in the table 2 are the minimum expected throughput from battery per day during the year. The Contractor shall size the battery so as to ensure minimum daily throughput from the battery as provided in the table against the given year. Since the battery is expected to degrade during the operation in the year, the same shall be accounted for. The Contractor shall augment/replace batteries to achieve minimum expected throughput specified herein.
633	2A Tech Specifications	152 of 182	3.1 Table 2	Watt-hour rating (dispatchable capacity) : 150 MWh ,dispatchable at the beginning of life (i.e. at the time of Commissioning) and minimum throughput capacity at the beginning of each year as per below table: …. Values for Year 1: 147 MWh, year 2: 144 MWh	Requesting you kindly clarify the difference between these two values, namely BESS Capacity of 150 MWh at the time of commissioning V/s 147 MWh at the beginning of Year 1 (since BESS commissioning would happen along with plant commissioning, in the beginning of year 1 itself)	Technical	Year 1 refers to Year 1 from the date of Commissioning. BESS dispatchable capacity at the time of commissioning shall be 120 MWh as per the revised project capacity (Please refer relevant amendment in this regard). The minimum dispatchable capacities year-wise specified in the table 2 are the expected minimum throughput from battery every day during the year. The Contractor shall size the battery so as to ensure minimum daily throughput from the battery as provided in the table against the given year.

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634	2A Tech Specifications	157 of 182	4.6	Reliability, Availability, and Operability of the BESS: Availability Availability is the percentage of hours that the BESS is available during the year. The availability guarantee shall begin upon facility commissioning. Annual availability shall be calculated as follows ..... Formula	In order to improve the BESS availability, is it permitted to slightly increase the storage capacity, so as to ensure desired capacity being available at any point, even if a few battery modules are unavailable for any reason? Will that improve the availability Percentage?	Technical	Yes, as Expected Energy Output from Battery (Throughput) is defined in Clause 3.1.
635	2A Tech Specifications	157 of 182	4.6	Reliability, Availability, and Operability of the BESS: Availability Availability is the percentage of hours that the BESS is available during the year. The availability guarantee shall begin upon facility commissioning. Annual availability shall be calculated as follows ..... Formula	In case of any battery module malfunction during "non discharge hours" and it is rectified immediately (before the next discharge), will that be counted under unavailability? Especially when this does not impact the day's throughput ?	Technical	If the battery capacity (or any part of it) is not available to execute a functional requirement when it is called upon to do so, it shall be an accountable BESS outage.
636	2A Tech Specifications	174 of 182	12.2	Factory Acceptance Testing of BESS : Where full-scale testing of larger systems at the factory may be difficult or impossible due to the large system, the FAT shall be carried out at a subsystem or module level and shall consist of tests of 100% of the subsystems or modules that comprise the complete BESS, to the extent possible.	Since the different components of BESS come from different countries, it would be possible to conduct tests with identical "representative samples" maintaining full functionality. However the actual lot of batteries and inverters can be tested at site during acceptance testing. Wanted confirmation for the same	Technical	For meeting system level testing requirements as per UL 9540 and 9540A, shall be carried out on fully assembled system at site as part of SAT.

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Annexure 1

SECTION – VII, A. SCOPE OF WORKS

1. Project Particulars

Design and Engineering	
Plant AC capacity (MW)	**100**
Minimum DC Capacity (MWp)	**160**
Cell/Module Technology	**Bifacial** (Mono-crystalline/Polycrystalline)
Cumulative Inverter Capacity (Min.)	**120 MW**
Cumulative Inverter Transformer Capacity (Min.)	**120 MVA**
Power Transformer Capacity	**3*40 MVA**
Battery Energy Storage System (BESS)	**40 MW/ 120 MWh (Dispatchable)**
Origin of manufacturer	Open
O&M period	10 years
Design life of PV Power plant	25 years
Site Location and Land Details (Please refer SECTION – VII, C. Special Technical Conditions for details)	
Site coordinates	**Refer Annexure E:** Contour Drawings with Plant boundary Details Uploaded.
Villages	Rangakathera, Dundera, Dhaba, Kohka, Amlidih, Girgaon, Margaon, Odarbandh, Tolagaon
Tehsil	Dongargaon
District	Rajnandgaon
State	Chhattisgarh
Type of Land	Govt. Land
Owner of Project	Solar Energy Corporation of India Limited
Owner of Land	Chhattisgarh State Revenue Department
Electrical Interconnection Details	
Substation Details	220/132 kV Telkadih Substation

Interconnection Voltage Level	132 kV, through Double circuit Double Strung transmission line (75 MW each) from project site till **interconnection S/S as per the specifications of CSPTCL, including construction of Double Bus Scheme with associated protection and switching equipment at 132 kV Plant End Substation and a spare 33 kV feeder.** **The BESS capacity shall be divided into at least two systems and coupled with the Solar PV Array at the 33 kV bus (separate Bus sections).**
Metering	**Metering for the Plant CUF Guarantee shall be done on the ABT Meter on the 132 kV side of the Plant End Substation.** **Metering for the BESS Availability Guarantees shall be done at the 33 kV Side of the PCC.**
Distance to connecting substation (approx.)	**33 kms**.
Access	
Nearest Urban Area	Rajnandgaon (25 km)
Nearest Highway	Nagpur – Bhandara – Rajnandgaon – Raipur Highway (AH46 or NH-6)- Adjacent at the southern extreme
Nearest Railway Station	Dongargarh (15 km)
Nearest Domestic Airport	Swami Vivekananda Airport, Raipur (approx. 80 kms)
Performance Guarantee Parameters	
Performance Ratio (PR)	82%
Capacity Utilization Factor (CUF)	**28.7%**
BESS Availability	**98%**
Other Details	
Construction Water	It is the responsibility of the EPC

	contractor.
Construction Power	It is the responsibility of the EPC contractor.

