

The Indian School
KINGDOM OF BAHRAIN
ISO 9001:2015 Institution



المدرسة الهندية
مملكة البحرين
ISO 9001:2015 المؤسسة

TENDER

FOR GRID TIED SOLAR PV ROOFTOP POWER PLANT ON
BUILDING ROOFTOPS WITH A MINIMUM CAPACITY OF
920 KWP UNDER POWER PURCHASE AGREEMENT
(PPA) FOR 25 YEAR CONTRACT

26th SEP 2023

PROJECT OWNER:

INDIAN SCHOOL BAHRAIN

PROJECT CONSULTANT

TECHNOLOGY ENGINEERING



Estd.1950
The Indian School
ISO 9001: 2015 Certified Institution



United Nations
Educational, Scientific and
Cultural Organization



MEMBER OF
UNESCO
Associated
Schools



**TECHNOLOGY
ENGINEERING**

CONTENTS

I.	INDIAN SCHOOL (SOLAR PROJECT CLIENT) INTRODUCTION.....	3
II.	ACRONYMS.....	4
III.	DEFINITIONS.....	5
IV.	PROJECT LOCATION DETAILS.....	7
V.	REFERENCE CAPACITY SYSTEM DETAILS.....	8
VI.	TABLE 1 - CAPACITY DETAILS.....	10
VII.	ELECTRICITY DETAILS OF THE SITE.....	10
VIII.	MONTHLY ELECTRICITY CONSUMPTION DETAILS.....	11
IX.	TENDER ELIGIBILITY CRITERIA.....	12
X.	PROJECT CONSULTANT SCOPE AND FEE.....	13
	SECTION (A).....	14
	SCOPE OF WORK.....	14
I.	SUMMARY OF SCOPE OF WORK.....	15
II.	COMPENSATION DETAILS.....	20
III.	PERFORMANCE BOND.....	21
	SECTION (B).....	22
	EVALUATION CRITERIA.....	22
I.	TECHNICAL EVALUATION CRITERIA.....	23
II.	FINANCIAL EVALUATION CRITERIA.....	23
III.	COMBINED EVALUATION CRITERIA.....	24
	SECTION (C).....	25
	TECHNICAL SPECIFICATIONS.....	25
I.	MINIMUM TECHNICAL REQUIREMENT.....	26
II.	SYSTEM ACCEPTANCE AND COMPLETION.....	30
III.	OPERATION AND MAINTENANCE.....	31
IV.	EWA TECHNICAL SPECIFICATIONS.....	32
V.	NET METERING APPLICATION PROCESS.....	33
VI.	QUALITY AND WORKMANSHIP.....	33
	SECTION (D).....	34
	FORMATS.....	34
	FORMAT 01.....	35
	FORMAT 02.....	47
	FORMAT 03.....	50

I. INDIAN SCHOOL (SOLAR PROJECT CLIENT) INTRODUCTION

The Indian School, Bahrain founded in the year 1950, was initiated by the efforts of the Indian community in the Kingdom of Bahrain. The school commenced its journey with a committed workforce - a Head Mistress and three staff members. 63 years of its successful existence, the school has made significant contribution towards education excellence. Today, The Indian School, Bahrain is one of the largest expatriate schools in the Arabian Gulf with strength of over 11,250 students and an enthusiastic workforce of 600 members.

The aim of this project is to install 920 kWp solar power plant on the rooftops of Indian School Campuses located in Isa town and Riffa area, to generate a minimum of 1,400 MWh guaranteed electricity generation annually. The objective is to reduce the school's electricity requirements using renewable energy sources, reduce its carbon footprint, and achieve energy savings. The project installation, including procurement, engineering, construction, and commissioning of the solar power plant, is expected to be completed within 07 months from the date of contract signing

This Tender for Solar project is to make a minimum capacity of 920 KWp under PPA agreement model with 25-year contract.

II. ACRONYMS

ACRONYMS	DEFINITION
AC	Alternating Current
BoS	Balance of system
CAPEX	Capital Expenditures
PPA	Power Purchase Agreement
DC	Direct Current
EWA	Electricity and Water Authority
GEG	Guaranteed Electricity Generation
IEC	International Electro Technical Commission
kVA	Kilo Volt Ampere
kW	Kilowatt
LT	Low Tension
LV	Low Voltage
MMS	Module Mounting Structure
MPPT	Maximum Power Point Tracking
HT	High Tension
MV	Medium Voltage
MW	Megawatt
PV	Photovoltaic
RFID	Radio Frequency Identification
RFP	Request for Proposal
SLD	Single Line Diagram
SOW	Scope of Work
VAT	Value Added Tax
Wp	Watt Peak



III. DEFINITIONS

Term	Definition
Bid	Shall mean the Technical Proposal and Financial proposal collectively.
Bidder	A company or a group of companies in the form of a consortium that respond to this Tender by submitting a Proposal.
Bidder's Proposed Capacity	A capacity of a grid-tied solar PV power plant proposed by the Bidder, which is equivalent to or greater/higher than the Tendered Capacity.
Capital Expenditures or CAPEX	Capital Cost.
Commissioning	Successful installation & energization of the System as per EWA grid connection guidelines & standards & Bahrain grid code.
Components	Combiner box, array junction box, cables, circuit breakers, switches, disconnect, isolator, fuse, surge protector, earthing, lightning, arrester, etc
Contract	An agreement to be entered into between the Purchaser and the Seller for a period of 25-year term for the successful commissioning of Plant along with Comprehensive Operation and Maintenance (O&M).
Day	A calendar day.
Evaluation	shall mean the Technical Evaluation, Financial Evaluation, Combined Evaluation separately or collectively.
Fixed Price	Is a fixed price quoted in terms of "fils/ kWh" in the Financial Proposal for the electricity to be generated from the System and supplied to the Purchaser.
Module Mounting structure	Mounting structure and racking hardware components used to attach the solar PV modules/ panels.
Month	A calendar month.
Net Metering Policy	Shall mean the net metering policy adopted in the Kingdom of Bahrain pursuant to Resolution No. 2 of 2017 issued by the Minister of Electricity and Water Affairs (as amended from time to time).
Operation and Maintenance	Costs associated to the day-to-day operation of the Plant during the operation period.
Plant	Grid-tied solar PV power plant to be Build, Own, Operate & Maintain by the Seller under the Contract.
"Performance Bond"	Shall mean the irrevocable and unconditional bank guarantee/ insurance policy, submitted by the seller to the Purchaser in accordance with the provisions of SECTION A ARTICLE III from a reputable bank/insurance company in the form attached with this Agreement, for the value stated in the Appointment Details.
Proposal	Shall mean the Technical Proposal and Financial proposal collectively.

SOLAR POWER PLANT TENDER – Rev. 01

Purchaser	Indian School
Seller	Successful Bidder after the Contract is awarded.
Site	Property at which the Facilities are to be developed.
Successful Bidder	Bidder with the highest points scored in the Combined Evaluation and approved by the purchaser
System	Grid-tied solar PV power plant
Tender	For the Supply, design, engineering, procurement, transportation, construction, erection, installation, testing, commissioning with 25 years power selling for a minimum capacity of 920 KWp grid-tied solar PV power plant for the Purchaser under PPA agreement
Tender Document	All documents in this Tender including the Request for Proposal (RFP), Contract formats, appendices, amendments, corrigendum
Tendered Capacity	920 KWp grid-tied solar PV power plant
Year	365 Days

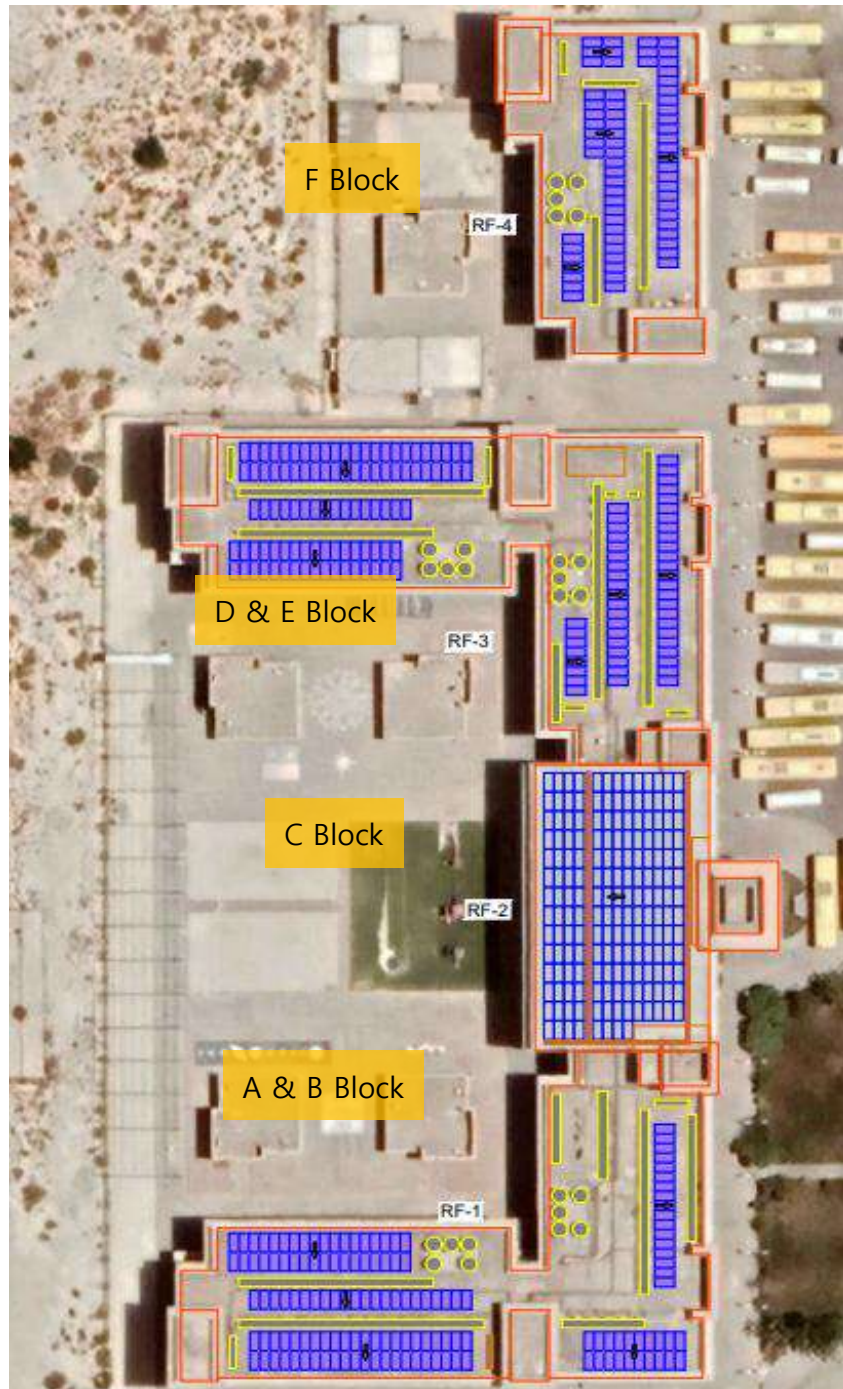
IV. PROJECT LOCATION DETAILS

#	BUILDING NAME	GEOGRAPHICAL COORDINATES	SATELLITE IMAGE
1	Isa Town Campus	26°09'30.9"N	
		50°32'26.8"E	
		Click here for google map location	
		Type of Roof - Concrete Slab/Sheet Roof	
		building elevation = 16 m	
2	Riffa Campus	26°07'02.9"N	
		50°33'01.9"E	
		Click here for google map location	
		Type of Roof - Concrete Slab/Sheet Roof	
		building elevation = 16 m	

