

Q&A

1. Please provide the cleaning robots' data sheet(s).
Please refer to the attached datasheet – S1.
2. Please provide the cleaning robot manufacturer. How many of the robots are operated normally and how many are shut down?
UNHCR is in favor of hiring workforce from inside the camp for unskilled and semi-skilled tasks, and based on the observations and inspection, majority of the robots are not functioning all the time, so when preparing your offer, please consider that majority of the robots to be faulty and in need of repair.
3. Please provide the cleaning robots' log data (if available)
Kindly note this is Not Applicable, as the robots are being maintained separately (Please also refer to Q1).
4. Please provide the cleaning robots' spare parts required and if available locally.
Yes, the spare parts may be procured locally, however, it's the awarded contractor's sole responsibility to fix and maintain the robots if it's part of the cleaning proposal.
5. Please provide the system layout
Please refer to the attached Drawing – D1 & D5.
6. Please provide the System Single Line Diagram (SLD)
Please refer to the attached Drawing – D3.
7. Please provide the inverters log data (SCADA and Inverter management system)
Please refer to the attached Zaatari OM Tickets.
8. Please provide the Warranty certificate(s) or end date(s) for:
 - a. Solar Inverters
 - b. DC Combiner Box
 - c. Cleaning Robots
 - d. Network hardware / monitoring system components

No.	Item	Expiry	Warranty period
1	DC Combiner Box	June 2042	25 Years
2	PV modules	January 2025	10 Years
3	Power Station (Inverter Station)	April 2022	5 Years
4	33KV Switchgear	August 2018	1 Year

9. Please provide the PV System/System Simulation Report.
It will be part of the handover notes to the awarded contractor, however, the generation in 2019 was around 21.9 GWh.
10. Please provide the Ingeteam response time.
Please refer to the attached response time.
11. What happens if the Ingeteam responded late to a fault and the production is affected due to an inverter internal error?

RFP/HCR/JOR/2020/06 – Operation and Maintenance of Solar Plants in Zaatari Camp

The awarded contractor shall submit a full plan in such cases and UNHCR will look to each incident case by case.

12. What are the penalties if the required production is not achieved?
Please refer to the Annex A – Terms of Reference of the tender package – Important Notes:
“The Vendor shall guarantee 97% of the Available Energy generated or at least 97% of the estimated production which is 21,000. This guarantee will apply unless the Contractor proves that it has fully and satisfactorily performed the services under the Contract and that a failure to meet this target results solely from a cause beyond the Contractor’s reasonable control. Failure to obtain repair or replacement of equipment under a manufacturer’s warranty will not be considered a cause beyond the Contractor’s reasonable control”.
13. With regards to the production liability, are the required production readings reported daily, monthly or will there be a specific time period? And is there an approved tolerance?
On monthly and yearly basis. As mentioned in Annex A – TOR, the tolerance is 97% of the available Energy.
14. What is the total system production until today?
59.3 GWh from November 2017 until June 2020.
15. Please provide the Actual Energy produced by the Plant in the previous operational years as this is essential to ensure that the plant is achieving the guaranteed energy as simulated in the PV system reports, it is also a prerequisite for guarantying Available Energy.
Please refer to Q14
16. Please provide a detailed vendor list including model numbers for all spare parts and plant equipment so that we can get quotations for the spare parts that need to be sourced by the vendor for the next three years.
Please refer to Annex A – TOR.
17. Please confirm all EPC Equipment warranties are still valid and that they will be assigned to the winning bidder.
Please refer to Q8.
18. Please provide the as-built plant layout and single line diagrams.
Please refer to Q5 and Q6.
19. Referring to item 1 in the scope of work, please clarify what is meant by IBVs: "Monthly one (1) dry cleaning using IBV's " bearing in mind that the tender documents stipulate that all workers must be Jordanian.
Kindly note that specialized tasks should be assigned to Jordanians (engineers, project manager etc), while any unskilled or semi-skilled tasks can be assigned to Syrian refugees from inside Zaatari Camp.
20. Please provide the dissipated heat load calculations for the equipment inside the inverter stations.
Kindly note this is Not Applicable, as this information is not available with the current contractor. A
21. Please provide the PV system report.
Please refer to Q9.
22. Please provide the HVAC equipment selection criteria.
Kindly note this is Not Applicable, because the HVAC system is not available in the plant.
23. Please provide the installed HVAC equipment data sheets.
Please refer to Q22.
24. Please provide the Monthly Fault Log for the plant operation and maintenance activities since the plant’s inception date (Commercial Operation Date).
Please refer to Q7.
25. Please provide the monthly module cleaning log since the Commercial Operation Date.
Kindly note this was not part of the previous contract.