2. Special Technical Specifications

Finishing Details of Guest House: Finishing works of the Guest House shall be as per following details:

Proposed List of Items for furnishing Guest House/Transit Accommodation			
S. No.	**Description**	**Quantity**	**Remark**
A	**Flooring**		
1	**Balcony, Toilet**		
	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer), of 1st quality conforming to IS:15622, of approved make, in all colours, shades, except White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick bed of cement mortar 1:4 (1 Cement : 4 Coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including pointing the joints with white cement and matching pigments etc., complete. Colour & Shade to be finalized by Engineer-in-charge.		Qty. to be calculated from provided architectural drawing/ layout
2	**Bedroom 1, Bedroom 2, Lounge, Recreational Area, Dining, Pantry, Store, Reception**		
	Providing and laying vitrified floor tiles of different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments		Qty. to be calculated from provided architectural drawing/ layout

	etc., complete. Size 600 X 600 mm Shade & Colour to be finalized by Engineer-in-charge.		
3	**Portico**		
	Providing and laying flamed finish Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge. Flamed finish granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent.		Qty. to be calculated from provided architectural drawing/ layout
B	**Walls**		
1	**Interior walls of Balcony, Bedroom 1, Bedroom 2, Dining, Lounge, Recreational Area, Pantry, Store, Reception, Toilet etc.**		
	12 mm cement plaster of mix 1:6 (1 cement: 6 coarse sand)		Qty. to be calculated from provided architectural drawing/ layout
	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.		
	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade : Two or more coats on new work		

2	**Exterior walls of Balcony, Bedroom 1, Bedroom 2, Dining, Lounge, Recreational Area, Pantry, Store, Reception, Toilet, Parapet etc.**		
	15 mm cement plaster on rough side of single or half brick wall of mix: 1:6 (1 cement: 6 coarse sand)		Qty. to be calculated from provided architectural drawing/ layout
	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.		
	Finishing walls with textured exterior paint of required shade : New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm		
3	**Glass Partition**		
	Providing & fixing 12mm thick toughened glass (of reputed brands) frameless partitions, having machine polished edges. It shall have SS top, bottom and locking arrangement hardware of approved brand and design. Include door opening where necessary including SS handle of approved design and shape. The toughened glass shall have design/pattern on it Gap between two glass edge shall be filled with colorless silicon sealant. the job shall be completed including all hardwares and cleaning of glasses etc., and as per directions of Engineer In Charge		Qty. to be calculated from provided architectural drawing/ layout
	Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & double action hydraulic floor spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge.		
4	**Decorative Solid Partition**		

	Providing and fixing natural wood veneer decorative solid partition of approved shade and pattern as per directions of Engineer In Charge.		1
5	**Wall tiles in toilet and kitchen**		
	Providing and fixing ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete. Colour & Shade to be finalized by Engineer-in-charge.		Qty. to be calculated from provided architectural drawing/ layout
C	**Ceiling**		
1	6 mm cement plaster of mix : 1:3 (1 cement : 3 fine sand)		Qty. to be calculated from provided architectural drawing/ layout
2	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.		
3	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade : Two or more coats on new work		
D	**Doors & Window**		
1	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters: 30 mm thick including ISI marked Stainless Steel butt hinges with necessary screws		Qty. to be calculated from provided architectural drawing/ layout

2	Providing and fixing aluminium sliding door bolts, ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete : 300x16 mm		do
3	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete : 250x10 mm		do
4	Providing and fixing aluminium handles, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete : 125 mm		do
5	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length. Second class teak wood.		do
6	Providing and fixing factory made laminated veneer lumber glazed shutter conforming to IS: 14616 and TADS 15:2001 (Part B), using 4 mm thick float glass panes for doors, windows and clerestory windows fixing with butt hinges of required size with necessary screws, all as per directions of Engineer-in-charge. 30 mm thick shutters		do
7	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete. Fixed to openings /wooden frames with rawl plugs screws etc. Providing and fixing fly proof galvanized M.S. wire gauge as wire meshing to windows and clerestory windows using wire gauge		do

8	Applying priming coat: With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)		do
9	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade : Two or more coats on new work		do
E	**Railing**		
1	Balcony & Roof Parapet wall		
	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge.		Qty. to be calculated from provided architectural drawing/ layout
F	**Kitchen & Other Slabs**		
1	Providing and fixing 18 mm thick gang saw cut, mirror polished, pre-moulded and pre-polished, machine cut for kitchen platforms, vanity counters, window sills, facies and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels. Granite of any colour and shade.		Qty. to be calculated from provided architectural drawing/ layout
G	**Sanitary & Plumbing Fixtures**		

1	Providing and fixing white vitreous china extended wall mounting water closet of size 780x370x690 mm of approved shape including providing & fixing white vitreous china cistern with dual flush fitting, of flushing capacity 3 litre/ 6 litre (adjustable to 4 litre/ 8 litres), including seat cover, and cistern fittings, nuts, bolts and gasket etc complete.	3 Nos.	
2	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require: White Vitreous China Flat back wash basin size 550x 400 mm with single 15 mm C.P. brass pillar tap	5 Nos.	
3	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required : Kitchen sink without drain board 610x510 mm bowl depth 200 mm	1 No.	
4	Providing and fixing PTMT Bottle Trap for Wash basin and sink.	6 Nos.	
5	Providing and fixing mirror of superior glass and size and shade with 6 mm thick hard board backing : Rectangular shape 453x357 mm min.	3 Nos.	
6	Providing and fixing min. 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with screws, rawl plugs etc., complete.	3 Nos.	
7	Providing and fixing toilet paper holder : C.P. brass	3 Nos.	
8	Providing & Fixing of SS body 1.25 litre liquid soap dispenser with simple push lever fitted with liquid	4 Nos.	