V. REFERENCE CAPACITY SYSTEM DETAILS



Solar Layout in Isa Town Campus



Solar Layout in Riffa Campus

VI. TABLE 1 - CAPACITY DETAILS

ZONE NAME	CAPACITY DETAILS	TYPE INSTALLATION
ISA TOWN CAMPUS		
MULTI PURPOSE HALL	186.3 KWP	SHEET ROOF
ISA BLOCK	139.7 KWP	SHEET ROOF
NEHRU BLOCK	48.3 KWP	CONCRETE SLAB
DIAMOND JUBILEE BLOCK	73.6 KWP	CONCRETE SLAB
NETHAJI BLOCK	80.5 KWP	CONCRETE SLAB
GANDHI BLOCK	86.3 KWP	CONCRETE SLAB
TOTAL CAPACITY AT ISTOWN	614.7 KWP	
RIFFA CAMPUS		
ZONE A & B	79.9 KWP	CONCRETE SLAB
ZONE C	101.8 KWP	SHEET ROOF
ZONE D & E	84.5 KWP	CONCRETE SLAB
ZONE F	39.1 KWP	CONCRETE SLAB
TOTAL CAPACITY AT RIFFA	305.3 KWP	
GRAND TOTAL	920.0 KWP	

VII. ELECTRICITY DETAILS OF THE SITE

#	Description	Details
1	Supply Voltage from EWA	400 V
2	Voltage at the proposed Point of Connection (POC)	400 V
3	Typical working days & working hours per week	6 days/week

VIII. MONTHLY ELECTRICITY CONSUMPTION DETAILS

Monthly electricity consumption details per EWA Service Connection (SC) for the previous 12 months of the year 2022/2023.

1. ISA TOWN CAMPUS

#	Year	Month	Power Consumption (kWh)	Bill (BHD)
1	2022	APRIL	57,840	1,547
2	2022	MAY	171,080	4,831
3	2022	JUNE	264,360	7,536
4	2022	JULY	208,000	5,902
5	2022	AUGUST	123,760	3,459
6	2022	SEPTEMBER	242,360	6,898
7	2022	OCTOBER	310,100	8,863
8	2022	NOVEMBER	254,620	7,254
9	2022	DECEMBER	199,440	5,654
10	2022	JANUARY	47,880	1,259
11	2022	FEBRUARY	86,200	2,370
12	2022	MARCH	74,620	2,034
Total			2040260.0 kWh	BHD 57,607

2. RIFFA CAMPUS

#	Year	Month	Power Consumption (kWh)	Bill (BHD)
1	2022	January	30,500	971
2	2022	February	25,000	755
3	2022	March	8,500	195
4	2022	April	31,500	919
5	2022	May *	82,000	2,427
6	2022	June	132,500	3,935
7	2022	July	29,000	822
8	2022	August	63,500	1,838
9	2022	September	166,000	4,994
10	2022	October	122,500	3,804
11	2022	November *	90,399	2,676
12	2022	December *	60,450	1,823
Total			841,849 kWh	BHD 25,159

* Note: May, November, December Month Consumption and Bill calculated from the nearest month's consumption due to the unavailability of the EWA bill.

IX. TENDER ELIGIBILITY CRITERIA

In order to qualify, the bidder shall, to the satisfaction of The Purchaser, demonstrate the following experience/Eligibility.

- a. The Tenderer must have successfully completed the engineering, procurement, and construction (EPC) of at least 1 MW single project capacity and at least commissioned 5 MW internationally of till date.
- b. The Tenderer and/or sub-contractors has at least one (1) year proven O&M experience for at least one (1) PV plant of minimum 1 MW in similar weather conditions as at the site.
- c. The proposed PV module model(s) in the Project shall have been installed in at least one (1) commercial project of similar peak power, which has been in successful operation for at least one (1) year.
- d. The proposed inverter model (s) in the Project shall have been in operation in at least one (1) commercial project of similar nominal power, not demonstration projects, for at least twelve (12) months and have recorded a technical availability of at least ninety-five percent (95%) for twelve (12) consecutive months of operation.
- e. The Tenderer or its parent organization shall have a revenue of minimum of 3 million USD per year for 3 consecutive years (2020,2021,2022) and shall be profitable for the same consecutive years
- f. The Tenderer shall be at least ISO 9001:2015 Certified.
- g. The Tenderer shall be able to provide the minimum of all the following insurance coverages.
 - Minimum 50,000 BD coverage under Contractors All Risk Insurance + TPL.
 - Minimum 50,000 BD coverage under Professional Indemnity.

X. PROJECT CONSULTANT SCOPE AND FEE

As per the agreement with “**Indian School**” and “**Technology Engineering**”, the successful bidder shall make a solar consultant contract with “**Technology Engineering**” under the scope and fee below.

1) Project Consultant Scope

- (a) Design review and approval on behalf of Indian School
- (b) Coordination between Contractor and Indian School during project
- (c) Supervision on behalf of Indian School
- (d) Management of project meeting on behalf of Indian School
- (e) Consultancy stamping and approval on the Banayat system

2) Consultancy Fee

- a. 10 BD per kWp for article (1) scope
(30% Advanced payment, 30% after design permit, Balance amount will be progress payment.)
- b. If contractor requests full design and structural assessment scope, design fee will be discussed separately.

SECTION (A) SCOPE OF WORK

I. SUMMARY OF SCOPE OF WORK

The following is the summary of scope of work for the installation of a minimum capacity of Minimum 920 KWp grid-tied solar PV power plant for the purchaser, under PPA model with 25-year contract.

1. The purchaser shall offer designated areas of their property as per “PROJECT LOCATION DETAILS” to the Successful Bidder to Build-Own-Operate-Maintain a minimum capacity of 920 KWp grid-tied solar PV power plant for a twenty-five (25) Years period.
2. Within seven (7) Months from the signing of Contract, the Successful Bidder shall assess, develop, design, finance, supply, engineer, procure, install, erect, construct, test, commission the grid-tied solar PV power plant and to generate and supply Bidder’s Proposed Capacity to the purchaser under the Net Metering Policy and in compliance with relevant EWA’s standards & guidelines.
3. The Successful Bidder shall operate and maintain Bidder’s Proposed Capacity for a twenty-five (25) Year period.
4. It will be the responsibility of the Bidder that all factors have been investigated and considered while submitting the Proposal and no claim whatsoever including those of financial adjustments to the contract awarded under this Tender will be entertained by the purchaser. Neither any time schedule nor financial adjustments arising therefrom shall be permitted on account of failure by the Bidder to appraise itself.
5. The Bidder shall be deemed to have satisfied himself fully before Bidding as to the correctness and sufficiency of its Proposal for the Fixed Tariff quoted in the Proposal to cover all obligations under this Tender
6. Bidder may submit queries not later than ten (10) Days prior to the Tender Closing Date. Any queries whatsoever received after this date will not be acknowledged and considered by the purchaser
7. The purchaser may amend the Tender Document not later than seven (7) Days prior to the Tender Closing Date. Any addendum thus issued shall be part of the Tender Document and shall be binding on all Bidders
8. Bidders must ensure that all pages/ documents submitted in the Proposal must be in English language only. Any supporting documents and printed literature furnished by the Bidder in any other language must be accompanied by an accurate translation in English and duly signed & stamped on all pages, in which case, for all purposes of the Bid, the translation will govern. Any pages/ documents that is not in English language and not accompanied by an English translation shall be deemed INVALID for Evaluation
9. The Bidder shall bear any and all costs associated with the preparation and submission of their Proposal, including but not limited to the cost of travel, Site assessment, Site visits, attending meetings, hiring of professionals, instruments, tools & tackles, etc. The purchaser will in no way be responsible or liable for any associated charges/ costs incurred regardless of the conduct or outcome of the bidding process.
10. All pages of the Proposal including the supporting documents must be duly filled, signed & stamped by the Bidder’s Authorized Signatory.
11. Bidder should strictly submit the Proposal as specified in the Tender, failing which the Proposal will be held as NON-RESPONSIVE and will be SUMMARILY REJECTED.
12. All technical enquiries are to be sent to the purchaser through the below mentioned mail ID only.
 - i. Mail Id 1 : indschbh@indianschool.com
 - ii. Mail Id 2 : indschbh1@gmail.com

iii. Mail Id 3 : kimjh196@techengbh.com

iv. Mail Id 4 : sankar@techengbh.com

v. Mail Id 5 : bibin@techengbh.com

13. Tenders must be delivered in a properly sealed envelope and with no external inscription or mark of identification other than “TENDER – SOLAR ROOFTOP PROJECT (BOTH CAMPUS)”
14. The sealed envelope shall be deposited, in the tender box placed in 1st Floor, Executive Committee Room, Administration Block, Isa Town Campus, Indian School Bahrain, **not later than 04.00 pm, 22nd October 2023(Sunday)**.
15. Tenders delivered after the date and time stated above will not be considered. The purchaser will not accept any Proposals submitted after/ beyond the Tender Closing Date
16. The Company or the Establishment that bought the tender documents shall submit the tender, and all required documents, by itself and with the Commercial Registration in which it bought the tender documents. In case the Company or the Establishment intends to submit its bid or any other required documents through others, an authorization to that effect shall be accompanied with bid, otherwise the bid will not be accepted. For more explanation, a claim that the Company submitted the bid or a document is a branch, a shareholder, a holding company or an agent of the Company that bought the tender documents will not be accepted
17. Bidders must ensure that their Proposal documents must be page numbered, and any pages that are not numbered shall be deemed INVALID for Evaluation. The Bidder is also advised to submit the Proposal with an index
18. The Proposal cannot be modified or amended or withdrawn after the bid submission closing date
19. The “Technical Proposal” and its supporting documents shall be duly filled, signed by the Bidder’s Authorized Signatory and stamped in all the pages and submitted through mail. The purchaser will not be responsible for the errors committed in the Technical Proposal by the Bidders.
20. All the requisite documents mentioned in the Tender Document must be enclosed in the Technical Proposal. No document will be allowed to be supplemented / exchanged after opening of the Proposal
21. The Financial Proposal should not contain any conditional offers or partial offers or dynamic tariff or and quoted in any currency other than BHD or otherwise the Proposal will be deemed NON-RESPONSIVE and SUMMARILY REJECTED
22. The Bidders shall quote a Fixed Tariff for the Bidder’s Proposed Capacity under the BOOM model on a “single responsibility” basis such that the Fixed Tariff must cover all the obligations of the Successful Bidder mentioned in or to be reasonably inferred from the Tender Document including but not limited to assessment, development, design, finance, supply, engineering, procurement, installation, erection, construction, testing, commissioning, operation, maintenance, supply of guaranteed electricity generation, acquisition of all approvals, consents, clearances, permits and other associated project cost.
23. Adjustment of the price quoted by the Bidder will NOT be permitted throughout the Tender period and the 25 years term of Contract on account of any reason whatsoever
24. The Fixed Tariff quoted by the Bidders must be in Bahraini Dinar Currency (BHD) only (1BHD=1,000 Fils) with a minimum of three decimal (i.e. 00.000 fils/kWh).
25. The Fixed Tariff quoted by the Bidder shall remain firm and fixed:
 - i. for a period specified in this Tender from the Tender Closing Date;
 - ii. at which the Contract will be signed between the purchaser and the Successful Bidder;
 - iii. For the duration of the Contract and shall cover the entire scope of work described in this Tender

Document and the Contract document.