RFP/HCR/JOR/2020/06 – Operation and Maintenance of Solar Plants in Zaatari Camp

26. Please provide all insulation resistance test results for all cables (AC, DC and MV).
Kindly note this is Not Applicable, as this is not requested in the TOR.
27. In the technical offer, you are requesting a proof for the eligibility to conduct business in Jordan and to operate inside refugee camps. However, as a local company we are eligible to work in Jordan but where to issue a document that we are eligible to work inside refugee camps.
As this stage, bidders are not requested to provide any certificates. Bidders only need to confirm they are able to obtain the needed permits to enter Zaatari Camp from the Syrian Refugee Affairs Directorate (SRAD) or any other governmental entities. It is the awarded bidder's responsibility to issue their own entry permits.
28. Please provide the as-built drawings of the project.
Please refer to Q5 and Q6.
29. Please provide the faults/error/event log of the project.
Please refer to Q7.
30. Is the structure manufactured locally or internationally? Please provide the name of the manufacturer and/or the datasheet of the structure, as well as the structure design.
Kindly note we are not authorized to share such information; however, bidders must make sure to submit their offers in line with the requirements of the tender.
31. What if the requested power class for the solar panels is not available in the market since it is considered as an old power class?
Once the spare parts are consumed, the contractor may offer a different power class with same dimensions upon approval from UNHCR. It's the awarded contractor's sole responsibility to make sure the system is technically viable and functional.
32. Please provide the datasheet of the installed weather station.
Please refer to the attached data sheets (S6 to S13).
33. Please provide the data sheet of the transformers.
Part of the inverter's datasheet, please refer to the attached data sheet S4 and S2
34. please provide a copy of all system components' warranties, either expired or still active, if not possible, please indicate the warranty status of each system's component.
Please refer to Q8.
35. Please provide us with the datasheet of the Insulated Gate Bipolar Transistor (IGPT).
Please refer to the attached datasheets S14.
36. Please provide the datasheet of the inverter manager and the switch of the inverter manager.
Please refer to the attached datasheets S4 and S3
37. **Warranty of Plant Components:**
- What is the warranty expiry date of all the Plant components; Inverter, MV system, Cables, cleaning robots etc.?
Please refer to Q8.
 - Is there a maintenance agreement with Ingeteam or the cleaning robot manufacturer?
All related documents and information will be handed over to the awarded contractor.
 - What is the product warranty expiry date of the PV modules?
Please refer to Q8.
38. **Performance Report:**
- Please provide a fault log report.
Please refer to Q7.

RFP/HCR/JOR/2020/06 – Operation and Maintenance of Solar Plants in Zaatari Camp

- b. What are the main incidents? MV, Inverters and DC system.
Please refer to Q7.
- c. Please provide a historic monthly anticipated PR% and availability vs. the Actual.
Please refer to Q14.
- d. Please share the historic performance analysis of the site to date.
Please refer to Q14.

39. Maintenance Reports:

- a. Please provide the historic maintenance reports of all equipment on site or confirmation that the maintenance program defined in the maintenance manuals of the components have been completed by the previous O&M Contractors?
This will be part of the handover to the awarded contractor.

