Amendment - 1

RfB No: SECI/C&P/RfB/2018/160MWH/WB/01

RfB for Design, Engineering, Supply, Construction, Erection, Testing & Commissioning of 160 MW Solar-Wind Hybrid Power Plant with BESS including 10 Years Plant O&M under International competitive bidding at Ramagiri, Anantapur district, Andhra Pradesh, India

Sl. No.	Section	Page No.	Clause	Original Version	Amendment
1	Contract Forms	301	TERMS OF PAYMENT Schedule No. 3. Design Services	In respect of design services for both the foreign currency and the local currency portions, the following payments shall be made: Ten percent (10%) of the total design services amount as an advance payment against receipt of invoice, and an irrevocable advance payment security for the 110% amount made out in favor of the Employer. Ninety percent (90%) of the total or pro rata design services amount upon acceptance of design in accordance with GCC Clause 20 by the Project Manager within forty-five (45) days after receipt of invoice. Ten percent (10%) advance would be adjusted while making payments of this installment on pro-rata basis.	In respect of design services for both the foreign currency and the local currency portions, the following payments shall be made: Ten percent (10%) of the total design services amount as an advance payment against receipt of invoice, and an irrevocable advance payment security for the 110% amount made out in favor of the Employer. For the purpose of advance settlement, the Contractor will provide the invoice of advance taken, during further course of payments. Ninety percent (90%) of the total or pro rata design services amount upon acceptance of design in accordance with GCC Clause 20 by the Project Manager within forty-five (45) days after receipt of invoice.
2	Bid Data Sheet (BDS)	40	ITB 4.1	Maximum number of members in the Joint Venture (JV) shall be: 03 (Three) Add the following at the end of ITB Clause 4.1 (i) One of the partners shall be nominated as Lead Partner, and this authorization shall be evidenced by submitting a Power of Attorney signed by legally authorized signatories of all the partners (Section IV. Bidding Forms). (ii) The bid, and, in case of successful bid, the specified Form of Agreement/Letter of Intent (LOI) shall be signed as to be legally binding on all partners. However, in case bid is submitted by a JV with the intent to enter into such an agreement, it shall submit a letter of intent as per proforma given in Section IV. Bidding Form, and in case of successful bid, the specified Form of Agreement shall be signed as to be legally binding on all partners. (iii) The joint venture agreement should indicate precisely the responsibility of all members of JV in respect of planning, design, manufacturing, supply, installation, commissioning and training. All members of JV should have active participation in execution during the currency of the Contract. This should not be varied/modified subsequently without prior approval of the Employer. ITB	Maximum number of members in the Joint Venture (JV) shall be: 03 (Three) Add the following at the end of ITB Clause 4.1 **(i) In case of a 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" given at Page110, under Bidding forms. Formation of JV Company (JVC) is not mandatory**. (ii) One of the partners shall be nominated as Lead Partner/Lead Partner, and this authorization shall be evidenced by submitting a Power of Attorney signed by legally authorized signatories of all the partners (Section IV. Bidding Forms). (iii) The bid, and, in case of successful bid, the specified Form of Agreement/Letter of Intent (LOI) shall be signed as to be legally binding on all partners. However, in case bid is submitted by a JV with the intent to enter into such an agreement, it shall submit a letter of intent as per proforma given in Section IV. Bidding Form, and in case of successful bid, the specified FORM OF UNDERTAKING BY THE JOINT VENTURE PARTNERS, "Form 2a" shall be signed as to be legally binding on all partners. (iv) The joint venture agreement should indicate precisely the responsibility of all members of JV in respect of planning, design, manufacturing, supply, installation, commissioning and training. All members of JV should have active participation in execution during the currency of the Contract. This should not be varied/modified subsequently without prior approval of the Employer.
3	Contract Forms	303	Point (f) of Payment Procedures, Method of Payment	The Employer shall make payments promptly within thirty (30) days of submission of an invoice/claim by the Contractor, complete in all respects and supported by the requisite documents and fulfillment of stipulated conditions, if any. All the payment shall be released to the Contractor directly.	The Employer shall make payments promptly within Forty-Five (45) days of submission of an invoice/claim by the Contractor, complete in all respects and supported by the requisite documents and fulfillment of stipulated conditions, if any. All the payment shall be released to the Contractor directly.