- iv. including inclusive of all applicable taxes, duties, & VAT; and
 - v. For the Contract duration, including the period of extension of time, if any. The Bidders shall particularly take note of this factor before submitting the Proposal.
26. The Successful Bidder shall check/assess all of roof areas which will be used to install the solar system and repair any defects to secure waterproofing on roof before solar system installation. Repair method and statement shall be approved by the purchaser and warranty for waterproofing shall be provided for a minimum of Ten (10) years.
 27. To assist in the examination, evaluation, and comparison of the Proposals, and qualification of the Bidders, the purchaser may, at its discretion, ask any Bidder for a clarification of its Proposal. Any clarification submitted by a Bidder that is not in response to a request by the purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing. If a Bidder does not provide clarifications of its Proposal by the date and time set in the Purchaser's request for clarification, its Proposal may be REJECTED
 28. Provided that a Proposal is substantially responsive, the Purchaser may request that the Proposer submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Proposal related to documentation requirements
 29. Successful Bidder should conduct the leak test as per the international standards and/or as required by Purchaser before and after installation of solar System to ensure the leak proofing at their own cost and provide test certification.
 30. The Successful Bidders shall comply with all applicable laws and regulations, grid code, Net Metering Policy, technical specifications and relevant EWA's standards & guidelines.
 31. The Successful Bidder shall guarantee the electricity generation for the Bidder's Proposed Capacity for a twenty-five (25) Year period.
 32. The Successful Bidder shall sell the entire electricity generated by Bidder's Proposed Capacity to the Purchaser and the Purchaser shall buy the entire electricity supplied by the Successful Bidder at a Fixed Tariff for a twenty-five (25) Years period.
 33. After the Plant is successfully commissioned and operationally accepted by the Purchaser, the Successful Bidder must begin providing power to the Purchaser for the contracted years as specified in the guaranteed generation. The Bidder will be responsible for the comprehensive operation and maintenance of the Plant, which includes supplying spares for component and equipment repairs and replacements, and no additional costs will be charged to the Purchaser.
 34. The installation of the POC may require modifying or replacing the existing LV panel. Bidders are expected to handle this at their own scope.
 35. Bidders should maintain the existing spares in the LV Panels as it is for the Purchasers' future purposes.
 36. Bidders are responsible for assessing the present structural stability of the Roof slab/roof structure at their own expense.
 37. O&M Guideline for the Purchaser Solar project shall be reflected in the commercial offer as per the Appendix 1.
 38. Electrical connection Points, Water line and all other facilities related to the O&M activities should be provided by the Bidder without any additional cost to the Purchaser.
 39. For the O&M Activities and for the Construction time Bidders should take water connection on their own cost or can use the water supply from the Purchaser with dedicated waterline through dedicated Metering and this water bill should be adjusted with the monthly energy bill.

40. If the Water is consuming from The purchaser water line for O&M purpose by the successful bidder the amount for the water consumption will deduct from their energy charge and the energy bill will release only after the electricity and water consumption bill adjustment
41. The Successful Bidder shall obtain any and all necessary approvals, consents, clearances and permits required for the construction, installation, testing & commissioning of the Bidder's Proposed Capacity under Net Metering Policy, Kingdom of Bahrain
42. The Successful Bidder shall adhere to all necessary fire and safety equipment in accordance with EWA's fire and safety guidelines & standards and the Purchaser Standards and Guidelines
43. The summaries of the Purchaser's solar PV potential capacities and options are provided in the "Table 01" of this Tender Document as reference data only.
44. Bidder shall provide a state-of-the-art turn-key, lump sum, fixed price and date certain scope of work
45. Bidder shall include provisions for design margins and de-rating factors in sizing equipment to account for wear, performance degradation, soiling, voltage drops, and other conditions.
46. Bidder shall include provisions to isolate and bypass equipment for repair where feasible without shutdown of the system of which it is a part, such as repairing or replacing a component with minimized need to shut down surrounding components
47. Bidders shall design the system considering the requirements of permits submitted and/or obtained. Any deviation in design and implementation shall be reported to the purchaser in writing during design and implementation respectively and should take the prior approval before finalization.
48. All works by successful bidder shall be within the boundary limits of designated premises and the area should be protected with the fence and the warning boards should be provided on the areas at the time of construction as per the Purchaser standards and the International Standards
49. All works provided by successful bidder shall be within the boundary limits of prior permits received from the purchaser
50. Any modification and interconnection with exiting power system/ panels shall be under bidder's scope of work, inclusive of hardware, modifications and services.
51. All instruments and equipment shall be installed in a manner which assures reasonable protection against mechanical damage, wetting, or extremes of heat or cold.
52. Final locations and orientations must be selected for accessibility, repair, and calibration in place, easy access to the rear of the instruments (if needed), and for disconnection without resorting to cutting, burning, or welding.
53. Delivery, unloading, and storage of all seller's supplied equipment are the responsibility of the seller.
54. Successful Bidder shall provide as part of the equipment operations and maintenance manual, the typical daily, monthly, and annual maintenance activities expected for the plant.
55. Bidder shall provide Grounding rods and other components for a complete grounding system and lightning protection system, Grounding pits measurement and specs shall comply with PV modules, inverters manufacturers and EWA Standards.
56. Bidder's quality of work, including excavating, filling, backfilling, compacting, dewatering, subgrade preparation and stabilization, shoring and drainage shall comply with the local and the Purchaser standards.
57. The offer shall include the purchaser engineers training for all electrical equipment such as inverters, monitoring system. etc.

58. All the Main Electrical Equipment's should be protected with Fence with lockable doors.
59. All the Warning/Hazard Boards should be fixed by the Successful bidder own their own cost as per the Purchaser/EWA Standards
60. Adverse Weather Conditions includes but is not limited to any degree of Sandstorms, wind speed, (up to 42 meter/second), humidity, Duty climate, high temperature, etc. shall not constitute a Force Majeure Event
61. The Proposals which failed to achieve the cut-off point in the Technical Evaluation will be deemed NON-RESPONSIVE and SUMMARILY REJECTED and will not be further evaluated.
62. In cases of discrepancy between the Fixed Tariff quoted in words and in figures, the lower of the two will be considered.
63. During the Proposal Evaluation, if any suppression or misrepresentation of information is brought to the notice of the purchaser; The purchaser has the right to reject the Proposal and if after selection, The purchaser will terminate the Contract as the case may be, will be without any compensation to the Bidder and the Initial Bond as the case may be, will be forfeited.
64. Bidders should note that any figures in the proof documents submitted by the Bidders for proving their eligibility is found suppressed or erased, the purchaser has the right to seek the correct facts and figures or reject such Proposal.
65. It is up to the Bidders to submit the full copies of the proof documents to meet out the Tender Eligibility Criteria and supporting document/ details. Failing which the Proposal submitted by the Bidder shall NOT be accepted/ deemed INVALID for Evaluation and SUMMARILY REJECTED
66. This Tender calls for, full copies of documents to prove the Bidder's experience, capacity and other requirements to undertake the project.
67. The Purchaser reserves the right to accept or reject any Proposal, and to annul the Tender process and reject all Proposals at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all Proposals submitted and specifically, Proposal securities shall be promptly returned to the Bidders
68. The Successful Bidders should not assign or make over the Contract, the benefit or burden thereof to any other person or persons or body corporate for the execution of the Contract or any part thereof without the prior written consent of the purchaser which reserves its right to cancel the entire Contract if this condition is violated.
69. In case the Successful Bidder fails to execute the Contract within the stipulated period, then the Successful Bidder shall be blacklisted and penalized.
70. Safety and Access tools all should be provided by the seller in their own cost
 - a) Safety Officer should be available at site all the time of the execution of the project.
 - b) Risk Assessment details and working procedures should be submitted and given prior approval from the purchaser before the Execution of all the works.
71. Successful Bidder should take approval from the purchaser for all the cranes, lifting equipment, scaffolding, safety hardness etc. prior to the work.
72. Bidders should Provide Roof Ladder for the Building if access is not available, the Roof ladder specification as follows :
 - i. Ladder Material Should be Hot Dip GI
 - ii. Ladder concept drawing should be provided with the tender documents for review

73. Bidders should Provide the Walkways for the Sheet roof area as per the below specification Walkways:

- i. All the anchoring should be done on the Existing Purlins only
- ii. Should seal the screwed areas properly and ensure that all the areas are leak-proof after the walkways have been installed.
- iii. The walkway material should be an Anti-skid: slip resistance material
- iv. The minimum width of the walkway shall be 400 mm
- v. Walkway Should be Corrosion resistant
- vi. The walkway material Conductivity should be as per IEC Standards
- vii. Must provide proper support at appropriate interval to avoid the bending of walkways won't bend when walked on.
- viii. FRP Walkway should be provided to access all the module area
- ix. Walkway should be provided from the Both Roof Access Ladders

II. COMPENSATION DETAILS

I. Compensation for non-fulfilment of guaranteed electricity generation

- i. If the successful bidder is unable to fulfil the Guaranteed Electricity Generation specified in the agreement - Guaranteed Electricity Generation FORMAT 01 – Article 3 (iv), the Successful bidders shall pay to the client as an agreed compensation below from the respective month Energy Bill.
- ii. The Successful bidder will not be liable to pay the client any agreed compensation if they fail to meet the Guaranteed Electricity Generation value in the agreement FORMAT 01 – Article 3 (iv) due to the worst weather condition, subject to the following conditions:
 - a. The Successful bidder must provide a report and supporting documents to show that the lower generation was caused by an unexpected climate change. The main evaluation criterion for further action will be the Performance ratio (PR).
 - b. The Successful Bidder should pay the agreed compensation according to the formula below, if the documents do not prove that the low generation was caused by an unexpected climate condition.
 - c. The Bidder will not have to pay any compensation for that particular month/period if they can prove that the energy loss was caused by an unexpected climatic condition.

$$\text{Agreed compensation} = \text{Prevailing EWA Tariff} \times \left(\text{Guaranteed Annual Electricity Generation (Kwh/year)} - \text{Actual Generation per year (kWh/year)} \right)$$

II. Compensation for non-fulfilment of Commissioning of the Contracted Capacity by the Scheduled Commercial Operation Date

If the successful bidder is unable to Commission the Contracted Capacity of the System by the Scheduled Commercial Operation Date, then the successful bidder shall pay to the Purchaser an agreed compensation for the delay as per the following:

- i. If the Commissioning of Contracted Capacity is delayed up to two (2) months after the Scheduled Commercial Operation Date, the successful bidder shall pay an agreed compensation to the purchaser for each day of delay on the Contracted Capacity not yet commissioned. This compensation will be payable against the Performance Bond. To calculate the compensation for delay, the following formula will be used:

$$\text{Agreed compensation} = \text{Expected Generation of the (Contracted Capacity - Commissioned Capacity)} \times \left(\text{Prevailing EWA Tariff - Fixed Tariff} \right) \times \text{No. of days delay from the Scheduled Commercial Operation Date}$$

- ii. The maximum time period allowed for achieving the Commercial Operation Date, along with any agreed compensation payment, is two (2) months from the Scheduled Commercial Operation Date. If the Commercial Operation Date is delayed beyond this time frame, it will be considered an Event of Default, and will be addressed during negotiation stages with bidders.