	soap (one time) including cutting and making good the walls, wherever required.		
9	Providing & Fixing ABS/Plastic body paper towel dispenser complete with brackets fixed to wall with PVC rawl plug with CP brass screws complete in all respects, including cutting and making good the wall wherever required.	4 Nos.	
10	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet : 150 mm diameter	3 Nos.	
H	**Fire Extinguisher**		
	Supply, installation, testing and commissioning ISI marked (IS:15683) portable fire extinguisher, water (gas pressure) type capacity 9 kg with gun metal cap and nozzle and complete in all respects including initial fill and wall suspension brackets as required as per specifications.	1 No.	
I	**Light and Fan**		
1	Supply & installation of Surface Mounted 18W LED Batten tube light having housing made from CRCA steel sheet with driver etc. complete as required.	13 Nos.	Numbers are indicative and may increase/ decrease as per site requirement
2	Supply & installation of 150mm dia sweep metal body, 1400 RPM Exhaust fan with guard and mounting arrangement.	4 Nos.	
3	Supply & installation of 1200mm dia sweep ceiling fan copper wound, ISI marked and 5 star rated.	11 Nos.	Numbers are indicative and may increase/ decrease as

			per site requirement
4	Supply of 12W Sleek surface mounted round LED downlighter luminaire in Balcony, Portico, Store, Toilet etc.	7 Nos.	Numbers are indicative and may increase/ decrease as per site requirement
5	Supply of 18W Sleek surface mounted round LED downlighter luminaire in Bedroom, Lounge, Pantry, Dining, Recreational Room, Reception etc.	13 Nos.	Numbers are indicative and may increase/ decrease as per site requirement

Details of plinth filling, roof parapet wall, plinth protection & drain, roofing, water tank and chhajja (for doors and windows) shall be as applicable for plant buildings as per specifications in Annexure A2. Further, MS Staircase with hand rail shall be provided for roof access.

Clause 20.4 Illumination for Outdoor Applications

Plant boundary shall be illuminated with chain-ling post mounted (every 100m) LED floodlights for area lighting as per following specifications:

Input Voltage	AC 220-240V
Frequency	50Hz ~ 60Hz
LED power Consumption	50 W
LED luminous efficiency	85 Lm /W
Led Luminous Flux	4500 lm
lamp's Efficiency	> 88 %
Color Temperature	Cool White

Color Rendering Index	> 75
Light Distribution	Symmetric / circular spot
Light Design	LED+ Reflector
LED Junction Temperature	≤80℃
Working Temperature	-40℃ ~ 55℃
IP Grade	IP65
Mechanical Strength	IK08
Working Life-span	30000 Hrs
Certification	CE& R OHS
Warranty	3 Years Product Replacement

A. Annexure A.2 (Technical Specifications), Part E- Battery Storage Systems, Clause 2.3: Codes and Standards:

The BESS shall comply with the following Codes and Standards or equivalent Indian Standards, as applicable:

Standard	Description	Certification Requirements
IEC 61427-2/IS 16270	Secondary cells and batteries for renewable energy storage for On grid applications - General requirements and methods of test	Required for Cells and Battery Modules
IEC 62485-2	Safety requirements for secondary batteries and battery installations - to meet requirements on safety aspects associated with the erection, use, inspection, maintenance and disposal: Applicable for Lead Acid and NiCd / NiMH batteries	Applicable only for Lead Acid and NiCd / NiMH batteries

UL 1642 or UL 1973, Appendix E (cell) or IEC 62619 (cell) + IEC 63056 (cell)	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for secondary lithium cells and batteries, for use in industrial applications	Required for Cell
UL 1973 (battery) or (IEC 62619 (battery) + IEC 63056 (battery))	Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail (LER) Applications / Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for secondary lithium cells and batteries, for use in industrial applications	Either UL 1642 or UL1973 or (IEC 62619 + IEC 63056) is required for the Battery level
IEC 62281 / UN 38.3	Safety of primary and secondary lithium cells and batteries during transport: Applicable for storage systems using Lithium Ion chemistries	Required for both Battery and Cell.
IEC 61850/ DNP3	Communications networks and management systems. (BESS controlsystem communication)	
UL 9540 or (IEC TS 62933-5-1 + IEC 62933-5-2)	Electrical energy storage (EES) systems - Part 5-1: Safety	Either UL9540 or (IEC 62933-5-1 + IEC 62933-5-2) is required for BESS system level

	considerations for grid-integrated EES systems - General specification / Standard for Energy Storage Systems and Equipment	
UL9540A	Standard for Thermal runaway	Required for BESS system level

ANNEXURE – D

MANDATORY SPARES

S. No.	Equipment/Material	Quantity (for each type and rating)
1	PV Modules	0.25% of total supply
2	Power Conditioning Unit	Spares as per OEM recommendation in case of central inverter/ 0.5% of total capacity in case of string inverters.
3	MC4 connectors (including Y-connector if used)	1% of total supply
4	String Monitoring Unit	10 Nos
5	Inverter Transformer	1 Nos. of Each Rating
6	Power Transformer	1 No. – 50 MVA
7	Inverter Transformer Spare	
	(i) HV bushing with metal parts and gaskets	2 set
	(ii) LV bushing with metal parts and gaskets	2 set
	(iii) WTI with contacts	2 set
8	HT Switchgear	
	(i) Vacuum pole	2 nos.
	(ii) Closing coil	2 nos.
	(iii) Tripping coil	2 nos.
	(iv) Spring charging motor	2 nos.
	(v) Relay	2 nos.
	(vi) Meter	2 nos.
	(vii) Current Transformer	2 nos.
	(viii) MCCB	2 nos.
	(ix) MCB	2 nos.
	(x) Fuse	10% of total supply