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Sl. No.	Section	Page No.	Clause	Original Version	Amendment
4	Contract Forms	316	IInd Paragraph of the "Performance Security Form- Conditional Bank Guarantee" Format	By this letter we, the undersigned, [name of Bank], a Bank (or company) organized under the laws of _____ and having its registered/principal office at _____, do hereby jointly and severally with the Contractor irrevocably guarantee payment owed to you by the Contractor, pursuant to the Contract, up to the sum of _____, equivalent to _____ percent (%) of the Contract Price until the date of the Operational Acceptance Certificate and thereafter up to a sum of _____, equivalent to_____ percent (%) of the Contract Price, until twelve (12) months after the date of Operational Acceptance, or eighteen (18) months after Completion of the Facilities, whichever comes first	By this letter we, the undersigned, [name of Bank], a Bank (or company) organized under the laws of _____ and having its registered/principal office at _____, do hereby jointly and severally with the Contractor irrevocably guarantee payment owed to you by the Contractor, pursuant to the Contract, up to the sum of _____, equivalent to _____ percent (%) of the Contract Price until the date 90 days beyond the Operational Acceptance Certificate and thereafter up to a sum of _____, equivalent to_____ percent (%) of the Contract Price, valid till the end of 10th year of the O&M period
5	Employer's Requirement Annexure-A Part III	526	59.8	The primary loads and load combinations for design of MMS structure shall be as specified under Cl. No. 33. The design shall be done by Working stress method and no increase in allowable stress shall be permitted.	The primary loads and load combinations for design of MMS structure shall be as specified under Cl. No. 56. The design shall be done by Working stress method and no increase in allowable stress shall be permitted.
6	Employer's Requirement Annexure-A Part III	520	57.4	New Clause	Min. depth of foundation shall be 1.0m except for Chain link fencing for which min. depth of foundation shall be 800mm.
7	Section IX - Particular Conditions of Contract	280	PCC 9 Contractor's Responsibilities	The Contractor shall be overall responsible for monitoring, implementation & compliance of the environmental and social norms for the Project related activities as per the “Environment & Social Management Plan” attached as “Annexure B “with the contract. In line with the environmental and social norms requirements of the Projects, the contractor will appoint/hire suitable Environmental and social development officers/Experts, so as to execute the laid down ESMP effectively. The contractor will be overall responsible for ESMP and RAP implementation, coordinating and liaising with NREDCAP, sub-contractors and other agencies,, with respect to different social and environmental issues. The contractor will also be responsible for progress monitoring of Environmental and social safeguards during project construction and execution stage and submission of monthly report (during construction stage) and quarterly report (during operations stage) on ESMP compliance to SECI. In case of any default or Noncompliance to the ESMP plan as stated in the Contract, Employer reserve the discretion to recover the cost of such default/Noncompliance as penalty for a maximum of 2% (Two Percent) of the Total Performance Security amount as submitted by the contractor.	The Contractor shall be overall responsible for monitoring, implementation & compliance of the environmental and social norms for the Project related activities as per the “Environment & Social Management Plan” attached as “Annexure B “with the contract. In line with the environmental and social norms requirements of the Projects, the contractor will appoint/hire suitable Environmental and social development officers/Experts, so as to execute the laid down ESMP effectively. The contractor will be overall responsible for ESMP implementation, coordinating and liaising with NREDCAP, sub-contractors and other agencies,, with respect to different social and environmental issues. The contractor will also be responsible for progress monitoring of Environmental and social safeguards during project construction and execution stage and submission of monthly report (during construction stage) and quarterly report (during operations stage) on ESMP compliance to SECI. In case of any default or Noncompliance to the ESMP plan as stated in the Contract, Employer reserve the discretion to recover the cost of such default/Noncompliance as penalty for a maximum of 2% (Two Percent) of the Total Performance Security amount as submitted by the contractor.
8	Employer's Requirement Annexure-A Part II	343	2.1.1	…..Eout - Cumulative AC energy measured at the plant end ABT meter over the duration of reporting period (kWh)…..	…..Eout - Cumulative AC energy measured at the ABT meter **on the 33 kV incoming Feeders installed at Ramagiri 33/220 kV Pooling Substation (Losses proportional to solar capacity shall be added with the energy metered for solar part before the solar/wind pooling point)** over the duration of reporting period (kWh)…..

