	Amendmen	-		C) PV Power Plant with BESS at Tangtse and Dur	buk in Leh district of J&K dated 20.08.2018
S. No.	Section	Page No.	Clause	Original Clause	Amended Clause/New Clause
1	ITB	23 of 45	32.3.6	EPC/ LSTK Contract Value i.e., Total sum of the price comprising of FOR destination basis Supply including Transportation for delivery at site and Transit Insurance of all Equipments and materials including mandatory spares and any other supplies specified in the Contract Documents, providing all services i.e. unloading, storage, handling at site, Erection all risk insurance, Civil works, Erection, Installation, Testing and Commissioning, performance testing in respect of all the equipment's supplied and any other services specified in the Contract Documents including Goods & Service Tax as per the Technical Scope of Work.	Total Sum of the price for Ex-Works basis Supply of all Equipment and materials including mandatory spares and any other supplies specified in the Tender Documents For providing all services i.e. Transportation for delivery at site, Transit Insurance, Unloading, Storage, Handling at Site, Civil Works, Erection, Installation, Insurance, Testing and Commissioning including Performance Testing in respect of all the Equipment supplied and any other services specified in the Tender Documents including Goods & Service Tax as per the Technical Scope of Work.
2	SCC	5 of 9	8 (1)	During the Operational Acceptance any shortfall in the Performance Ratio (PR) as determined through the PR Test Procedure specified Section VII, Scope of Work and Technical Specifications, Annexure – B "PERFORMANCE GUARANTEE TEST PROCEDURE", will attract imposition of penalty. For every 0.01 shortfall in PR below 0.78 by the bidder, a penalty of 0.1% of the total Contract Value (i.e., total sum of all the Supply Contract, Service Contract and absolute value of O & M Contract) shall be levied. In case the Plant PR result is 0.05 below 0.78, i.e., 0.73 or lower, the total Contract Performance Security submitted by the bidder will be forfeited. In case the Contract Performance Security has already been encashed on account of delays, the due amount will be recovered from the Final Instalment of the EPC payable at the end of the first year (as per the Terms of Payment specified in SCC)	During the Operational Acceptance after providing 03 chances for the PR demonstration, any shortfall in the Performance Ratio (PR) as determined through the PR Test Procedure specified in Section VII, Scope of Work and Technical Specifications, & "PERFORMANCE GUARANTEE TEST PROCEDURE", will attract imposition of penalty. For every 0.01 shortfall in PR below 0.82, a penalty of 1% of the total Contract Value (i.e., total sum of all the Supply, Service and absolute value of O & M Contract) shall be levied. In case the Contract Performance Security has already been encashed on account of any default/delays, the penalty amount will be recovered from any due payments to the contractor. In case the Plant PR result is less than 0.77, the total Contract Performance Security submitted by the contractor will be forfeited.

3	SCC	9 of 9	14	New Clause (Compensation for BESS availability shortfall)	If the annual BESS availability is less than 90% during any year, then Contractor shall compensate the Owner an amount calculated as per the following formula. COM=((99-EA)/EA)×C×E where, COM is Compensation payable to the Owner in rupees EA is Annual BESS Availability C is the applicable tariff (₹8.0/kWh) E is the energy output from BESS in kWh during the respective year
4	Forms and Formats	6 of 36	Coverin g Letter (point 11)	We confirm that all the terms and conditions of our Bid are valid for acceptance for a period as specified in BDS {180 (One Hundred and Eighty Days)} from the date of opening of "Techno-Commercial/ Un-priced Bid (Envelope-I)"	We confirm that all the terms and conditions of our Bid are valid for acceptance for a period as specified in BDS {150 (One Hundred and Fifty Days)} from the date of opening of "Techno-Commercial/ Un-priced Bid (Envelope-I)"
5	Scope of Works	2 of 14	1.1	Technology: Mono/ Multi crystalline	Technology: Mono/ Multi crystalline - Both cells and modules shall be indigenously manufactured
6	Scope of Works	6 of 14	4.1.24	Any other equipment / material, not mentioned but required to complete the Solar Power Plant facilities in all respect.	Indoor switchgear panels having incoming and outgoing feeders with VCBs, CTs, PTs, TVM, Bus bars and cables terminals kits. The control and relay panel should form integral part of the switchgear (i.e. should be physically integrated into one unit).