	(xi) Indicating lamp	10% of total supply
	(xii) Rotary switch	10% of total supply
9	LT Switchgear	
	(i) MCCB	2 nos.
	(ii) MCB	2 nos.
	(iii) Fuse	10% of total supply
	(iv) Relay	2 nos.
	(v) Meter	2 nos.
	(vi) Current Transformer	2 nos.
	(vii) Voltage Transformer	2 nos.
	(viii) Indicating lamp	10% of total supply
	(ix) Rotary switch	10% of total supply
10	Battery	2% of total supply along with all Cell/ Battery Auxiliary Systems, interconnectors, monitoring devices to be **racked as per the main system design and kept as hot standby**
11	**132 kv Transmission line material/Tower accessories/ Templates:**	
I.	**Steel Tower -** Transmission towers including body and leg extensions (complete) including stubs and hangers , cleats, Galvanized Steel Sections (for replacement), nuts and bolts	02 nos. with set
II.	Conductor Joint Sleeve, Earth Wire Joints, Armor Rods, Suspension insulator string with fittings and clamp, Tension insulator string with fittings and clamp	02 Nos.
III.	**Conductor -** ACSR conductor (for132 kV lines), Earth Wire and OPGW	1 Km of each size
12	**132 kv Switchyard Equipment**	

I.	**General For 132 KV**	
	SF6 gas Pressure Relief Devices of each type along with O-rings, Coupling Device for Pressure gauge cum switch , Rubber Gaskets and Seals, Control Valves, Locking devices for Connectors/Switches, Spares for local control cabinet including MCB, fuses, timers, relays, push buttons, lamps, support Insulators/Gas barriers, SF6 to air bushing	2 Sets each
II.	SF6 gas	20% of total gas quantity.
13	**132 kv CIRCUIT BREAKER**	
I.	Complete Circuit Breaker (1 phase unit) of each type& rating complete with interrupter, main circuit, enclosure and Marshalling Box with operating mechanism, Trip Coil Assembly (3 Nos. of each type), Auxiliary Switch Assembly, Closing Coil Assembly, Relays, Power Contactors, push buttons, timers & MCBs etc. of each type and rating	01 set
14	**ISOLATORS**	
I.	Complete set of 3 nos. of single phase / one 3-phase isolator of each type, dimension, current & voltage rating including main circuit, enclosure, driving mechanism and support Insulator etc.	1 set
II.	3 Nos. of single phase/ one no of 3-phase Maintenance Earthing switch of each type, dimension, current & voltage including main circuit, enclosure, driving mechanism and support Insulator etc. to enable replacement of any type/rating of Earth Switch by spare	1 set
III.	Copper contact fingers for isolator male & female contact along with corona shield– for one complete (3phase) isolator of each type and rating	1 set
IV.	Copper contact fingers for Maintenance Earthing switch, male & female contacts along with corona	2 Nos.

	shield for one complete (3 phase) earthing switch of each type and rating	
V.	Open / Close contactor assembly, timers, key interlock, interlocking coils, relays, push buttons, indicating lamps Power contactors, resistors, fuses, MCBs & drive control cards etc. for one complete MOM box dis-connector and (3 phase) earthing switch of each type and rating. (i) For isolator (ii) For Maintenance Earth switch	1 Set
VI.	Limit switch and Aux. Switches for complete 3 phase equipment a. For isolator b. For Maintenance Earth switch	1 No.
15	**132 kV SURGE ARRESTOR**	
I.	Gas insulated SA for 132 kv and ratings enclosure & surge monitor/ counter of each rating and type	1 No.
16	**Voltage Transformer**	
I.	Complete VT of each type and rating with enclosure to enable replacement of any type/rating of VT.	1 No.
17	**CURRENT TRANSFORMER**	
I.	Complete CT of each type and rating with enclosure	1 No.
18	**33 kv line/ Pole accessories/Templates:**	
I.	Line supports - PCC Pole, 33 kV MS Angle, Back Clamp, Top Clamps, earthing Coil, 33 kV Pin Insulators,	2 Nos.
II.	Conductor	.2 Km.
III.	Jointing Sleeves , stay set complete with turn buckles, stay wire, stay insulators, anti Climbing Devices, Danger Boards	4 Nos.
19	**33 kV Switchyard Equipment**	
I.	33 kV VCB, outdoor with complete structure and accessories	1 NO
II.	33 kV CT and PT	3 Nos.

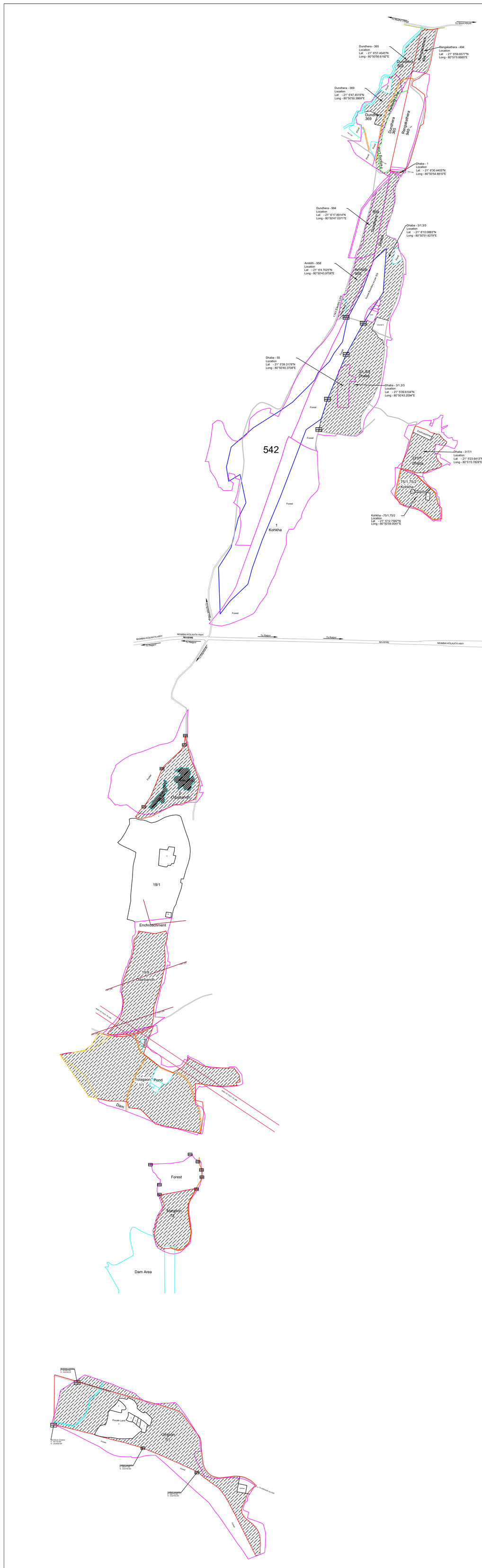
III.	33 kv control & relay panel with numerical static relay for feeder protection	3 Nos.
IV.	33 kv isolator , LA	3 Nos.
V. VI.	For substation metering- trivector meter class of accuracy 0.5s	1 Each
VII.	Copper Control Cable , each size	.2 KM
VIII.	Marshalling box with connectors	1 No.
20	**STRUCTURES AND BUS-BAR ARRANGEMENTS**	
I.	33 KV Pin Type and Disc Type Insulators	6 Nos.