40. Guaranteed Values:

As per Annex A – TOR: *“The awarded vendor shall guarantee at least 97% of the Available Energy* the Vendor should extract the yearly amount of energy generated from GPMPV Solar portal (Online Portal logs the daily generation for the plant) and PV Syst. Original Report. *Available Energy: The energy to be produced from the Solar Plant as presented in the web portal/ Scada system excluding design faults, sudden and planned electricity grid outages in addition to limitation on power factor. The vendor shall be responsible for any non-design faults leads (after the hand-over period) to reduction in the generated energy and the vendor will reimburse UNHCR”*

- a. When the guaranteed values are 97% of the generation, we have to know how the grid outage or curtailment will be excluded from the guaranteed energy.
The Grid outage and the curtailment are excluded from the guaranteed values depending on daily/monthly values of the generation and the time.
- b. The guaranteed Values metering point, on delivery station OR inverters?
Delivery station and SCADA System.
- c. Could you share the PV System simulation, based on which the guaranteed generation was agreed?
Please refer to Q9.

As per Annex A – TOR, Page 10, Important Notes, item 2: *“The Vendor shall guarantee 97% of the Available Energy generated or at least 97% of the estimated production which is 21,000”:*

- d. Is the 21,000kWh the 100% estimated production?
No, the estimated production is more than that, but the degradation factor was also calculated.
- e. Consumption of the site, based on which meter is the O&M contractor billed for the site consumption and where?
The awarded contractor will not be billed for electricity of any project related tasks.
- f. Does the O&M consumption include the self-consumption of the components, or is it limited to the consumption relevant to the O&M activities, such as the consumption of the control building facilities?
Please refer to Q40-e.

41. Utilities

- a. Is it the contractors’ responsibility to install and/or renew the internet subscription?
Yes.
- b. The Electricity of the Control Building, is bit separate meter from IDECO or Fed from the Plant?
Included as auxiliary transformer.
- c. Is the supply of water for the annual wet cleaning responsibility of the contractor or the client?
The contractor.

RFP/HCR/JOR/2020/06 – Operation and Maintenance of Solar Plants in Zaatari Camp

- d. Remote monitoring through existing CCTV systems – Is it established and operational?
Yes.
- e. Is it a condition to hire a security establishment or could be by the OM contractor employees?
Security company.
- f. What is the back-up system in case of the black out, UPS or Generator?
There is no back-up system.
- g. What is the responsibility of the connection cable between the delivery station and the grid (Over Head Line)?
The awarded contractor.

42. Drawings: Please provide the below drawings:

- a. General Layout. **Please refer to Q5.**
- b. Topographical Drawings. **Please refer to drawings D2 attached.**
- c. Operational Single Line Diagram. **Please refer to Drawings D3.**
- d. CCTV. **Kindly note this will only be shared with the awarded contractor.**
- e. Project approved Planning documents. **Will be shared with the awarded contractor.**

43. Tools, Spares and Consumables

- a. What are the tools available on site?
It the sole responsibility of the winning bidder to provide all tools and machinery needed for implementation of the project.
- b. What are the contractual spares requirements?
Delivery time to be within 60 days for the spare parts listed in the tender documents.
- c. In Annex A – TOR – List of Estimated Spare Parts to be sourced by the Vendor for the next three (3) Years: “*PV solar panels 320Wp/325Wp/330W.*”. Is it acceptable to source panels of higher power rating?
Please refer to Q31.
- d. In Annex A – TOR – List of Estimated Spare Parts to be sourced by the Vendor for the next three (3) Years: Please confirm that this is an estimate, not a requirement.
It is an estimate.
- e. In Annex A – TOR – List of Estimated Spare Parts to be sourced by the Vendor for the next three (3) Years: “*Kit Parts for inverters (INGECON SUN PowerMax B400 DCAC)*” Please confirm that this is an estimate, not a requirement.
It is an estimate.
- f. In Annex A – TOR – List of Estimated Spare Parts to be sourced by the Vendor for the next three (3) Years: “*Kit parts MV switchgear SIEMENS 8DJH36*”. Please confirm that this is an estimate, not a requirement.
It is an estimate.
- g. In Annex A – TOR – List of Estimated Spare Parts to be sourced by the Vendor for the next three (3) Years: “*Additional spare parts*”. Please confirm that this is an estimate, not a requirement.
It is an estimate.

44. Services

- a. In the Scope of Work section - page 1: *spare parts (including modules, inverters, mounting structures, transformers and high voltage protection equipment)*. However, the Additional notes section in page 10 indicates that the Contractor will only pay for parts in case they have been damaged by poor

RFP/HCR/JOR/2020/06 – Operation and Maintenance of Solar Plants in Zaatari Camp

maintenance or security. Please clarify if the Contractor is expected to pay for parts in any scenario that the replacement was not necessary due to an act or omission of the Contractor?