7	Scope of Works	6 of 14	4.1.25	New Clause	Any other equipment / material, not mentioned but required to complete the Solar Power Plant facilities in all respect.
8	Annexure-C (Special Technical Specifications)	11 of 14	2	The proposed land is covered with pebbles and protruding rock structures varying in height up to approx. 500 mm-600mm which would be generally cleared by the owner. However minor undulations shall require some area grading and levelling which is in the scope of EPC Contractor	Complete site levelling and grading work for the project is in the scope of EPC Contractor
9	Annexure-C (Special Technical Specifications)	13 of 14	22	New Clause	Kindly refer Annexure-I to Amendment-1.

10	Annexure-C (Special Technical Specifications)	13 of 14	23	New Clause	Kindly refer Annexure-II to Amendment-1.
11	Technical Specifications	6 of 118	1.1	distribution grid for exchange of power, in a manner that	The primary design philosophy is to construct the Plant Facilities with in-built Quality and appropriate redundancy to achieve high availability and reliability, minimum maintenance efforts, provision for remote access, monitoring and control of specific plant parameters. In order to achieve this, the following design principles shall be adopted while designing the system.
12	Technical Specifications	6 of 118	1.1.9	The MEMS shall be implemented over a distributed microcontroller architecture with local controllers for interfacing with, monitoring and controlling the Solar PV System, BESS and Diesel generators (existing).	VOID
13	Technical Specifications	6 of 118	1.1.10	The MEMS shall enable interoperability of the different controllers and components needed to operate through cohesive and platform-independent interfaces.	VOID
14	Technical Specifications	9 of 118	2.2	Module Efficiency More than 18% for mono-crystalline More than 17% for multi-crystalline	Module Efficiency More than 17.5% for mono-crystalline More than 16.5% for multi-crystalline

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15	Technical Specifications	13 of 118	3.2.3	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. It should also have a reverse blocking diode at either of the incomer.	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.
16	Technical Specifications	38 of 118	15	SCADA	Kindly refer Annexure-III to Amendment-1.
17	Technical Specifications	46 of 118	18.1	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. (i) Main entry: Covering all the entry/exit 24 hours (ii) Along the Plant Perimeter: Covering complete perimeter of Plant Area to capture all possible intrusion (iii) Control Rooms: Covering Entry/Exit and activities within Control Rooms The Contractor has to propose the locations and number of cameras required for the Plant during bidding, however Employer's decision on number of cameras shall be final.	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 continuous 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 The Contractor has to propose the locations and number of cameras required for the Plant during detailed engineering, however Employer's decision on number of cameras shall be final.
18	Technical Specifications	94 of 118	69.1	Nameplate watt-hour rating, ac (B) = 2MWh (dispatchable) at A MW net ac output at the beginning of life and not less than 80% of this capacity at any point of time up to End of Battery Life.	Nameplate watt-hour rating, ac (B) = 2.5 MWh (dispatchable) at A MW net ac output at the beginning of life and not less than 80% of this capacity at any point of time up to End of Battery Life.
19	Technical Specifications	118 of 118	82	Microgrid Controllers	VOID
20	Technical Specifications	118 of 118	83	New Clause	Kindly refer Annexure-IV to Amendment-1.

21	GCC	37 of 76	45.3	Whenever a fault occurs, the Contractor has to attend to rectify the fault & the fault must be rectified within the 24 hours from the time of occurrence of fault, failing which the Contractor will be liable for additional liquidated damages as per reference to the generation parameters accumulated in similar/ associated equipment of the Plant (for example if a block consists of 4 inverters and one inverter is down for more than 24 hours, then the generation for faulty inverter shall be calculated as the average of accumulated generation for the other 3 inverters over the 24 hours duration of fault as the deemed generation) and the LD shall be levied on the deemed generation as per the tariff of (to be decided with MES LEH). The contractor must maintain all the records pertaining to all such faults and necessary measures taken. The date of Comprehensive Operation & Maintenance Contract period shall begin on the date of Operational acceptance. However, operation of the Power Plant means operation of system as per bid and workmanship in order to keep the project trouble free covering the guarantee period including O&M period. The contractor must demonstrate the committed CUF at the end of every year in accordance with commitment made in the Techno-Commercial Enclosures of the Bid.	Whenever any breakdown (which impacts the plant generation) occurs, the Contractor has to attend to rectify the fault & the fault must be rectified within 2 (two) weeks from the time of occurrence of fault, failing which the Contractor will be liable for additional liquidated damages as per reference to the generation parameters accumulated in similar/ associated equipment of the Plant (for example if a block consists of 4 inverters and one inverter is down for more than 2 (two) weeks, then the generation for faulty inverter shall be calculated as the average of accumulated generation for the other 3 inverters over the 2 (two) weeks duration of fault as the deemed generation) and the LD shall be levied on the deemed generation as per the tariff of (to be decided with MES LEH). The contractor must maintain all the records pertaining to all such faults and necessary measures taken. In case of any LD is levied the same will be deducted during the quarterly payment against the O&M. However to avoid any double penalty, the value of deemed generation considered for LD (if any) shall be considered/adjusted during the final CUF measurement at the end of every year. Operation of the Power Plant means operation of system as per bid and workmanship in order to keep the project trouble free covering the guarantee period including O&M period. The contractor must demonstrate the committed CUF at the end of every year in accordance with commitment made in the Techno-Commercial Enclosures of the Bid.