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Sl. No.	Section	Page No.	Clause	Original Version	Amendment
9	Employer's Requirement Annexure-A Part II	345	2.1.3.5	This test verifies that strings are properly connected (module and string polarity) and that all modules are producing the expected voltage according to the module data sheet.	This test verifies that strings are properly connected (module and string polarity) and that all modules are producing the expected voltage according to the module data sheet **as per IEC 62446-1.**
10	Employer's Requirement Annexure-A Part II	348	2.2	Annual Generation Guarantee	Kindly refer Annexure-I to Amendment-1.
11	Employer's Requirement Annexure-A Part II	348	2.3.1	Any shortfall in the Performance Ratio (PR) as determined through the PR Test shall attract imposition of penalty. For every 0.01 shortfall in PR below 0.78 by the Contractor, a penalty of 0.5% of the Solar Plant Contract Value (i.e., total sum of all the Supply, 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 Contractor 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 remaining Instalments of the payable at the end of the first year (as per the Terms and procedures of payments)If the Contractor fails to achieve the Annual CUF Guarantee at the end of such respective year, then the Contractor will pay compensation to Owner for an amount equal to the revenue loss @ Tariff rate as per PPA, for the difference of energy corresponding to the Annual Guaranteed CUF and the actual energy for the respective year.	Any shortfall in the Performance Ratio (PR) as determined through the PR Test shall attract imposition of penalty. For every 0.01 shortfall in PR below 0.79 by the Contractor, a penalty of 0.5% of the Solar Plant Contract Value (i.e., total sum of all the Supply, Service Contract and absolute value of O & M Contract) shall be levied. In case, the Plant PR result is 0.05 below 0.79, i.e., 0.74 or lower, the total Contract Performance Security submitted by the Contractor 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 remaining installments payable at the end of the first year (as per the Terms and procedures of payments).
12	Employer's Requirement Annexure-A Part II	349	2.3.2	Annual Generation Guarantee	Kindly refer Annexure-II to Amendment-1.
13	Employer's Requirement Annexure-A Part II	354	3.3.3	MAF is Machine Availability factor as calculated under Clause 5.2	MAF is Machine Availability factor as calculated under Clause **3.2.1**
14	Employer's Requirement Annexure-A Part II	367	1.2	Technical Requirements	Kindly refer Annexure-III to Amendment-1.
15	Employer's Requirement Annexure-A Part III	369	1.4.1	PV modules must be warranted with linear degradation rate of power output except for first year (maximum 2.5% including LID) and shall guarantee minimum 80% of the initial rated power output at the end of 25 years.	PV modules must be warranted with linear degradation rate of power output except for first year (**upto 3%** including LID) and shall guarantee minimum 80% of the initial rated power output at the end of 25 years.
16	Employer's Requirement Annexure-A Part III	372	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.
17	Employer's Requirement Annexure-A Part III	373	3.1	Solar and DC Cables	Wherever IS 7098-1 is referred in the Clause 3.1, it shall be replaced by IS 7098-1/IS 7098-2.
18	Employer's Requirement Annexure-A Part III	389	6.3.8	Degree of protection shall not be less than IP 5X for auxiliary circuit compartment. However, for remaining compartments it shall not be less than IP 4X.	Degree of protection shall not be less than IP 5X for auxiliary circuit compartment. However, for remaining compartments it shall not be less than IP 4X. **For outdoor panels, degree of protection shall not be less than IP 55.**
19	Employer's Requirement Annexure-A Part III	409	12.1	Lightning Protection System for entire plant against direct lighting strokes shall be provided with Early Streamer Emission (ESE) Air Terminal as per NFC 17-102:2011.	Lightning Protection System for entire plant against direct lighting strokes shall be provided **as per IEC 62305:2010 or NFC 17-102:2011.**

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Sl. No.	Section	Page No.	Clause	Original Version	Amendment
20	Employer's Requirement Annexure-A Part III	410	12.7	Type test reports as per NFC 17-102:2011 shall be submitted during detailed engineering for approval.	Type test reports as per **IEC 62305:2010 or NFC 17-102:2011** shall be submitted during detailed engineering for approval.