UNHCR will pay the cost of spare parts used in the regular maintenance activities, however, if the parts were damaged by the contractor or due to poor maintenance or security - of which the contractor is responsible for - then the contractor is obliged to replace these parts at their own cost.

- b. In relation to the list of the “List of Estimated Spare Parts to be sourced by the Vendor for the next three (3) Years”, would you be open instead to a “At cost + markup” arrangement?

UNHCR once awarding the bid, it's the sole responsibility of the contractor to provide spare parts upon request.

- c. In Annex A – TOR – List of Estimated Spare Parts to be sourced by the Vendor for the next three (3) Years: “The Vendor shall provide evidence from certification entity such as TUV, UL, DNV, ISO (“or equivalent”) about the ability to conduct the tests listed below”. Please provide an example of the certifications required, as typically these entities do not certify 3rd parties for performance of tests.

UNHCR needs an authentic proof that the vendor is able to perform such tests, which can be shown from certification entities or proof of projects etc.

- d. Calibration is requested every six months for the pyranometers when the manufacturers recommend 2 years. Are you adamant on the 6 monthly frequency and if so would you accept on site calibration method?

The calibration requested as per the TOR every six months the bidders can provide their plan and recommendation and the invoicing will be based on how many times the pyranometer was calibrated.

- e. Dismantling and sending the measuring equipment (sensors) to the manufacturer for calibration is required every year.

- Manufacturers recommend every two years. Are you set on annual frequency?
- Are there sufficient spare sensors on site that can be used while the disassembled ones are with the manufacturers?

The same as above D and the Invoicing will be based on how many times the pyranometer was calibrated.

- f. Removing corrosion, if any. Are we expected to remove corrosion that is already present on site or is the Client making arrangements for this remedy with the previous contractor before the handover?

One of the items mentioned is the galvanization paint which will be used once needed.

- g. As per Annex B – Technical Offer Form: “As part of their technical offer, all vendors shall provide a proposal and forms of the Daily/Weekly and Monthly Check Lists, Performance Reports, Damaged Parts, Cleaning Robots, O&M PV Plant, PV Plant Drawings, Corrective, Breakdown and Preventive Maintenance Reports, Unplanned outages/downtime, Performance Reports, Warranty Equipment, Installation Manuals, O&M Manual Equipment, Performance Analysis, Graphics and Visualizations, Executive Summary and Assessment, Spare Parts Stock, Health, Safety and Security Alerts.” Most of these are not possible due to lack of relevant manuals. Are you planning to provide these, including adequate time to allow the bidders to integrate the requirements in our templates, or are you asking for templates not specific to the PV plant?

The awarded contractor will have one full month for handover.

45. Tax & Insurance

- a. Is this project taxes exempted for the O&M and Spare Parts?

RFP/HCR/JOR/2020/06 – Operation and Maintenance of Solar Plants in Zaatari Camp

Yes, UNHCR owns a valid tax and customs exemption. Your financial bid should indeed be tax exclusive for both Operation & Maintenance and Spare Parts.

- b. Any special insurance required?

UNHCR does not require any special insurance, however, it is the contractors' full responsibility to make sure the site is secured and shall reimburse UNHCR of any stolen or vandalized materials (if any).

46. Will a draft O&M contract be provided prior to bid submission date?

The draft contract will only be shared with the awarded contractor prior to signature of the contract.

47. Please provide supporting historical data regarding the Plant's historical generation.

Please refer to Q14.

48. Will alternative performance guarantees be considered should the bidder wish to propose other guarantee structures in line with generally acceptable industry practices (for example a guaranteed plant availability to replace the energy generation guarantee)?

No, please make sure to submit your offer in line with the tender requirements.

49. The bidder believes that the exclusion periods to the energy generation guarantee are not adequate to protect the contractor from factors potentially impacting the energy generation and beyond the contractor's reasonable control. Is the bidder allowed to propose additional exclusions?