III. PERFORMANCE BOND

1. If the purchaser claims any of the Bonds at any stage of the contract period, the seller should renew the Bond amount to the Original Bond value mentioned in the tender documents. Additionally, all Bidders are required to maintain the two bonds for the period defined in the contract at the full amount throughout the duration of the contract.
2. The performance bond must remain valid until the contract has been fully executed.
3. Once the contract has been fully executed, the purchaser shall return the performance bond to the successful bidder.

Bond	Validity	Amount	Remark
The First Bond for performance guarantee	From 15 days of contract signing till successful commissioning and acceptance by The purchaser (Solar EPC Execution period)	BHD	To be submitted within - 15 days after contract signing

Note. Reference formula for the value of Bond:

4. Bond Value calculation : 10% X First Year Buyout Price
5. The First Performance Bond shall
 - a. Be drawn in the favor of “Indian School” and payable at Kingdom of Bahrain only.
 - b. Be submitted to the purchaser in the form set. (To be issued to the successful bidder.)
 - c. Be valid from contract signing till successful commissioning and acceptance by The purchaser
 - d. Be irrevocable, unconditional, and payable on demand

SECTION (B) EVALUATION CRITERIA

I. TECHNICAL EVALUATION CRITERIA

1. The Purchaser shall only evaluate the Technical Proposal of Bidders that have fulfilled the following:
 - a. Substantially responsive as per terms & conditions of this Tender Document;
 - b. Successfully fulfil the Tender Eligibility Criteria and supporting document/ details.
2. A Technical Score will be calculated using the following criteria :

#	TECHNICAL EVALUATION	MAXIMUM POINTS
1	Concept Design	40
2	Technical Drawings	
3	Design summary	
3	Lead time	10
4	Guaranteed Electricity Generation	25
5	Equipment & Component Details	10
6	Warranty of Equipment & Component	10
7	Supplementary Details & Documents	5
Total points		100

- a. The cut-off point to qualify the Technical Evaluation will be 70 Points out of 100 points as per the above table or below 50% of each evaluation's max. Points.
- b. Only the Bidders who successfully qualify the Technical Evaluation will be deemed eligible for the "Financial Evaluation"

II. FINANCIAL EVALUATION CRITERIA

1. The Purchaser shall only evaluate the Financial Proposal of Bidders that have successfully qualified for the Technical Evaluation.
2. A Financial Score will be calculated using the following criteria:

#	FINANCIAL EVALUATION	MAXIMUM POINTS
1	BOOM Model Fixed Tariff price	50
2	Buy Out price	50
Total Points		100

3. In cases of discrepancy between the price/ cost quoted in words and in figures, the lower of the two

SOLAR POWER PLANT TENDER – Rev. 01
will be considered.

4. The sum of the points scored in the Financial Evaluation (“BOOM Model Fixed Tariff price” + “Buy Out price”) will be given a weighted average of 50 percent in the Combined Evaluation.

III. COMBINED EVALUATION CRITERIA

1. The Combined Evaluation Score will be calculated using the following criteria:

#	CRITERIA	PERCENTAGE %
1	Technical Evaluation	60
2	Financial Evaluation	40
Total		100 %

2. The cut-off points to qualify the Combined Evaluation will be 70 percent out of 100 percent as per the above table.
3. Based on the points scored in the Combined Evaluation by the Bidders, the Purchaser will rank the Bidders from highest to lowest points scored respectively
4. Bidder with the highest points scored in the Combined Evaluation will be declared as the Successful Bidder.

SECTION (C) TECHNICAL SPECIFICATIONS

I. MINIMUM TECHNICAL REQUIREMENT

Bidders are instructed to satisfy all the following minimum technical requirements in their Proposal mandatorily as stated in the table below.

PARTICULARS		REQUIREMENT
1	System capacity	AC 736 kWac
2		DC 920 KWp
3	Minimum DC to AC ratio	1 : 1
4	Maximum DC Overloading	125% of the Inverter rated Capacity (Manufacturer Confirmation Required)
5	Building rooftop clearance	Provide a minimum of 500 mm clearance between the Purchaser's equipment (HVAC, Water Tank, Vent fans... etc.) And the proposed Plant.
		Provide minimum 900 mm clearance between the Building Boundaries and your proposed Plant.
		Provide minimum 500 mm clearance between the lightning arrestor mesh type conductor and proposed Plant.
		Provide minimum 1000 mm clearance between the Roof access ladder and the proposed plant
6	Structural Systems, Mounting Structures And Clips for Roof Top	Be structurally sound sufficient for cleaning activities and the load capacity of the panels and associated equipment/materials.
		Allow sufficient access for cleaning and all other O&M activities
		Panel Mounting Structure should be made of stainless steel (grade 316) aluminum, or hot-dipped galvanized steel.
		If hot dip galvanized steel is used, no complementary drilling or cutting must be done during installations to avoid corrosion, unless the galvanizing protection is re-established
		All the Fasteners are to be made of stainless steel (grade 316).
		Bare carbon steel fasteners are not acceptable.
		Mounting hardware shall include corrosion resistant clips and fasteners. Fasteners are to be made of stainless steel (grade 316) or galvanized steel.
		Bare carbon steel fasteners are not acceptable.
		The mounting structure shall offer a minimum expected lifetime of 25 years with considering the climatic condition of The purchaser area.
		The array mounting structure, with panels installed, shall be design and certified by a suitably qualified engineer, to resist wind gusts of at least 35m/s
The mounting structure must comply with the requirements of the modules as provided by PV module supplier.		

	PARTICULARS	REQUIREMENT
		<p>Anti-corrosive paint should be applied in all the Cutting Edges of all the metal parts</p> <p>All the anchoring should be on the existing purlins only and all the anchoring holes should be properly sealed and ensure the leak proof</p> <p>Be installed only for purpose of solar equipment will be mounted upon the structure. To facilitate, where practical, hidden mounting and routing of equipment and wiring.</p> <p>The appearance of the structure, as per the final design documentation, shall be approved by the purchaser prior to construction.</p> <p>The design of the array mounting structure should be such that parts are pre-cut at the factory and do not need to be cut in the field. This is so that any corrosion-resistant coatings (e.g. anodization or galvanic layer) on the mounting structure's members are not compromised by being cut</p> <p>All sharp edges are to be removed at the factory, to prevent injury during construction, and to prevent damage to cabling. Protruding members (e.g. module rails) are to be capped to prevent injury to passing maintenance personnel</p> <p>PV module installation manuals are to be provided, showing that the mounting system used complies with the module manufacturer's requirements (e.g. location and spacing of mounting clamps on module frames).</p> <p>All the Mounting rails and all other metal parts of the mounting structure should be properly grounded using the copper earthing cables (Stain less steel or aluminum Grounding clips are not acceptable) , and should ensure the earth continuity in all the metal parts</p>
7	Solar Modules	<p>Type - Mono-crystalline (N Type or P Type)</p> <p>Minimum wattage of solar PV module -575 watts peak</p> <p>Minimum module efficiency – 22.26 %</p> <p>Minimum Product warranty of 12 Years and Performance warranty of 25-30 Years required</p> <p>Bidder should indicate solar module's use in other projects (with similar scale or bigger) implemented by bidder, or others.</p> <p>All modules provided are to be of identical make and model.</p> <p>Modules must be certified to the international standard IEC 61215 (or IEC 61646 as applicable) and IEC 61730, and have been tested at a qualified testing institution (e.g. ESTI, TUV Rhineland, or equivalent). Testing certificates must be provided.</p> <p>Module framing must be of stainless steel or anodized aluminum. Modules must have adequate seals to prevent water ingress into the active components.</p> <p>Solar photovoltaic panels shall be from a Tier 1 manufacturer</p> <p>Each module must be fitted with a manufacturer's sticker on the underside, providing the following information:</p> <p>a) Manufacturer's name;</p>

	PARTICULARS	REQUIREMENT
		b) Module model number; c) Module serial number; d) Rated power at STC; e) VOC, ISC, VMP, IMP; f) Date of manufacture; g) Country of manufacture.
8	Inverters	Maximum permissible DC Voltage is limited to 1000 VDC Bidder shall supply inverters that meet applicable standards requested by authorities. Seller shall explain the rational of his choice Bidder should unify as much possible the inverter model/ capacity for all plants (this will help reduce spare parts required for all plants) Inverter Installation Should be as per the Manufacturer recommendation and the Manufacturer installation manual shall be shared with The purchaser for review Inverters and the related equipment's should approved from EWA The proposed inverter model (s) in the Project shall have been in operation in at least one (1) commercial project of similar nominal power, not demonstration projects, for at least twelve (12) months and have recorded a technical availability of at least ninety-five percent (95%) for twelve (12) consecutive months of operation Inverter should be capable for online monitoring Inverters shall be from a reputed manufacturer and carry a minimum of a 10 years warranty. All the Inverters should be installed in a way that avoids from direct sunlight and water
9	Cables	All DC, AC, communication wiring harness and instrument cables including connectors shall be provided, installed, terminated and tested by successful bidder Special UV-resistant, double isolated solar cable wiring shall be used. Bidder shall take special attention to copper content in order to minimize cable losses. Bidder shall avoid using cables with coating containing rubber The engineering and design shall include the appropriate sizing of all cabling (above and below ground) that will connect the modules, arrays, inverters, transformer and switchgear to the point of interconnection should be as per the EWA regulation for the Solar power plants All cable trays, shall be provided with external ground wire bonded to the tray and connected to the plant at a pre-determined earthing point Cable trays shall be hot dip galvanized steel with tray covers where mechanical protection is necessary The Seller shall use cables without making any junction. Cable loss calculations have to be provided All the cables sizes should be as per the EWA latest regulation for the Solar power plants

	PARTICULARS	REQUIREMENT
		All the Cables should be EWA approved manufacturers
		All the Cable calculations should be as per the latest EWA regulation for solar Power plants
		No cabling is to be exposed to direct sunlight, even if sheathing is marked as being UV- stabilized. All cabling that may be exposed must be routed through UV-stabilized conduit
10	Combiner Boxes	Bidder shall use combiner boxes (also called AC combination boxes).
		Combiner boxes shall contain terminal strips, DIN rails, fuse terminal blocks, grounding bus.
		AC SPDs shall be Type 1+2
		Main Breakers shall occupy with LSIG Protection
		Minimum protection level IP 54 shall be foreseen for Indoor installation and IP 65 for Outdoor Application
		Bolts and nuts for the assembly of the structure must be made of stainless steel.
11	Remote Monitoring	Remote Monitoring solution should be flexible and user friendly.
		Monitoring solution should be able to monitor at minimum Solar Generation, Site Energy Consumption from Grid, Weather station Data, performance efficiency
		Monitoring Solution should use simple network infrastructure and have flexible data access, Web Portal and mobile application.
		Monitoring Solution should provide.
		Full plant supervision via multi-dimensional analysis, automated reports
		Accurate positioning of faults, quick troubleshooting, real-time push of information, reducing time to resolve faults, Parameter setting, firmware updates, smart IV curve diagnosis .
		Support of plant maintenance by remote Web access of local data logger.
		Cyber security and redundant data storage over the lifecycle of plants, certified data security.
		Pyrano Meter Shall be provided for each Tilt and orientation
		One Pyrano Meter Shall be provided to measure the GHI
		Full log for trace and audit
12	General	Heavy-duty conduit must be used for any cabling installed below a height of 750 mm.
		All cables under modules shall be protected from inadvertent contact with passing maintenance personnel. This may be achieved by routing the cabling on the underside of the mounting rails, or through cable tray, trunking or conduit. Care must be taken to minimize direct exposure to sunlight when cables pass between modules
		Plastic cable ties, where used, must be protected from both direct and reflected UV radiation. Any cable ties used in UV exposed locations must be stainless steel
		All DC cable terminations are to be crimped or use a solar connector (e.g. string inverter DC input).