21	Employer's Requirement Annexure-A Part III	412	16	The average LUX level of 10 lm is to be maintained in switchyard. However, a lux level of 20 lm ((10+10) additional switchable on requirement only) is to be maintained in switchyard on transformer.	The average LUX level of 10 **lux** is to be maintained in switchyard. However, a lux level of 20 **lux** ((10+10) additional switchable on requirement only) is to be maintained at all transformer yards.
22	Employer's Requirement Annexure-A Part III	417	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 (iv) 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 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
23	Employer's Requirement Annexure-A Part III	423	21.1	Design, engineering, manufacture, in house testing and supply at site of suitable low voltage, 50 Hz, upwind / downwind, horizontal axis Wind Turbine Generators (WTGs) with minimum rating of 2MW and total capacity 40 MW (may be up to 50 MW but not less than 40 MW in any case) complete with accessories as may be required for erection, commissioning and successful continuous operation. The WTGs shall be equipped with current limiting devices and capacitors (in case of induction generators) so as to maintain power factor conforming to the requirement of State grid. WTGs shall have the LVRT and HVRT capability including all other functional capabilities as per the requirement under the CEA Regulations for Grid connectivity. Only the makes and models approved under Revised List of Models and Manufacturers (RLMM list) of MNRE as on the date of bid submission should be offered.	Design, engineering, manufacture, in house testing and supply at site of suitable low voltage, 50 Hz, upwind / downwind, horizontal axis Wind Turbine Generators (WTGs) with minimum rating of 2MW and total capacity 40 MW **(may be up to 44 MW but not less than 40 MW in any case)** complete with accessories as may be required for erection, commissioning and successful continuous operation. The WTGs shall be equipped with current limiting devices and capacitors (in case of induction generators) so as to maintain power factor conforming to the requirement of State grid. WTGs shall have the LVRT and HVRT capability including all other functional capabilities as per the requirement under the CEA Regulations for Grid connectivity. Only the makes and models approved under Revised List of Models and Manufacturers (RLMM list) of MNRE as on the date of bid submission should be offered.
24	Employer's Requirement Annexure-A Part III	452	29.8	Site-Specific Implementation Requirements	Kindly refer Annexure-IV to Amendment-1.
25	Employer's Requirement Annexure-A Part III	465	30.11.4	The PCS transformer may include tertiary windings to supply BESS auxiliary power requirements. The transformer must be dry 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.	The PCS transformer may include tertiary windings to supply BESS auxiliary power requirements. **The transformer must be dry type, if installed indoor. Oil cooled transformer may be accepted if installed outdoor.** 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.
26	Employer's Requirement Annexure-A Part III	484	35	SCADA System for Plant Facility	Kindly refer Annexure-V to Amendment-1.
27	Employer's Requirement Annexure-A Part III	487	36 to 44	Clause Nos. 36 to 44	VOID
28	Employer's Requirement Annexure-A Part III	554	97.2.1	…..Air-conditioned area (with provision of split A/C unit of adequate capacity) for SCADA room (min. carpet area 12m2) & Conference room (min. carpet area 20 m2)…..	…..Air-conditioned area (with provision of split A/C unit of adequate capacity) for SCADA room (min. carpet area 12m2), Conference room (min. carpet area 20 m2) & Supervisor cabin and office area (min. carpet area 20 m2)…..

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Sl. No.	Section	Page No.	Clause	Original Version	Amendment
29	Employer's Requirement Annexure-A Part III	573	4.2.11	.....This shall include all required data loggers, sensors etc. capable of recording data for a minimum of 10-minute average intervals to ensure correct and reliable data collection and its computation for analysis, for verification of generation with reference to the actual wind conditions at hub height. N.B.: The bidder must quote this item separately in the price bid.	.....This shall include all required data loggers, sensors etc. capable of recording data for a minimum of 10-minute average intervals to ensure correct and reliable data collection and its computation for analysis, for verification of generation with reference to the actual wind conditions at hub height.