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22	GCC	38 of 76	45.4.4	Any complaint related to unserviceability/improper functioning of any & all component of the plant including but not limited to PV Module, PCU, Transformers, switchgears, SCADA, roads, drainage, water supply lighting system, office infrastructure, CCTV system which is not attended & rectified within 48 hours, shall attract a penalty of Rs. 1000 per 24 hours, which shall be over & above GCC Clause. If such complaint is not rectified within 480 hours from logging of complaint. Executing Agency/Owner may choose to rectify the same through any other agency at the risk of Contractor and Executing Agency/Owner shall recover 110% of such cost incurred from subsequent payment to the contractor.	Any complaint related to unserviceability/improper functioning of any & all component of the plant including but not limited to PV Module, PCU, Transformers, switchgears, SCADA, roads, drainage, water supply lighting system, office infrastructure, CCTV system should be attended & rectified within 48 hours.
23	GCC	38 of 76	45.4.6	O&M Routine & Manpower: Contractor shall provide Preventive / Routine Maintenance schedule based on Original Equipment manufacturer and good engineering practices. The team deployed for the O&M must have a minimum manpower structure with following qualification; Project Manager (B.E./B.Tech Electrical, with minimum 5 years of relevant experience) -1 No. Shift Engineers (BE/B-Tech Electrical, with minimum 3 years of relevant experience) –1 No / Shift Polytechnic/Diploma Electrical (with minimum 3 years of relevant experience) -2 / shift Polytechnic/Diploma Mechanical or Civil (with minimum 3 years of relevant experience) -1/shift Unskilled for cleaning & other unskilled works with respect to Plant - minimum 3/shift. However contractor shall engage additional manpower as and when need arise.	O&M Routine & Manpower: Contractor shall provide Preventive / Routine Maintenance schedule based on Original Equipment manufacturer and good engineering practices. The team deployed for the O&M must have a minimum manpower structure with following qualification; Engineers (BE/B-Tech) –1 no., Polytechnic/Diploma -1 no., Unskilled for cleaning & other unskilled works with respect to Plant - as required. However contractor shall engage additional manpower as and when need arise.
24	SCC	5 of 9	8 (2)	Difference in units derived from committed and achieved CUF x Rs. (to be decided with MES LEH); for period after commissioning till the O&M contract closure. The CUF shall be evaluated as per the formula mentioned Section VII, Scope of Work and Technical Specifications.	

25	SCC	5 of 9	8 (2)	Penalty during O&M period against breakdown of other Infrastructure of Solar Power Plant which doesn't affect the generation of power, directly such as but not limited to civil infrastructure, water supply system/network, other Infrastructure developed by the Contractor as a Scope of Work for the Project (Section-VII: Scope of Works & Technical Specifications) shall be penalised @ Rs.1000/day, per incident of breakdown reported beyond 48 Hours of such reporting. Cumulative value of such penalty shall be limited to 50% of yearly O&M cost.	VOID
26	Forms and Formats			New Format (BESS Subcontracting Agreement)	Kindly refer Annexure-V of Amendment-1.
27	GCC	10 of 76	1.1.44	Contract; e.g., transportation and provision of marine or other similar insurance, inspection, expediting, site preparation works (including the provision and use of Contractor's Equipment and the supply of all construction materials required), installation, testing, pre-	INSTALLATION SERVICES means all those services ancillary to the supply of the Plant and Equipment for the Facilities, to be provided by the Contractor under the Contract; e.g., transportation and provision of marine or other similar insurance, inspection, expediting, site preparation works (including the provision and use of Contractor's Equipment and the supply of all construction materials required), installation, testing, pre-commissioning, commissioning, operations.