	PARTICULARS	REQUIREMENT
		Details of how cable will be run (i.e. description and drawings) are to be provided with the proposal
		Where flexible conduit is used, care must be taken to prevent tracking of water down cabling into the conduit. The preferred method is to have conduit entries facing downwards, as water will not be able to track upwards into the conduit. Plugging the conduit entry with silicone is not an acceptable long-term solution.
		Outdoor isolator enclosures and junction boxes are to be rated IP65 and resistant to UV damage and UV transmission to the components inside. Isolator enclosures must also be sheltered from direct sun and rain by the array or an awning. Isolator enclosures must be of a robust material resistant to bending under pressure and designed for operation in hot environments (Temperature should be Consider 60°C)
		Enclosure covers are to be capable of being easily installed and removed multiple times from the enclosure body without damage (e.g. damage caused by stripping mounting holes in the enclosure body with over tightening of the enclosure cover screws).
		Isolator enclosures are to be fitted with a clear window, so operators can easily verify the on/off state of the isolators inside.
		Permanent labelling is required to identify all major components including circuit breakers, isolators, fuses, lightning arrestors, cables and inverters.
		Provide for a separate metered water connection for the sole use and purpose of the O&M activities to be charged to the successful bidder.
		PV cabling at the array must be installed such that inductive loops are minimized in order to minimize voltage spikes caused by inter-cloud lightning strikes.
		Lightning arrestors should be installed on the DC circuits, as inter-cloud lightning may cause voltage spikes on the array circuits. Lightning arrestors are to have a method of visually checking that they are still operational. The DC lightning arrestors for the string inverter may be integrated in the string inverters, per the manufacturer’s specifications. Instructions for replacing the surge arrestors are to be provided
		Cable trays should be made of stainless steel (grade 316), aluminum, or hot-dipped galvanized steel. In addition: a) Fasteners are to be made of stainless steel (grade 316) or HDGI. Bare carbon steel fasteners are not acceptable
		Anti-corrosive paint should be applied in all the Cutting Edges of all the metal parts

II. SYSTEM ACCEPTANCE AND COMPLETION

1. Costs for Independent Acceptance Testing and Performance Monitoring shall be borne by the seller. The testing shall include but not be limited to:

- i. A review of all required documentation submitted;
 - ii. A visual inspection of all components to confirm:
 - iii. General quality of electrical and civil works;
 - iv. Compliance with relevant standards, the specification, and approved design drawings.
 - v. I-V tracing of all PV strings;
 - vi. Earth continuity testing of all PV module frames;
 - vii. DC isolator operation under full load;
 - viii. Insulation resistance testing of all cables;
 - ix. Loss-of-communications control test;
 - x. Infra-red imaging of relevant electrical components.
2. System performance is to be monitored by the seller and the purchaser, and/or the purchaser's Representative (either remotely or on-site) for 120 hours; the Performance Monitoring Period Over this period, individual system components must meet the following minimum performance criteria:
3. Average PV inverter efficiency > 95% or the stated equipment specification efficiency, whichever is the higher,
4. The Seller will be required to demonstrate that the system is capable of maintaining power quality while undergoing all control operations over the Performance Monitoring Period.
5. The seller shall demonstrate and train the Purchaser in the use of the data acquisition system and user interface and shall be tested and validated through the monitoring period.
6. Prior to the completion of the Defects Liability Period, the system shall be re-tested as per above to ensure the system is operating in accordance with the stated degradation factors.
7. All testing and subsequent approvals, as required by EWA or other local authorities are the responsibility of the seller.

III. OPERATION AND MAINTENANCE

1. A comprehensive plant O&M manual will be provided by the Successful Bidder to the Purchaser prior to the Project being accepted, with two hard copies and one soft copy. It shall include at a minimum;
 - Project information: Names, addresses, email, phone of responsible people within seller, and subcontractors (where applicable)
 - Safety Instructions
 - Equipment information: Contact information of manufacturers and suppliers of Main Equipment including datasheets of the equipment
 - Equipment description: This part shall describe the location of the equipment, the performance figures and equipment specific information such as manufacture date and flash lists for PV modules
 - All Software, Manuals and Project Documentation required to operate, maintain, service, repair and restore the inverters, protection systems, switchgear, monitoring,

control systems and other systems that form part of the Project

- Operation Procedures: Appropriate manufacturer’s technical literature.
 - Maintenance Procedures: Appropriate manufacturers technical literature including detailed recommendations for preventative maintenance, frequency and procedures
 - Detailed and thorough self-troubleshooting providing logical step by-step procedures where possible, including dis-assembly, repair and re-assembly, cleaning and alignment
 - User Guide for data acquisition system, data monitoring and data downloading
 - Schedule of Spares
 - Applicable Certificates
 - All test documentation and As-Built Drawings shall be added after acceptance of the Project
2. The Seller shall provide as part of the equipment operations and maintenance manual, the typical daily, monthly, and annual maintenance activities expected for the plant
 3. Successful bidder should submit the Monthly maintenance report to the Purchaser on or before 25th of every month

IV. EWA TECHNICAL SPECIFICATIONS

The Bidders must ensure that the technical specification of the grid-tied solar PV power plant is in accordance with the EWA grid connection guidelines & standards set out as follows.

(<http://www.ewa.bh/en/RenewableEnergy/Pages/Technical-Documentations.aspx>).

No	Description	Reference Website
1	Standards for Solar PV systems connected to the distribution networks	http://www.ewa.bh/en/RenewableEnergy/Documents/1Standards for Solar PV systems connected to the distribution networks.pdf
2	Connection Guidelines	http://www.ewa.bh/en/RenewableEnergy/Documents/3Connection Guidelines.pdf
3	Design Recommendations	http://www.ewa.bh/en/RenewableEnergy/Documents/4Design Recommendations.pdf
4	Fire Safety Recommendations	http://www.ewa.bh/en/RenewableEnergy/Documents/5Fire Safety recommendations.pdf
5	Impact on Aviation	http://www.ewa.bh/en/RenewableEnergy/Documents/2Impact on Aviation.pdf
6	Inspection and Testing Checklists	http://www.ewa.bh/en/RenewableEnergy/Documents/6Inspection and Testing Checklists.pdf

7	Inspection and Testing Guidelines	http://www.ewa.bh/en/RenewableEnergy/Documents/7Inspection%20and%20Testing%20Guidelines.pdf
8	EWA List of Approved Solar Equipment	http://www.ewa.bh/en/contact/Documents/Solar Mfrs list ofEWA.pdf
9	EWA Design guidelines	<ul style="list-style-type: none"> • Design procedure - grid connected distributed solar PV systems • Building_Permit_Code_EN_v1.3 • BS 7671 • Connection Guidelines for Distributed Renewable Resources Generation connected to the Distribution Network of Electricity & Water Authority (Net-Metering)

V. NET METERING APPLICATION PROCESS

The Successful Bidder shall obtain any and all necessary approvals, consents, clearances and permits required under Net Metering Policy and EWA grid connection guidelines & standards.

VI. QUALITY AND WORKMANSHIP

Since, the Solar PV modules are designed to last 25 years or more, therefore, all works shall be undertaken with the highest levels of quality and workmanship. During inspection, The purchaser and its representatives will pay special attention to conformity with standards, quality and safety norms including the neatness of work execution and. Non-compliant works will have to be redone at the cost of the Installer.

SECTION (D) FORMATS & APPENDICES

FORMAT 01

i. TECHNICAL PROPOSAL

1. TECHNICAL PROPOSAL VALIDITY

#	PARTICULARS	DETAILS TO BE FILLED
1.	Technical Proposal validity	180 Days

2. BIDDER'S PROFILE

#	PARTICULARS	DETAILS TO BE FILLED
1.	Legal Name of the Company	
2.	Registered office	
a.	Office Address	
b.	Office Telephone Number	
c.	Office Fax Number	
d.	Office Email ID	
e.	Commercial Registration (CR) Number	
f.	Year of Incorporation	

3. TECHNICAL DETAILS/ DOCUMENTS

1) CONCEPT DESIGN:

- a) 3D model of the proposed solar system illustrated with at various viewing angles and a sample of an installed projects (if any).
- b) A description of the concept design not exceeding 1000 word, including the following: technological features of the Plant, robotic cleaning, and other value additions (architectural theme, technology, visually appealing concealment of cabling)

2) TECHNICAL DRAWINGS:

Bidders shall propose a technical drawing for their proposed grid-tied solar PV power plant, which shall contain the following:

- a) 2D Plant layout including all the main equipment and components
- b) Schematic Single-Line Diagram (SLD) comprising of electrical interconnection of main equipment and Components
- c) Schematic Module Mounting Structure (MMS) Diagram for both Building rooftop mounting structure
- d) Schematic diagram of proposed equipment locations with cable Route
- e) Proposed POC Locations
- f) Schematic Civil Ballast Diagram for flat roof and carports
- g) Add Schematic of the following shall be shared
 - i. Mounting Structures
 - ii. Inverter Stations/ Equipment locations
- h) Proposed Construction Program broken out by Phases
- i) Innovative ideas (if any)
- j) Project organization chart showing all suppliers and sub-contractors, clearly identifying the EWA approved entity or entities

3) DESIGN SUMMARY

Bidders shall propose a design summary for their proposed grid-tied solar PV power plant as each Branch separately.

- i. Isa Town Campus
- ii. Riffa Campus

It shall contain the following:

Design summary as per the below table.

#	Description	Details
A.	PLANT CAPACITY	
1.	Solar PV Plant Capacity (DC)	MWp
2.	Solar PV Plant Capacity (AC)	MWac
3.	DC to AC Ratio	
4.	Solar PV Technology	Mono Crystalline
5.	Plant Lifetime	25 Years
B.	MAJOR EQUIPMENT/ COMPONENTS	

1.	Solar PV module	Brand/ Model/ Wattage
2.	Solar Grid-Tie Inverter	Brand/ Model/ Wattage
3.	Solar Optimizer (If applicable)	Brand/ Model/ Wattage
4.	External Interface Protection	Brand/ Model/ Wattage
C.	MODULE MOUNTING STRUCTURE (MMS) DETAILS	
1.	Type of MMS	Flat roof Mounted/Sheet Roof/ Carports
2.	Tilt Angle	Deg
3.	Azimuth Angle	Deg
4.	Tracking Type	Fixed
D.	ENERGY MODELLING	
1.	Software used for Energy simulation	Software / Version
2.	Whether the Energy Simulation Report attached	Yes/ No
E.	1st YEAR'S GEG PARAMETERS	
1.	1 st year GEG	kWh/Year
2.	Specific Production (DC)	kWh/kWp/Year
3.	Specific Production (AC)	kWh/kW/Year
4.	Performance Ratio	%

- x. A copy of the Energy Simulation Report generated from a professional energy modelling software (PVsyst preferable)

4) GUARANTEED ELECTRICITY GENERATION:

Bidders shall propose a guaranteed electricity generation for their proposed grid-tied solar PV power plant as per the below table.