Bidders may submit - as part of their offer - a comprehensive proposal with new approaches, however, it should deliver the needed energy to UNHCR.

50. Please provide historical data regarding the performance of the cleaning robots installed at the plant.

Kindly note this is Not Applicable, as the robots are being maintained separately.

Please provide technical data sheets for the cleaning robots installed at the site.

Please refer to Q1.

51. Please provide historical O&M reports.

Please refer to Q7.

52. Have there been any major maintenance or significant defects observed during the operations phase of the Plant? Please provide all information pertaining to pre-existing defects, major maintenance/corrective maintenance and operational issues of concern.

Please refer to Q7.

53. Is the guaranteed energy generation level 99% or 97%? There are contradicting requirements in the RFP documents.

97%.

54. Will EPC references be considered as part of the bidder's qualifications to meet the minimum requirements set out in the RFP or will only O&M references be considered?

Kindly note that general experience of the company will be evaluated and particularly relevant experience in Operation and Maintenance projects. Please refer to the evaluation criteria in the tender's cover letter.

55. Will bidders who did not attend the site visit be allowed to submit proposals.

Yes, bidders who did not attend the site visit are eligible to bid for the tender.

56. The requested documents in Annex A - TOR in section "Operation and Maintenance Plan - submitting all reports and documents" except for the documents the are mentioned below, cannot be provided by the O&M contractor and are provided by the EPC contractor or the owner of the plant:

- a. Daily/Weekly/Monthly check lists;
- b. O&M;
- c. PV plan;

RFP/HCR/JOR/2020/06 – Operation and Maintenance of Solar Plants in Zaatari Camp

- d. Corrective, breakdown, preventive Maintenance reports (as templates) ;
- e. Health, Safety and security forms only.

Kindly note this is Not Applicable, as all needed documents and plans should be provided by bidders as part of their technical bids which will also be part of the technical evaluation of bidders.

57. Please clarify the level monitoring at the solar plant (string level, combiner box level or inverter level).
All levels.
58. Please specify if the estimated spare parts to be sourced by the vender for the next 3 years will be at the expense of the owner or O&M contractor.
It's considered potential spare parts at the expense of UNHCR if needed, requested and approved by UNHCR Engineer.
59. Will an EMRC license that certifies MASE capabilities the requested activities replace the required certification mentioned in Annex A - TOR section "Operation and Maintenance Plan - submitting all reports and documents" - "important notes".
No.
60. Annex A - TOR section "Operation and Maintenance Plan - submitting all reports and documents" - "important notes" Manufacturer response to warranty claims should be considered beyond the O&M contractor scope.
Please refer to Q49.
61. (O&M services table - Page 6): "Removal of control devices, interlocks, mechanical and electrical order"
Please clarify.
Mechanical tests periodically.
62. (O&M services table - Page 6): "Final testing service" Please clarify.
Recommissioning when needed.
63. (O&M services table - Page 9): "Verify that the installation is in compliance with applicable codes and standards" Please provide available certificates of equipment installed in compliance with codes and/or standards.
It is the contractor's responsibility to make sure all installations are compliant with applicable codes and standards globally recognized.
64. Will EMRC license be required as part of the bidder's qualification for the tender.
Yes.
65. Please clarify what does the term "Available Energy ge nerated" represent, and specify the basis of the estimated guaranteed energy calculation (manual calculation or software simulation). Also, when shall either of the following two terms prevail "The Vendor shall guarantee 97% of the Available Energy generated or at least 97% of the estimated production which is 21,000".
Definition can be found in the TOR, and the calculation is through SCADA.
66. Please Provide PV System report.
Please refer to Q9.
67. To be able to provide you with the spare parts price offer as requested in the TOR, please provide the BoQ and relevant documents detailing the manufacturer or supplier of each component such as RMUs, structure, communication switches .. etc.
UNHCR can't provide specific brands, but any items offered should meet the specification in the tender package.
68. As per the common practices pricing of spare part is usually quoted on demand, therefore, will it be possible to provide you with the spare parts pricing list post bid submission?

RFP/HCR/JOR/2020/06 – Operation and Maintenance of Solar Plants in Zaatari Camp

No, the price of all spare part should be submitted as part of the bid.