Spares, if used, during the O&M period shall be replenished by the Contractor. All the mandatory spares shall be handed over to the Employer in working condition at the end of O&M period.

Annexure- 'A'

S.NO	VILLAGE NAME	KHASRA NO	AREA AS PER COLLECTOR	Net area available after site survey
I	RENGAKATHERA	494	3.222	3.222
		940	4.857	0.000
SUB- TOTAL (I)			8.079	3.222
II	DUNDHERA	365	9.222	3.749
		369	5.104	3.976
		971/1,3	2.246	0.000
		993/1,3	2.549	
		994	5.990	5.990
SUB- TOTAL (II)			25.111	13.715
III	AMLIDEEH	958	40.560	5.133
SUB- TOTAL (III)			40.560	5.133
IV	DHABA	1	0.243	0.219
		3/1	39.701	29.699
		3/3	10.926	
		55	2.581	2.655
		317/1	9.591	6.211
SUB- TOTAL (IV)			63.042	38.784
V	KOHKHA	1	36.297	0.000
		75/1	7.800	6.383
		75/2	0.405	
SUB- TOTAL (V)			44.502	6.383
VI	ODARBANDH	2	30.443	11.906
		19/9	22.893	18.878
SUB- TOTAL (VI)			53.336	30.784
VII	TOLAGAON	1/1	51.092	43.400
SUB- TOTAL (VII)			51.092	43.400
VIII	MARGAON	72	19.668	9.789
SUB- TOTAL (VIII)			19.668	9.789
IX	GIRGAON	1/2	52.878	37.550
SUB- TOTAL (IX)			52.878	37.550
X	GUGHWA	1	19.243	0.000
SUB- TOTAL (X)			19.243	0.000

SUB- TOTAL (I+II+III+IV+V)	**181.294**	**67.238**
SUB- TOTAL (VI+VII+VIII+IX+X)	**196.217**	**121.522**
TOTAL LAND AREA	**377.511**	**188.760**

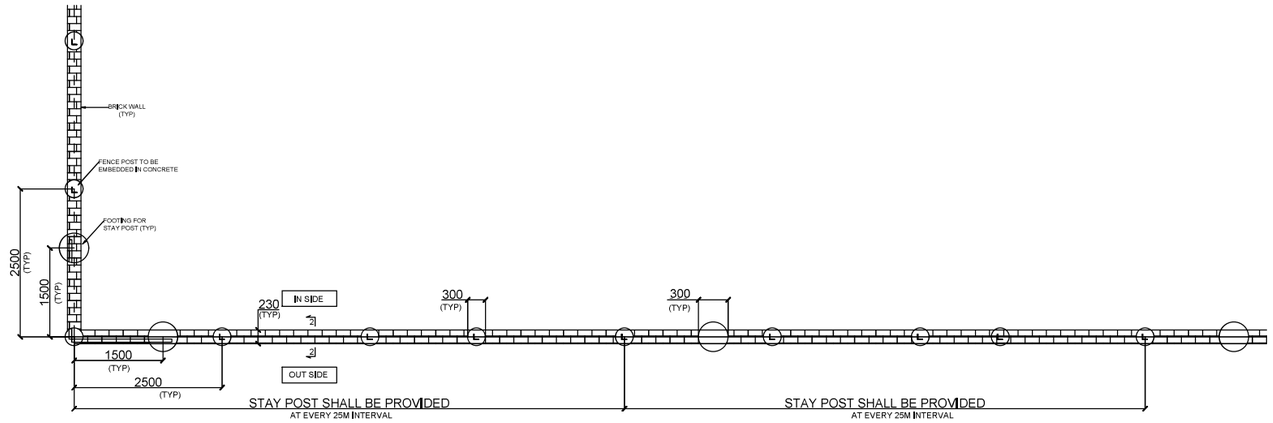


Legend			
Khasra Line		Electric Line	
Forest Line		Highway	NH-AH46
Forest Munara	FOREST MUNARA	Fencing Line	
Solar Project Area		OFC Line	
Cart Track			
Nallah			
Pond	Pond		
Road			