#	Solar PV Plant Capacity (DC)	MWp	
	Solar PV Plant Capacity (AC)	MWac	
	DC to AC Ratio		
	Years	Annual Guaranteed Electricity Generation(kWh/ Annum)	PR Value
1	1 st Year GEG		
2	2 nd Year GEG		
3	3 rd Year GEG		
4	4 th Year GEG		
5	5 th Year GEG		
6	6 th Year GEG		

7	7 th Year GEG		
8	8 th Year GEG		
9	9 th Year GEG		
10	10 th Year GEG		
11	11 th Year GEG		
12	12 th Year GEG		
13	13 th Year GEG		
14	14 th Year GEG		
15.	15 th Year GEG		
16	16 th Year GEG		
17	17 th Year GEG		
18.	18 th Year GEG		
19	19 th Year GEG		
20	20 th Year GEG		
21	21 st Year GEG		
22	22 nd Year GEG		
23	23 rd Year GEG		
24	24 th Year GEG		
25	25 th Year GEG		

5) EQUIPMENT & COMPONENT DETAILS:

Bidders shall propose all the main equipment & components for their proposed grid-tied solar PV power plant, as per the below table for each zone separately

Note:

1. If any of the Component is more than one model (eg: Inverter), Bidder shall share the details of each model separately with quantity

#	DESCRIPTION	DETAILS
A.	PLANT CAPACITY	
1.	Solar PV Plant Capacity (DC)	MWp
2.	Solar PV Plant Capacity (AC)	MWac
3.	DC to AC Ratio	
B.	SOLAR PV MODULE	
1.	Module Technology	Mono Crystalline
2.	Whether Bifacial Module	Yes/ No
3.	Whether EWA Approved	Yes/ No
4.	Make/ Manufacturer	
5.	Country of Manufacturing	

6.	Model	
7.	Capacity per Module	Wp
8.	Quantity of Modules	Qty
9.	Array Capacity	Qty
10.	String Configuration (Series/ parallel combination)	Qty
11.	IEC Standards	
12.	Whether the Module has a RFID tag	Yes/ No
13.	Whether the RFID tag is laminated inside panel	Yes/ No
14.	Other details, if any	
C.	MODULE MOUNTING STRUCTURE (MMS)	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Type of Structure	
4.	Grade of Structure material	
5.	Size of Structure	
6.	Type of Leg material	
7.	Grade of Leg material	
8.	Size of Leg	
9.	Total Tonnage of MMS	
10.	Tilt Angle	Deg
11.	Rated Wind speed – Gust	m/s
12.	Rated Wind speed – Sustained	m/s
13.	IEC Standard	
14.	Other details, if any	
D.	CIVIL BALLAST	
1.	Type of material	
2.	Grade of material	
3.	Size of foundation	L x B X H
4.	Total Tonnage of foundations	
5.	Standard	
6.	Other details, if any	
E.	SOLAR GRID TIE INVERTER	
1.	Type of Inverter (micro/ string/ central)	
2.	Whether EWA Approved	Yes/ No
3.	Make/ Manufacturer	
4.	Country of Manufacturing	
5.	Model	
6.	Capacity per Inverter	kW
7.	Quantity of Inverter	Qty
9.	IEC Standard	

10.	Other details, if any	
F.	SOLAR OPTIMIZERS (IF ANY)	
1.	Type of Optimizer	
2.	Make/ Manufacturer	
3.	Country of Manufacturing	
4.	Model	
5.	Capacity per Optimizer	kW
6.	Quantity	Qty
8.	IEC Standard	
9.	Other details, if any	
G.	EXTERNAL INTERFACE PROTECTION	
1.	Type	
2.	Whether EWA Approved	Yes/ No
3.	Make/ Manufacturer	
4.	Country of Manufacturing	
5.	Model	
7.	Quantity of External Interface Protection	Qty
8.	IEC Standard	
9.	Other details, if any	
H.	EMERGENCY DISCONNECTION - MANUAL CALLPOINT	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
5.	Quantity	Qty
6.	Size & Type	
7.	IEC Standard	
8.	Other details, if any	
I.	STRING COMBINER BOX/ ARRAY JUNCTION BOX (IF ANY)	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
4.	Quantity	Qty
5.	Size & Type	
6.	Material of the enclosure	
7.	IP Rating of the enclosure	IP [xx]
8.	IEC Standard	
9.	Other details, if any	
J.	DC SIDE DISTRIBUTION (IF ANY)	
(i)	DC Side – Fuse	
1.	Make/ Manufacturer	

2.	Country of Manufacturing	
3.	Model	
4.	Rated Voltage	kV
5.	Rated Amperage	A
6.	Quantity	Qty
7.	Size & Type	
8.	IEC Standard	
9.	Other details, if any	
(ii)	DC Side - Miniature Circuit Breaker (MCB)/ Moulded Case Circuit Breaker (MCCB)	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
4.	Rated Voltage	kV
5.	Rated Amperage	A
6.	Quantity	Qty
7.	Size & Type	
8.	IEC Standard	
9.	Other details, if any	
(iii)	DC Side - Surge Protector	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
4.	Rated Voltage	kV
5.	Rated Amperage	A
6.	Quantity	Qty
7.	Size & Type	
8.	IEC Standard	
9.	Other details, if any	
(iv)	DC Side - Switch Disconnecter/ Switch Isolator	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
4.	Rated Voltage	kV
5.	Rated Amperage	A
6.	Quantity	Qty
7.	Size & Type	
8.	IEC Standard	
9.	Other details, if any	
K.	AC SIDE DISTRIBUTION	
(i)	AC Side – Fuse	
1.	Make/ Manufacturer	

2.	Country of Manufacturing	
3.	Model	
4.	Rated Voltage	kV
5.	Rated Amperage	A
6.	Quantity	Qty
7.	Size & Type	
8.	IEC Standard	
9.	Other details, if any	
(ii)	AC Side - Miniature Circuit Breaker (MCB)/ Moulded Case Circuit Breaker (MCCB)	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
4.	Whether EWA Approved	Yes/ No
5.	Rated Voltage	kV
6.	Rated Amperage	A
7.	Quantity	Qty
8.	Size & Type	
9.	IEC Standard	
10.	Other details, if any	
(iii)	AC Side - Surge Protector	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
4.	Rated Voltage	kV
5.	Rated Amperage	A
6.	Quantity	Qty
7.	Size & Type	
8.	IEC Standard	
9.	Other details, if any	
(iv)	AC Side - Switch Disconnecter/ Switch Isolator	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
4.	Rated Voltage	kV
5.	Rated Amperage	A
6.	Quantity	Qty
7.	Size & Type	
8.	IEC Standard	
9.	Other details, if any	
L.	DC CABLES	
1.	Make/ Manufacturer	

2.	Country of Manufacturing	
3.	Model	
4.	Type (PVC/ XLPO)	
5.	Rated Voltage	kV
6.	Rated Amperage	A
7.	Size	Sq. mm
8.	IEC Standard	
9.	Other details, if any	
M.	AC CABLES (Inverter to Solar SMP)	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
4.	Whether EWA Approved	Yes/ No
5.	Type (PVC/ XLPE)	
6.	Rated Voltage	kV
7.	Rated Amperage	A
8.	Size	Sq. mm
9.	IEC Standard	
10.	Other details, if any	
N.	AC CABLES (Solar SMP to POC)	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
4.	Whether EWA Approved	Yes/ No
5.	Type (PVC/ XLPE)	
6.	Rated Voltage	kV
7.	Rated Amperage	A
8.	Size	Sq. mm
9.	IEC Standard	
10.	Other details, if any	
O.	EARTHING	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
4.	Type	
5.	Conductor size	Sq. mm
6.	Rated Amperage	kA
7.	Resistance	Ohm
8.	Quantity	Qty
9.	IEC Standard	
10.	Other details, if any	
P.	LIGHTENING ARRESTOR	

1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
4.	Conductor size	Sq. mm
5.	Rated Voltage	kV
6.	Coverage Area	Meters
7.	Resistance	Ohm
8.	Quantity	Qty
9.	Size & Type	
10.	IEC Standard	
Q.	REMOTE MONITORING UNIT (RMU)	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
4.	Quantity	Qty
5.	Size & Type	
6.	IEC Standard	
7.	Other details, if any	
R.	WALKWAY	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
4.	Quantity	Meters
5.	Size & Type	
6.	IEC Standard	
7.	Other details, if any	
S.	ROBOTIC CLEANING EQUIPMENT (IF ANY)	
1.	Make/ Manufacturer	
2.	Country of Manufacturing	
3.	Model	
4.	Quantity	Qty
5.	Size & Type	
6.	IEC Standard	
7.	Other details, if any	
T.	MISCELLANEOUS COMPONENTS (IF ANY)	
8.	Make/ Manufacturer	
9.	Country of Manufacturing	
10.	Model	
11.	Quantity	Qty
12.	Size & Type	
13.	IEC Standard	
14.	Other details, if any	

6) WARRANTY OF EQUIPMENT & COMPONENT:

Bidders shall propose the warranty of equipment & components for their proposed grid-tied solar PV power plant as per the below table:

#	Description		Warranty period (years)
1	Solar PV Modules	Product Warranty	
2		Performance Warranty	
3	Module Mounting Structure (Rooftop)		
4	Module Mounting Structure (Car parking)		
5	Solar Grid Tie Inverter		
6	Solar SMP		
7	Solar Optimizer (If any)		
8	External Interface Protection		
9	DC & AC cables		
10	Earthing Cable		
11	Lightning Arrestor		
12	Remote Monitoring Unit		
13	Robotic cleaning equipment (If any)		
14	Water Proofing of Sheet		

7) SUPPLEMENTARY DETAILS & DOCUMENTS:**a. PROJECT TIMELINE**

Bidders shall propose a Project Timeline (Gantt chart) which shall indicate the schedules of supply, engineering, design, procurement, transportation, construction, installation, testing and commissioning of the Bidder's Proposed Capacity to be completed within Seven (7) Month period.

2. O&M MANUAL

- i. All the bidders should share the operations and maintenance monthly reporting format along with the proposal

3. KEY PERSONNEL

Compilation of all key personnel CV details shall be submitted as per below table.

#	STAFF NAME	DESIGNATION	EDUCATIONAL QUALIFICATION	YEARS OF EXPERIENCE	FIELD OF EXPERTISE	ROLE IN THE PROJECT
1		Project Manager				
2		Design Manager				
3		Health, Safety & Environmental (HSE) Manager				
4		Construction Manager				
5		O&M Manager				
6		Electrical Engineers				
7		Civil Engineers				
8		Technicians				

I/We shall undertake the aforesaid details submitted by us are true to the best of our knowledge.