30	Annexure-B (ESMP for Hybrid Park)	-	-	-	NREDCAP to be read as SECI/Park Developer
31	Annexure-B (ESMP for Hybrid Park)	604	1.9	Table 1-5: Environmental Quality Monitoring Plan for Construction and Operation Phase	Table 1-5: Environmental Quality Monitoring Plan for Construction and Operation Phase (Monitoring to be done at a minimum three sampling site including two near habitation site & one near active construction site at defined frequency)
32	Annexure-B (ESMP for Hybrid Park)	609	1.12	New Clause - EHS Manual & Training Plan	1.12 EHS Manual & Training Plan The EPC contractor shall within 15 days of effective date submit EHS Manual including training plan for its staff. The EHS manual will detail the arrangements including appointment of appropriate staff to implement the ESMP. This shall be approved by SECI & their representatives. Any changes shall also be communicated to SECI & its representatives & approval taken before implementation at site It is expected that at a minimum the following trainings at suitable intervals & for appropriate levels of staff shall be included & training modules for each such trainings are to be prepared 1. Induction Module covering Site information & Basic Dos & Don'ts 2. Construction Safety (Civil & Electrical Construction) 3. Safety At Height 4. EHS Statutory compliances 5. Electrical Safety 6. Waste Management & housekeeping 7. Hazardous Waste Management 8. Emergency Preparedness 9. First Aid Trainings 10. Labour Code of conduct 11. PPE trainings 12. Spill Control trainings Any other measures not specified above but deemed necessary for safe & sound operation of site shall be included
33	Annexure-C	642	Annexure-2	Functional Guarantees	Kindly refer Annexure-VI to Amendment-1.
34	EMPLOYER'S REQUIREMENT Annexure – A PART V (Special Technical Specifications)	-	-	New Annexure	Kindly refer Annexure-VII to Amendment-1.
35	EMPLOYER'S REQUIREMENT Annexure – A PART VI (Attachments)	-	-	New Annexure	Kindly refer Annexure-VIII to Amendment-1.
36	Schedule No. 1. Plant and Mandtory Spare Parts Supplied from Abroad	648	Part-A Item No.6	Spare Modules (As Mandatory Spares, 0.25% of total supply of solar modules)	Spare Modules (As Mandatory Spares, 0.5% of total supply of solar modules)

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Sl. No.	Section	Page No.	Clause	Original Version	Amendment
37	Schedule No. 1. Plant and Mandtory Spare Parts Supplied from Abroad	649	Part-D Item No.26	Solar Park Development : (a) All supplies for establishing 33 KV Pooling Substation at Project site & evacuation system from MCR to 33/220 kV Grid substation at Ramagiri. (b) Supply of lighting system, security system (CCTV), Water Treatment Plant etc required for the developement of Solar Park	Solar Park Development : Supply of lighting system, security system (CCTV), Water Treatment Plant etc required for the development of Solar Park
38	Schedule No. 2. Plant and Mandatory Spare Parts Supplied from Within the Employer's Country	650	Part-A Item No.6	Spare Modules (As Mandatory Spares, 0.25% of total supply of solar modules)	Spare Modules (As Mandatory Spares, 0.5% of total supply of solar modules)
39	Schedule No. 2. Plant and Mandatory Spare Parts Supplied from Within the Employer's Country	650	Part-D Item No.26	Solar Park Development : (a) All supplies for establishing 33 KV Pooling Substation at Project site & evacuation system from MCR to 33/220 kV Grid substation at Ramagiri. (b) Supply of lighting system, security system (CCTV), Water Treatment Plant etc required for the developement of Solar Park	Solar Park Development : Supply of lighting system, security system (CCTV), Water Treatment Plant etc required for the development of Solar Park
40	Schedule No. 4. Installation and Other Services	653	Part-D Item No.12B	Civil works required for Solar Park establishment for Pooling substation cum control room Building, Land leveleling, Road, Fencing, Bore Wells including water & plumbing arrangements	Civil works required for Land levelling, Road, Fencing, Bore Wells including water & plumbing arrangements as part of Solar Park establishment.
41	Evaluation & Qualification criteria	78	4.1 General Experince	Experience in Renewable Energy under contracts in the role of contractor, subcontractor, or management contractor for at least the last 03 (Three) years: All members combined : **Must meet requirement** , Each Member : **N/A**, At least one member : **Must meet requirement**	Experience in Renewable Energy under contracts in the role of contractor, subcontractor, or management contractor for at least the last 03 (Three) years: All members combined : **N/A** , Each Member : **Must meet requirement**, At least one member : **N/A**