28	GCC	11 of 76	1.1.54	by the Executing Agency/Owner of the Facilities (or any part of the Facilities where the Contract provides for acceptance of the Facilities in parts), which certifies the Contractor's fulfilment of the Contract in respect of	OPERATIONAL ACCEPTANCE means the acceptance by the Owner of the Facilities (or any part of the Facilities where the Contract provides for acceptance of the Facilities in parts), which certifies the Contractor's fulfilment of the Contract in respect of Functional Guarantees and completion of the Facilities (or the relevant part thereof) after successful Commissioning

29	GCC	23 of 76	20.1	Subject to Force Majeure Clause, if the Contractor fails to comply with the Time for Completion /successful commissioning of Plant in accordance with SCC Clause for the whole of the facilities, (or a part for which a separate time for completion is agreed) then the Contractor shall pay to the Owner a sum equivalent to one percent (1%) of the Contract Price for the whole of the facilities, (or a part for which a separate time for completion is agreed) as liquidated damages for such default and not as a penalty, without prejudice to the Owner's other remedies under the Contract, for each week or part thereof which shall elapse between the Time for commissioning (as per SCC) and actual commissioning of plant (or a part for which a separate time for completion is agreed) subject to the limit of ten percent (10%) of Contract Price for the whole of the facilities, (or a part for which a separate time for completion is agreed). The Owner may, without prejudice to any other method of recovery, deduct the amount of such damages from any amount due or to become due to the Contractor. The payment or deduction of such damages shall not relieve the Contract of such damages can be done from the running bills of the contractor by Owner.	Subject to Force Majeure Clause, if the Contractor fails to comply with the successful commissioning of Plant in accordance with SCC Clause for the whole of the facilities, (or a part for which a separate time for completion is agreed) then the Contractor shall pay to the Owner a sum equivalent to one percent (1%) of the Contract Price for the whole of the facilities, (or a part for which a separate time for completion is agreed) as liquidated damages for such default and not as a penalty, without prejudice to the Owner's other remedies under the Contract, for each week or part thereof which shall elapse between the Time for commissioning (as per SCC) and actual commissioning of plant (or a part for which a separate time for completion is agreed) subject to the limit of ten percent (10%) of Contract Price for the whole of the facilities, (or a part for which a separate time for completion is agreed). The Owner may, without prejudice to any other method of recovery, deduct the amount of such damages from any amount due or to become due to the Contractor. The payment or deduction of such damages shall not relieve the Contract. Once the maximum limit is reached, Owner may consider all options to execute the balance works including risk and cost of the main contractor/termination of contract.
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30	GCC	35 of 76	43.3.1	completed and the Functional Guarantees are met; and The Contractor has paid the liquidated damages, if any, specified in GCC Clause hereof and the O&M manuals, As-built drawings, etc should also have been handed	Operational Acceptance shall occur in respect of the Facilities when: • The Functional Guarantees in accordance with the procedure specified in the Tender document Specifications has been successfully completed and the Functional Guarantees are met; Facilities has been completyed operationally and structurally as per scope mentioned in NIT; and The Contractor has paid the liquidated damages, if any, specified in GCC Clause hereof and the O&M manuals, As- built drawings, etc should also have been handed over by Contractor
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			The milestone payment linked with successful Operation acceptance shall be released subjected to following: a) All "As- Built" Drawings and documents are submitted. b) Detailed Engineering Document with detailed specification, schematic drawing, circuit drawing, cable routing plans and test results, manuals for all deliverable items, Operation, Maintenance & Safety Instruction Manual and other information about the project are submitted