I/We am/are aware that if any discrepancies are found in my/our proposal is liable for rejection.

Signature of the Authorized Signatory	
Name of the Authorized Signatory	
Designation of the Authorized Signatory	
Name and Address of Bidder	
Stamp of Bidder	
Date	
Place	

FORMAT 02

i. FINANCIAL PROPOSAL

1. FINANCIAL PROPOSAL VALIDITY

#	PARTICULARS	DETAILS TO BE FILLED
1.	Financial Proposal validity	180 Days

2. BOOM MODEL - FIXED TARIFF PRICE

The Fixed Tariff for Build Own Operate and Maintain of the Bidder's Proposed Capacity is inclusive of all taxes, duties, & VAT is detailed below.

- i. The bidders shall propose project cost as each Campus separately.
 - a. Isa Town Campus
 - b. Riffa Campus
- ii. BOOM MODEL COST FORMAT
 - a. Isa Town Campus
 - b. Riffa Campus

Campus Name		Istown / Riffa
Total Solar PV Plant Capacity (DC) of all properties		MWp
Total Solar PV Plant Capacity (AC) of all properties		MWac
BOOM – FIXED TARIFF (without VAT)		BHD
Capital Expenditures (CAPEX) - Equipment/ Components	Solar PV modules (Mono Crystalline)	
	Optimizers (If any)	
	Inverters (micro/ string/ central)	
	External Interface Protection	
	Module Mounting Structure (MMS)	
	String Combiner Box/ Array Junction Box	
	Electrical protection (DC & AC)	
	Cables (DC & AC)	
	Civil Ballast	
	Robotic Cleaning Equipment (If any)	
	Remote Monitoring Unit (RMU)	
Others		
Capital Expenditures (CAPEX) - Project development/ implementation	Project management & administrative costs	
	EWA approved consultant for design and detailed engineering (civil/ electrical/ mechanical) costs	
	Structural stability assessment cost	
	Site preparation, transportation, civil works, construction, erection installation, testing & commissioning costs.	

	Others	
Operating Expenditures (OPEX)	Comprehensive operation and maintenance	
	Others	
Total Solar PV Plant Capacity (DC) of all properties		MWp
Total Solar PV Plant Capacity (AC) of all properties		MWac
BOOM – FIXED TARIFF (Without VAT) Total -		filS/ kWh
BOOM – FIXED TARIFF (With VAT) Total -		filS/ kWh
Fixed Tariff (without VAT) In Words		
Fixed Tariff (with VAT) In Words		

3. BUY-OUT PRICE

The Buy-out price for the Bidder's Proposed Capacity is inclusive of all taxes, duties, & VAT. The Buy-out price anytime during the years 1st to 25th of the Contract period, comprising of the book value of the Systems and any part of their assets at such time is provided in the table below.

	Years	Buy Out Price (BHD)
1	1 st Year	
2	2 nd Year	
3	3 rd Year	
4	4 th Year	
5	5 th Year	
6	6 th Year	
7	7 th Year	
8	8 th Year	
9	9 th Year	
10	10 th Year	
11	11 th Year	
12	12 th Year	
13	13 th Year	
14	14 th Year	
15	15 th Year	
16	16 th Year	
17	17 th Year	
18	18 th Year	
19	19 th Year	
20	20 th Year	
21	21 st Year	

22	22 nd Year	
23	23 rd Year	
24	24 th Year	

Note: In case of discrepancy between the cost quoted in Words and in Figures, the lower of the two will be considered. (Total cost offered should be both in figures and words).

I/We hereby certify the following.

1. All tariff/ prices/ cost quoted in our Financial Proposal shall be valid and applicable for this Tender Document only.
2. All tariff/ prices/ cost quoted in our Financial Proposal shall be with effect from the date of commercial operation (COD) to a subsequent period 25 year

I/We shall undertake the aforesaid details submitted by us are true to the best of our knowledge. I/We am/are aware that if any discrepancies are found in my/our proposal is liable for rejection.

Signature of the Authorized Signatory	
Name of the Authorized Signatory	
Designation of the Authorized Signatory	
Name and Address of Bidder	
Stamp of Bidder	
Date	
Place	

FORMAT 03

I. MISCELLANEOUS

1. EXCLUSIONS (IF ANY)

#	DESCRIPTION	PRICE (IF ANY)
1.		BHD (or) N/A
2.		BHD (or) N/A

2. TERMS & CONDITIONS (IF ANY)

#	DESCRIPTION
1.	
2.	
3.	

3. BANK DETAILS

#	DESCRIPTION	DETAILS
1.	Account Holder's Name	
2.	Banker's Name	
3.	Address	
4.	Name of Branch	
5.	IBAN Account Number	
6.	IFSC Code	

4. AVAILABILITY OF PERFORMANCE BOND

#	DESCRIPTION	BIDDER'S CONFIRMATION
1.	Performance Bond	YES/NO

Signature of the Authorized Signatory	
Name of the Authorized Signatory	
Designation of the Authorized Signatory	
Name and Address of Bidder	
Stamp of Bidder	
Date	
Place	

The Indian School
KINGDOM OF BAHRAIN
ISO 9001:2015 Institution



المدرسة الهندية
مملكة البحرين
ISO 9001:2015 المؤسسة

APPENDICES

GRID TIED SOLAR PV ROOFTOP POWER
PLANT ON BUILDING ROOFTOPS WITH A
MINIMUM CAPACITY OF 920 kWp
UNDER PPA MODEL.

26th SEP 2023

CONTENTS

APPENDIX - 1	3
O&M GUIDELINE FOR INDIAN SOLAR PROJECT 3
1. DAILY O&M ACTIVITIES 4
2. MONTHLY O&M ACTIVITIES.....	4
3. QUARTERLY / BIANNUALLY / YEARLY O&M ACTIVITIES	4
4. WEEKLY REPORT – FORMAT	6
5. MONTHLY REPORT FORMAT	6
6. QUARTERLY REPORT FORMAT.....	6
7. BIANNUALLY REPORT FORMAT.....	6
8. YEARLY REPORT FORMAT	6
APPENDIX - 2	7
PERFORMANCE BOND FORMAT	7
APPENDIX - 3.....	10
REFERENCE LAYOUT FOR INDIAN SOLAR PROJECT.....	10

APPENDIX - 1
O&M GUIDELINE FOR INDIAN SOLAR PROJECT

1. DAILY O&M ACTIVITIES

1.1	Assignment of O&M technician by Contractor
1.2	Daily on-line Monitoring
1.3	Daily report (refer to an attached format)
1.3.1	Reporting Daily Issues and Settlement
1.3.2	Site Survey, if necessary
1.4	Reporting to Indian School

2. MONTHLY O&M ACTIVITIES

2.1	Structures of PV Modules
2.1.1	Visual inspections – Monthly
2.2	PV Modules
2.2.1	Visual inspections – Monthly
2.3	DC Boxes
2.3.1	Visual inspections – Monthly
2.4	Inverters
2.4.1	Maintenance, as per OEM Manual – As per the manufacturer and site condition requirement
2.4.2	Visual inspections – Monthly
2.5	LV/MV Transformers / MV Switchgear
2.5.1	Visual inspections – Monthly
2.6	Pyranometers & Meteorological Sensors
2.6.1	Visual inspections – Monthly
2.6.2	Pyranometers cleaning – Monthly
2.7	LV AC Boxes
2.7.1	Visual inspections – Monthly
2.8	Substation (Delivery Station) / Relay Room / SCADA
2.8.1	Visual inspection – Monthly
2.9	Fire extinguishers
2.9.1	Visual inspection – Monthly
2.10	UPS
2.10.1	Visual inspections – Monthly
2.11	OPS building / Store room / Spare parts
2.11.1	Visual inspections – Monthly
2.11.2	Cleaning – As needed
2.12	Panel Cleaning
2.12.1	Adequate treatment (softening) of water
2.12.2	Preheating of water (to avoid thermal shock)
2.12.3	No abrasive materials
2.13	Reporting to Indian School Monthly Report

3. QUARTERLY / BIANNUALLY / YEARLY O&M ACTIVITIES

3.1	Structures of PV Modules
3.1.1	Random torque checks – Yearly
3.2	PV Modules
3.2.1	Random (5%) thermal inspections and documentation – Yearly
3.2.2	Random (2% of strings) I-V curve checks and documentation – Yearly
3.3	DC Boxes
3.3.1	Torque checks (alternatively inspection of torque marks) – Quarterly
3.3.2	Thermal inspections – Yearly
3.3.3	Electrical checks – Yearly
3.4	Inverters
3.4.1	Thermal inspections - Yearly
3.5	LV/MV Transformers / MV Switchgear
3.5.1	Cleaning – Bi-Annually
3.5.2	Connections checks – Bi-Annually
3.6	Pyranometers & Meteorological Sensors
3.6.1	Pyranometers’ calibration – Yearly
3.6.2	Maintenance of the Met Mast – Bi-Annually
3.7	LV AC Boxes
3.7.1	Torque checks (alternatively inspection of torque marks) – Quarterly
3.7.2	Thermal inspections – Yearly
3.7.3	Electrical checks – Yearly
3.7.4	Functional tests of all switches, breakers and arrestors – Yearly
3.8	Lightning and Grounding Equipment
3.8.1	Visual inspections of lightning rods and (over ground) grounding
3.8.2	Conductors – Quarterly
3.8.3	Check tightness of all connections – Quarterly
3.8.4	Measurement of the earthing resistance in the Main Substation – Yearly
3.9	Reporting to Indian School Quarterly / Biannually / Yearly Report

4. WEEKLY REPORT – FORMAT

WEEKLY PRODUCTION				
Date	Average PV Plant Production (kW)	Actual - PV Plant Generation (kWh)	Monthly Targeted Generation as per the Guaranteed Generation	Percentage Achieved as per the Guaranteed Generation
XX/XX/XXXX	kW	kWh		
	Maximum Power Generated from the PV Plant (kW)	System PR with Temperature Involve (%)	System PR without Temperature Involve (%)	Availability of PV (%)
Date			kWh/(kWp*kWh/m ²)	
XX/XX/XXXX				
XX/XX/XXXX				
PREVENTIVE MAINTENANCE ACTIVITIES				
Date				
XX/XX/XXXX				
Other Activities				
CORRECTIVE MAINTENANCE ACTIVITIES , SAFETY DOCUMENTS, SPARE PARTS				
Date	Flash Report No.	Component Address	Error Code	Fault

5. MONTHLY REPORT FORMAT

Bidder shall be shared with the Proposal

6. QUARTERLY REPORT FORMAT

Bidder shall be shared with the Proposal

7. BIANNUALLY REPORT FORMAT

Bidder shall be shared with the Proposal

8. YEARLY REPORT FORMAT

Bidder shall be shared with the Proposal

APPENDIX - 2
PERFORMANCE BOND FORMAT

PERFORMANCE BOND

(The bank/ Insurance Company shall use this Performance Bond template in accordance with the instructions indicated)

(No terms shall be deleted from this Performance Bond or shall any terms be added) [Bank/ Insurance company letterhead]

BANK/ INSURANCE COMPANY REF:

DATED:

Dear Sir/ Madam,

PROJECT OWNER NAME : Indian School
PERFORMANCE BOND NUMBER :
NAME OF BANK/ INSURANCE COMPANY :
PERFORMANCE BOND AMOUNT : [BHD]
PERFORMANCE BOND VALIDITY : [MONTHS/ YEARS]
TENDER ID :
SERVICES : PPA Project of [Contracted Capacity] MWp SOLAR PV
power plant
AGREEMENT NAME : Solar Power Plant Implementation Contract Agreement
DATE OF EXECUTION OF THE AGREEMENT: [DD/ MM/ YYYY]

In consideration of you, Indian School (hereinafter referred to as the "Project Owner"), having agreed to enter into the above agreement (the "Agreement") with [name of the Main Contractor] of [Address] (the "Main Contractor") we, the [insert name of bank/insurance company] Bank/ Insurance Company of [Address] (the "Guarantor") hereby irrevocably and unconditionally guarantee to the Project Owner subject only to the monetary limitation hereinafter specified that the Main Contractor shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the Agreement for Solar Power Plant Implementation Contract Agreement of [Contracted Capacity] MWp Solar PV power plant (the "Services") and of any extensions thereof, and that the Main Contractor shall well and truly perform and fulfil all the undertakings, covenants, terms and conditions of any and all changes modifications, additions or amendments to the Agreement that may hereinafter be made, and that the Main Contractor shall also fully indemnify, defend and hold the Project Owner harmless from all costs, liability and damage which the Project Owner may suffer by reason of the failure of the Main Contractor to do so.