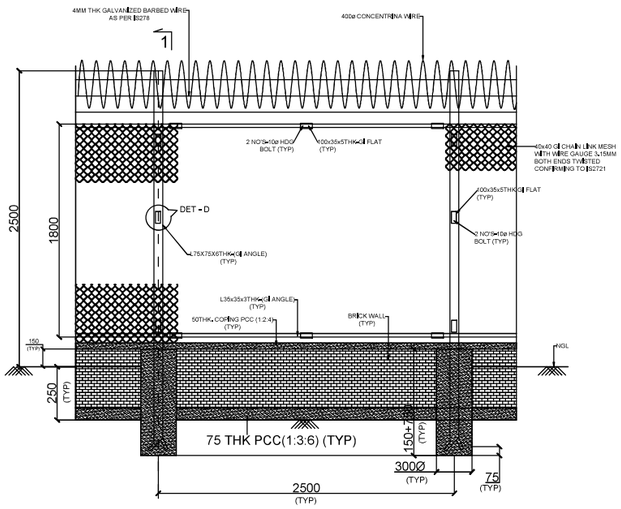
TITLE : -

100 MW (AC) Solar PV Project (200MWp DC Capacity) with 50 MW/150 MWh Battery Energy Storage System at Rajnandgaon, Chhattisgarh

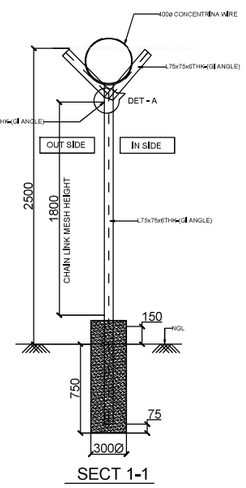
PROJECT COORDINATE SYSTEM & UTM ZONE		N	DRAWN	CHKD.	APPR.	SHEET
DATUM	PROJECTION		DATE	DATE	DATE	REV.
WGS-84	44N	SCALE NTS	PART/DWG NUMBER			SHEET SIZE



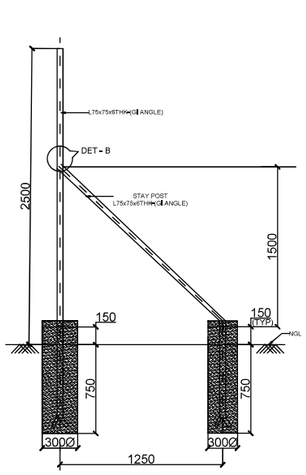
PLAN OF FOUNDATION



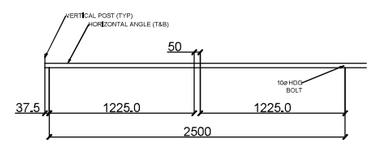
ELEVATION FOR BOUNDARY FENCING



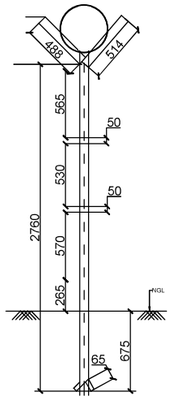
SECT 1-1



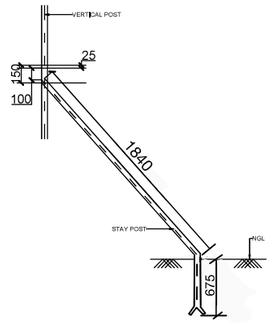
STAY POST DETAILS



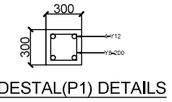
HORIZONTAL ANGLE DETAILS



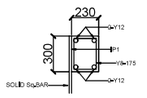
SECT 1-1



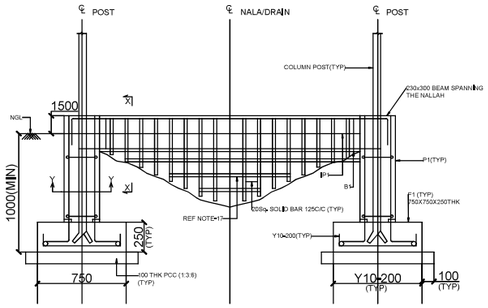
STAY POST DETAILS



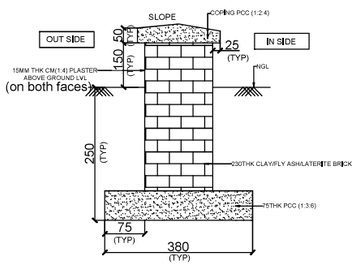
PEDESTAL(P1) DETAILS



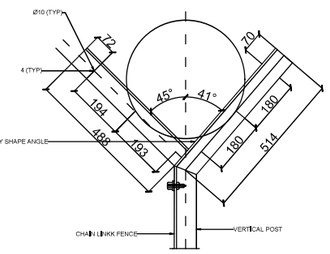
SECT X-X (B1 230x300)



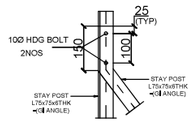
DETAILS AT NALLAH CROSSING/POND



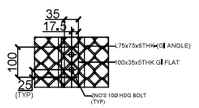
SECT 2-2
SECTION AT TOE WALL



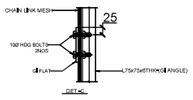
DET-A (TYP)

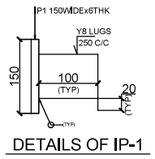


DET - B



DET - D





DETAILS OF IP-1

LEGEND

PCC	——	PLAIN CEMENT CONCRETE
NGL	——	NATURAL GROUND LEVEL
DET	——	DETAIL
TYP	——	TYPICAL
HDG	——	HOT DIP GALVANIZED
GI	——	GALVANIZED IRON
Eq	——	EQUAL
T&B	——	TOP & BOTTOM