31 GCC	35 of 76	New Clause (43.3.6)	<ul> <li>c) Bill of material of the installed Facility is submitted.</li> <li>d) Inventory of recommended and mandatory spares including special tools and tackles at project Site are provided</li> <li>e) All the required approvals and NOC's as required, are submitted</li> <li>f) List of deviation from the approved drawings with reason for deviation is submitted</li> <li>g) List of punch points, duly signed, is provided.</li> <li>h) Settlement of liquidity damages against delay and performance (Liquidity Damages)</li> <li>i) Certificates of final levels as set out for various works</li> <li>j) Certificates of tests performed for various Works.</li> <li>k) Material appropriation, Statement for the materials issued by the Owner, if applicable for the Work and list of surplus materials returned to the Owner's store duly supported by necessary documents</li> </ul>

32	GCC	36 of 76	43.4.1	<ul> <li>The Plant have achieved the Operational acceptance and served the O&amp;M for the period stipulated under the contract agreement; and</li> <li>All the contractors' liabilities under the O&amp;M contract have been satisfied; and</li> <li>Contractor has provided the list of recommended spares with detailed specification, source and price for</li> </ul>	Final Acceptance shall occur in respect of the Facilities when: a) The plant have achieved the Operational acceptance; and b) Handing over – Taking over should have been completed; and c) Successful demonstration of the CUF as mentioned in the NIT d) The Contractor has paid the liquidated damages, if any, thereto
33	SCC	8 of 9	10 (D)	Office, Leh, upon submission of Original Documents as mentioned against each Payment Milestones, along with completion certificate for first O&M bill, Joint metering certificates and forecasting schedule for the bill claim period duly certified by the authorized representative of	All the payment shall be released from Owner's Head Office, Leh, upon submission of Original Documents as mentioned against each Payment Milestones, along with completion certificate for first O&M bill, Joint metering certificates (if applicable) and forecasting schedule (if applicable) for the bill claim period duly certified by the authorized representative of Owner.
34	SCC	3 of 9	3.1.5		Installation, Interconnection and Completion of all major equipments
35	SOW	7 of 14	7.1	shall include deployment of engineering personnel	Total Operation & Maintenance of the Plant and Equipment shall be with the Contractor, till final acceptance which shall include deployment of engineering personnel, technicians and security personnel
36	GCC	9 of 76		NIT, from the date of Commissioning or demonstration of minimum annual CUF whichever comes later which certifies the Contractor's fulfilment of the Contract in respect of Functional and Plant Performance	FINAL ACCEPTANCE means acceptance of Facilities by the Owner as stated in this NIT, from the date of Commissioning or demonstration of minimum annual CUF whichever comes later which certifies the Contractor's fulfilment of the Contract in respect of Functional and Plant Performance Guarantees of the Facilities

37	SCC	9 of 9		New Clause (Functional Guarantees)	Functional Guarantees: Functional Guarantee for Solar PV plant shall be performance ratio test and functional guarantee for BESS shall be energy capacity and round trip efficiency.
38	SCC	9 of 9	12	<ul> <li>complete project work, the Contractor shall submit the following for considering final payment:</li> <li>(a) All as- Built Drawings and documents as per the contract coordination procedure set out for the successful completion of the project.</li> <li>(b) Detailed Engineering Document with detailed specification, schemetic drawing, circuit drawing, coble routing plane.</li> </ul>	Subsequent to Operational Acceptance of the Facilities by the Employer and within 10 days of the commencement of the O&M period, the Contractor shall furnish an Indemnity Bond/ undertaking as per "Sample Forms and Formats" which is to be executed by the contractor for the plant handed over by owner for performance of its O&M Contract (Entire Solar Photo Voltaic Plant). The Facility shall be taken over by the owner upon successful Operational Acceptance in accordance with GCC Clause 43.3 (Operational Acceptance). Immediately after taking over of complete facilities (s), the Facilities will be handed over to the Contractor for Comprehensive Operation & Maintenance for a period as mentioned in the Contract document.
39	Annexure-B (PG Test Procedure)	3 of 9	2	FUNCTIONAL GUARANTEE TESTS FOR SOLAR PV PLANT Functional Guarantee for Solar PV Plant shall comprise of following Guarantees: (1) Performance Ratio Guarantee test for operational acceptance. (2) Annual Generation Guarantee up to a period of 10 years (O&M Period), starting from the date of Operational Acceptance.	<ul> <li>TESTS FOR SOLAR PV PLANT</li> <li>Tests for Solar PV Plant shall comprise of following:</li> <li>(1) Performance Ratio Guarantee test for operational acceptance.</li> <li>(2) Annual Generation Guarantee up to a period of 10 years</li> <li>(O&amp;M Period), starting from the date of</li> <li>Operational Acceptance.</li> </ul>