In the event that the Project Owner, in its absolute discretion, gives written notice to us at any time of the failure of the Main Contractor to perform or fulfill any of the acts or obligations set forth in the preceding paragraph, we hereby unconditionally and irrevocably undertake, without any right of set off or counterclaim whether on our behalf or on behalf of the Main Contractor, to pay on first demand and without contestation to the Project Owner the sum of [insert amount BHD], (Insert amount in words Bahraini Dinars Only), or any portion thereof, as specified by the Main Contractor. Such written notice of the Project Owner shall be conclusively binding on us for all purposes under this performance bond. Such payment shall be made within five (5) working days after receipt by us of a written notice of default from the Project Owner identifying this Bond.

We further agree that any change, modification, addition or amendment which may be made to the terms and conditions of the Agreement, or to the Services to be performed thereunder, or to the payments to be made on account thereof, or any extension of the time of performance of the Services or any composition, settlement, promise not to sue or other forbearance on the part of either the Project Owner or the Main Contractor to the other shall not in any way release us from our continuing liability hereunder, and we hereby expressly waive our right to consent to or to receive notice of any such change, modification, addition, amendment, extension, composition, settlement, promise or forbearance.

This performance bond shall be valid until the [insert date] or until the date the Agreement terminates whichever shall be the later and any request for payment hereunder must be received by us on or before

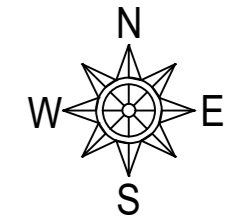
the later of such dates.

This performance bond shall be governed by and interpreted under the laws of the Kingdom of Bahrain. It shall be returned to us on its expiry.

For and on Behalf of

Name of Guarantor and stamp

APPENDIX - 3
REFERENCE LAYOUT FOR INDIAN SOLAR
PROJECT



LEGENDS

SYMBOL	DESCRIPTION
	PV MODULES
	SHADE AREA
	WALKWAYS

SOLAR CAPACITY DETAILS

S/N	AREA	STRUCTURE TYPE	Tilt	Total No. of modules	Capacity (kWp)
1	RF-1	EAST/SOUTH	10°	139	79.93
2	RF-2	FLUSH MOUNTED	3°	177	101.78
3	RF-3	EAST/SOUTH	10°	147	84.52
4	RF-4	EAST	10°	68	39.10

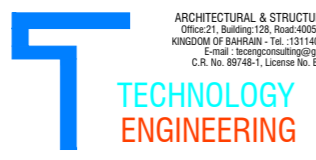
MODULE TYPE (WP)	575
TOTAL NO. OF MODULES	531
TOTAL CAPACITY (kWp)	305.33

GENERAL NOTES :

- ALL DIMENSIONS ARE IN MM, UNLESS OTHERWISE SPECIFIED



EPC CONTRACTOR:

SOLAR CONSULTANT:

 ARCHITECTURAL & STRUCTURAL ENGINEERS
 OFFICE: Building 128, Road 6025, Block 240 Al-Rifa
 KINGDOM OF SAUDI ARABIA - Tel: +966 11 4508 6000 Fax: +966 11 4508 6001
 E-mail: info@technologyengineering.com
 C.R. No. 89748-1, License No. EPP/09/184

CLIENT:
 THE INDIAN SCHOOL

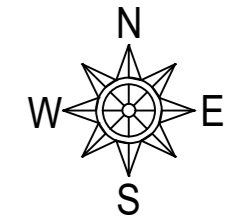
REVISION		
No.	DATE	REV. BY

PROJECT DESCRIPTION:
 305.33 KWP GRID CONNECTED SOLAR PROJECT AT INDIAN SCHOOL - RIFFA
 LOCATION:
 KINGDOM OF SAUDI ARABIA

DRAWING TITLE:
 RIFFA CAMPUS_SOLAR PANEL LAYOUT

DWG. NO	REV.
TE-GA-DWG-001	0

DRAWN	CHECKED	DATE	SCALE	SIZE
SU	SKG	07.06.23	1:180	A2



LEGENDS

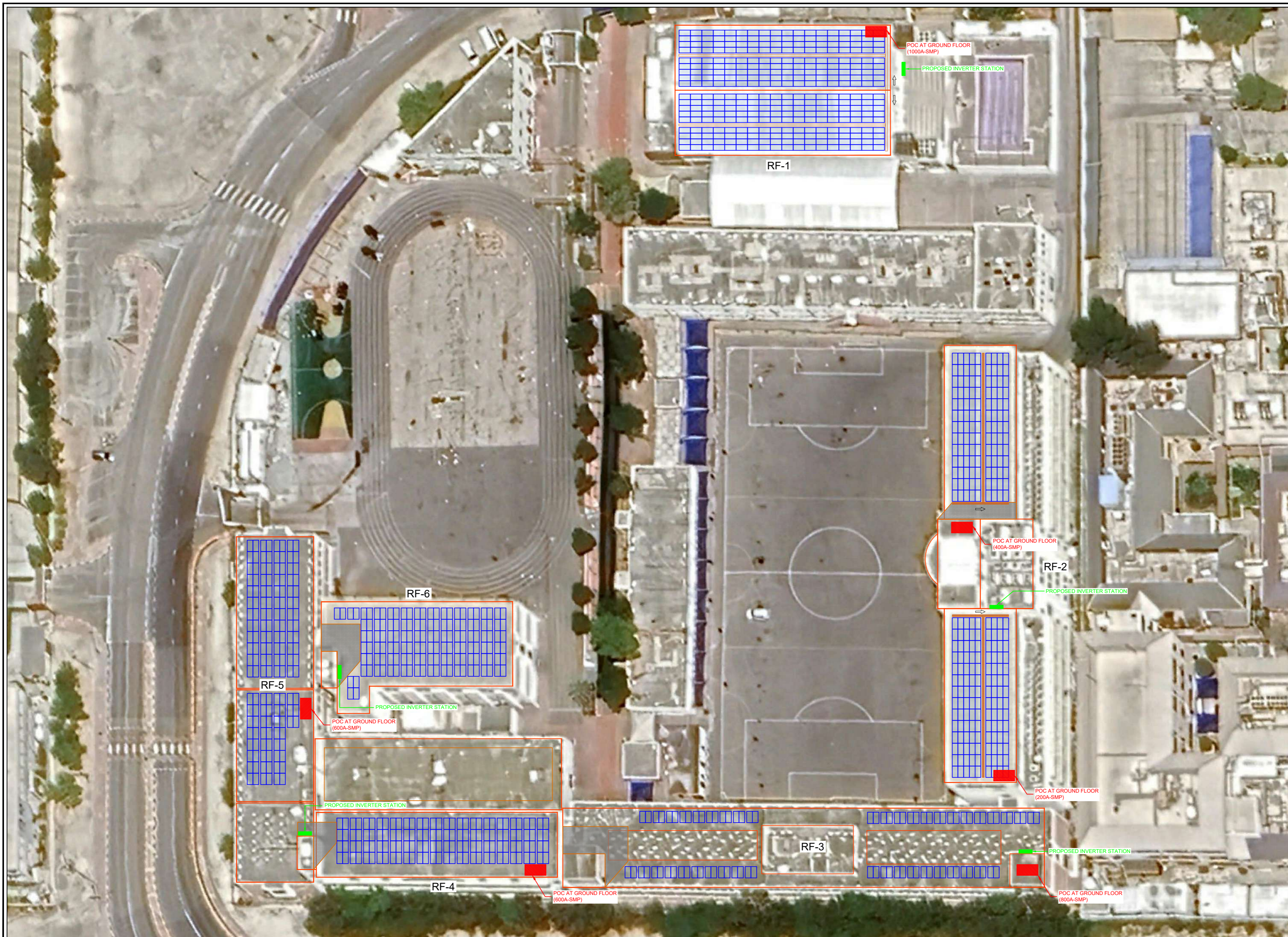
SYMBOL	DESCRIPTION
	PV MODULES
	SHADE AREA
	WALKWAYS

SOLAR CAPACITY DETAILS

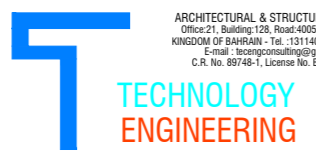
S/N	AREA	STRUCTURE TYPE	Tilt	Total No. of modules	Capacity (kWp)
1	RF-1	FLUSH MOUNTED	5°	324	186.30
2	RF-2	FLUSH MOUNTED	3°	243	139.73
3	RF-3	EASTWEST	10°	84	48.30
4	RF-4	EASTWEST	10°	128	73.60
5	RF-5	EASTWEST	10°	150	86.25
6	RF-6	EASTWEST	10°	140	80.50
MODULE TYPE (WP)					575
TOTAL NO. OF MODULES					1069
TOTAL CAPACITY (kWp)					614.68

GENERAL NOTES :

- ALL DIMENSIONS ARE IN MM, UNLESS OTHERWISE SPECIFIED



EPC CONTRACTOR:

SOLAR CONSULTANT:

 ARCHITECTURAL & STRUCTURAL ENGINEERS
 OFFICE: Building 128, Road 6025, Sector 24P, Al-Faha, Kingdom of Bahrain - Tel: +973 3311 8008 Fax: +973 3311 8058
 E-mail: info@technologyengineering.com
 C.R. No. 89748-1, License No. 1399961184

CLIENT:
 THE INDIAN SCHOOL

REVISION		
No.	DATE	REV. BY

PROJECT DESCRIPTION:
 614.68 KWP GRID CONNECTED SOLAR PROJECT AT INDIAN SCHOOL - ISA TOWN
 LOCATION:
 KINGDOM OF BAHRAIN

DRAWING TITLE:
 ISA TOWN CAMPUS_SOLAR PANEL LAYOUT

DWG. NO	REV.			
TE-GA-DWG-001	0			
DRAWN	CHECKED	DATE	SCALE	SIZE
SU	SKG	07.06.23	1:180	A2