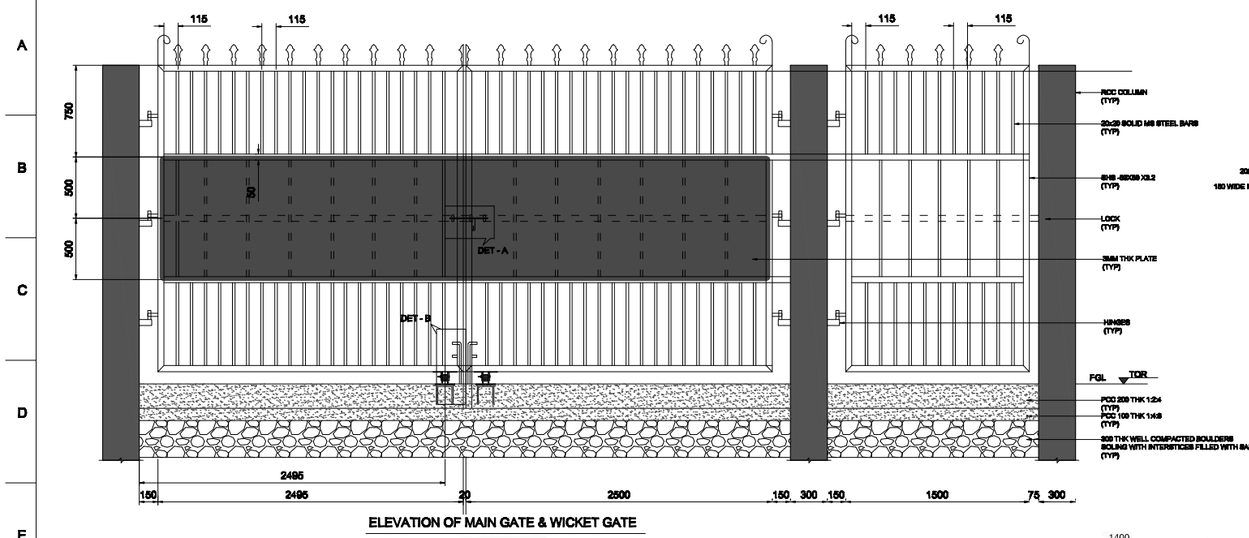
NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS AND ELEVATION IN METERS.
2. ALL STRUCTURAL STEEL WORKS SHALL CONFORM TO IS:2062 GRADE-E250.
3. ALL DIMENSIONS TO BE CHECKED BEFORE FABRICATION OF STEEL WORK.
4. GALVANIZATION ON WIRES SHALL CONFORM TO IS:4826 HEAVY DUTY.
5. GALVANIZATION THICKNESS SHALL BE 80 MICRONS MIN.
6. FENCING HEIGHT SHALL FOLLOW THE NATURAL CONTOUR OF LAND.
7. BARBED WIRE SHALL BE OF MINIMUM 4MM DIA AND OF APPROVED MAKE. IT SHALL CONFORM TO IS:278.
8. THE BARBED WIRES SHALL BE INSERTED IN THE SLOTTED HOLE AND BINDED WITH BINDING WIRES.
9. TWO STAY POST SHALL BE PROVIDED AT EVERY CORNER COLUMN POST AND WHEREVER CHANGE IN ELEVATION/LEVEL.EVERY TENTH INTERMEDIATE POST SHALL BE WITH A STAY POST.
10. GRADE OF CONCRETE SHALL BE M25 WITH 20MM NOMINAL SIZE GRADED AGGREGATES AS PER IS:456.
11. ALL REINFORCEMENT SHALL BE HIGH STRENGTH TMT BARS OF GRADE FE500D CONFORMING TO IS:786.
12. CLEAR COVER TO REINFORCEMENT SHALL BE AS FOLLOWS:
    FOOTING = 50MM, COLUMN = 40MM & BEAM = 25MM.
13. HOLE DIAMETER SHALL BE 2MM LARGER THAN BOLT DIA.
14. A GRILL OF 20MM SQ. SOLID MS BAR WELDED TO IP1 AT SPACING OF 125MM C/C, WITH 20SQ HORZ.BARS OR 35MMX5MM THK FLAT WELDED TO VERTICAL SQ BARS AT SUITABLE INTERVALS (MIN. 3 NO OF THE BARS/FLATS) SHALL BE PROVIDED IN LIEU OF TOE WALL.
15. HEIGHT OF THE VERTICAL SQ SOLID MS BAR WILL VARY BASED ON ACTUAL NALLAH/DRAIN DEPTH.
16. POST ON EITHER SIDE OF NALA SHALL BE SUPPORTED WITH PEDESTAL & FOOTING ARRANGEMENT WITH A BEAM SPANNING ACROSS THE NALLAH/POND TO SUPPORT THE GRILLAGE AS SHOWN.
17. THE FOUNDATION OF THE STAY POSTS SHALL BE OF THE SAME SIZE AS THAT OF THE MAIN POSTS.
18. THE CHAIN LINK MESH FABRIC SHALL BE FIXED AT THREE POINTS EACH TO THE TOP AND BOTTOM EDGE ANGLES USING 100x35x5 GI FLATS.
19. ALL MS PART SHALL BE PAINTED WITH 2 COATS OF EPOXY PAINT OVER 2 COATS OF ZINC CHROMATE PRIMER.
20. ALL WELDS SHALL BE 6MM THICK UNO.
21. THREE NOs. OF 4MM THICK BARBED WIRES SHALL BE FIXED TO EACH ARM OF THE Y-SHAPED ANGLE SUPPORTS, ALONG WITH 400MM DIAMETER GI CONCERTINA WIRE.

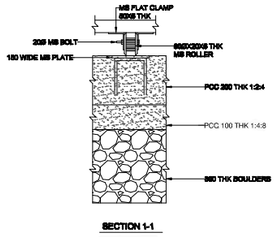
PROJECT CODE:				
PROJECT: 100 MW (AC) Solar PV Project (200MWp DC Capacity) along with 50MW/150 MWh Battery Energy Storage				
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN mm				
TOLERANCES				
NO D.P. ± 1mm	ONE D.P. ± 0.5mm	TWO D.P. ± 0.25mm	ONE D.P. ± 0.5°	SCALE: NTS

CHAIN LINK FENCE DRAWING

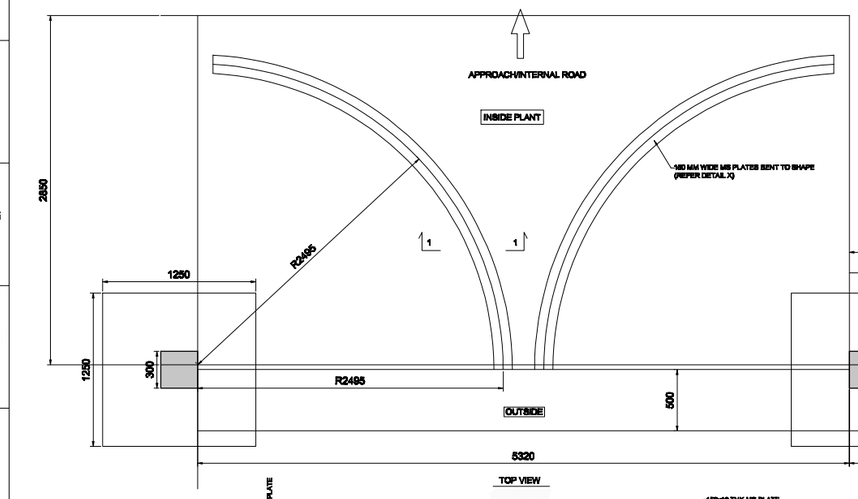
DRAWN	CHKD.	APPR.	SHEET
DATE	DATE	DATE	REV.
PART/DWG NUMBER-			SHEET SIZE A1



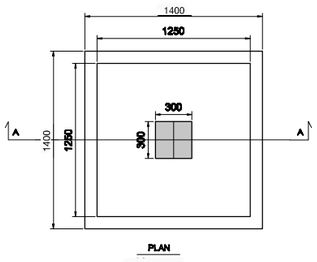
ELEVATION OF MAIN GATE & WICKET GATE



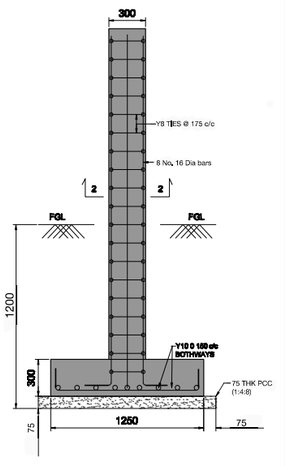
SECTION 1-1

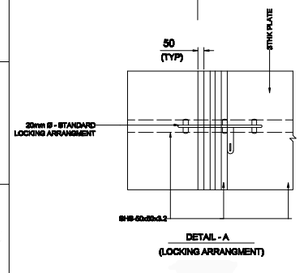


TOP VIEW

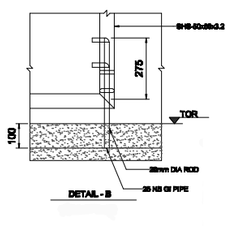


PLAN

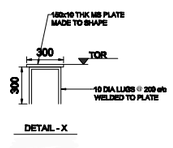




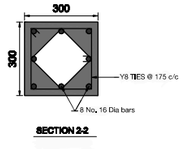
DETAIL - A (LOCKING ARRANGEMENT)



DETAIL - B



DETAIL - X



SECTION 2-2

LEGEND

FGL	—	FINISHED GROUND LEVEL
TYP	—	TYPICAL
THK	—	THICK
NB	—	NOMINAL BORE
TOR	—	TOP OF ROAD

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. DO NOT SCALE THE DRAWING. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. CONCRETE SHALL BE OF M25 GRADE WITH 20 MM NOMINAL SIZE GRADED AGGREGATES CONFORMING TO IS:456-2000.
4. REINFORCEMENT BARS SHALL BE HIGH YIELD STRENGTH TMT BARS OF GRADE FE 500D CONFORMING TO IS:1786.
5. BENDING OF BARS SHALL CONFORM TO IS:2052.
6. LAP LENGTH/DEVELOPMENT LENGTH OF BARS SHALL BE 50XDIA OF SMALL BAR.
7. DRAWING SHALL BE READ IN CONJUGATION WITH THE LAYOUT DRAWING.
8. CLEAR COVER FOR MAIN REINFORCEMENT:
   a) FOOTING - 50 MM, b) PEDESTAL - 40 MM, C) COLUMN - 40 MM
9. HINGE LOCKING ARRANGEMENT AND DROP RODS ARE INDICATIVE ONLY AND SHALL BE AS PER MANUFACTURER'S PROVISION. SAME SHALL BE OF HEAVY DUTY TYPE.
10. ALL THE FITTINGS SHALL BE GI FITTINGS.
11. ALL STRUCTURAL STEEL WORK SHALL CONFORM TO IS:2062 GRADE-A & E-250.
12. WELD SIZE SHALL BE MIN 5 MM UNLESS NOTED OTHERWISE.
13. GATE & NAME PLATE SHALL BE PAINTED WITH 2 COATS OF EPOXY (TOTAL DFT 150 MICRONS) OF APPROVED MAKE AND SHADE OVER 2 COATS OF SUITABLE PRIMER.

PROJECT CODE:					ENTRANCE GATE DRAWING	DRAWN / CHKD. / APPR.	SHEET
PROJECT: 100 MW(AC) Solar PV Project (200 MWp DC Capacity) along with 50 MW/150 MWh Battery Energy Storage						DATE / DATE / DATE	REV.
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN mm						PART/DWG NUMBER-	SHEET SIZE A1
TOLERANCES							
NO D.P. ± 1mm	ONE D.P. ± 0.6mm	TWO D.P. ± 0.26mm	ONE D.P. ± 0.5°	SCALE NTS			