69. Please provide details about the yearly generated GWh for the plant since COD including outages and grid disturbances.

Please refer to Q14.

70. Please provide the original PV Syst report.

Please refer to Q9.

71. Please provide technical details about the full plant equipment including the PV module cleaning- robotic system.

Please refer to Q1.

72. Please provide the report for the plant failures on inverters and all other site equipment.

Please refer to Q7.

73. It is mentioned that *“The Vendor shall guarantee 97% of the Available Energy generated or at least 97% of the estimated production which is 21,000”*. Please illustrate this. Is the 21,000 MWh the estimated for year 4? Also, as this contract is for 3 years, is this amount flat for the 3 years or it should be reduced? How the degradation impact will be considered provided that it is excluded from the guarantee?

It's flat for the three years. Please refer to Q14 and Q40.

74. It is mentioned that *“The vendor is obliged to offer warranty for all activities and works which include but not limited to: Warranty of Goods (at least 7 years), Execution of Works (at least 1 year), Warranty of Equipment (at least 1 year), Energy Generation Availability Warranty (99%)”*, is it required to warrant goods for 7 years whereas the contract is 3 years? What kind of required warranty on the Execution of works? Could you please illustrate the Warranty on the Energy Generation Availability?

If the winning bidder will implement any new works the warranty should be seven years, for warranty on energy it's requested to achieve 97% of 21,000 MWh the warranty would be for three years.

75. It is mentioned in Annex - E (article 18), Non-Exclusivity. Does that mean the UNHCR can purchase partial services of the O&M contract (2 O&M contractors at the same time?) or it is restricted to the goods, please illustrate.

As per Article 18 *“Unless otherwise specified in the Contract, UNHCR shall have no obligation to purchase any minimum quantities of goods or services from the Contractor, and UNHCR shall have no limitation on its right to obtain goods or services of the same kind, quality and quantity described in the Contract, from any other source at any time”*, which means, UNHCR may purchase all or part of the good or services from the awarded contractor(s) or from an external source (if needed), however, this is unlikely to happen in this case due to the complexity of the works.

76. Please provide details about the different kinds of insurance provided for the plant.

Please refer to Q45-b.

77. Please provide:

- a. The as-built drawings for the plant; Please refer to the attached drawings - D5.
- b. Electrical; Single Line Diagram (SLD), Strings and any other details; Please refer to the attached drawings - D3.
- c. Civil; Trenches, water drainage and roads details; Not needed
- d. Mechanical; Racks components & details; Not needed
- e. The event log for the inverters and the inverters maintenance reports during operation; Please refer to the Zaatari OM tickets.
- f. The operation & maintenance contract with the operational contractor: The contract cannot be provided.

RFP/HCR/JOR/2020/06 – Operation and Maintenance of Solar Plants in Zaatari Camp

- g. The plant production during the previous operation phase from the plant SCADA system in addition to the Import/Export reports from the electricity company: **Please refer to Q14**
 - h. The data sheet and warranty of the Combiner box; **Please refer to the attached data sheets - S5.**
 - i. The Cleaning machines quantity and distribution per rack and their event log and warranty; **Not Needed**
 - j. The maintenance contract: **The contract cannot be shared at this stage.**
 - k. Warranty and SLD of the switch gear. **Warranty ended in 2018, for the SLD please refer to attached drawing - D3.**
- 78.** Please clarify if any Energy Losses due to grid had been occurred during the plant operation and the exact procedures were conducted by NEPCO?
This will be shared with the awarded contractor.
- 79.** Please provide as built layouts of the PV plant.
Please refer the attached drawings (D5).
- 80.** Please provide user and installation manuals and datasheets for all devices used.
Please refer to the attached datasheets (S1-S13).
- 81.** What type of robots is used for cleaning? Is it an automated robot or should it be operated by a worker? (Please provide user manuals and datasheets).
Please refer to the attached datasheet (S1), the manual will be provided during the handing over.
- 82.** Please clarify the defect of the cleaning robots.
Please refer to Q3.
- 83.** Please explain how the availability should be calculated. Please provide logs for further clarification.
Will be provided to the awarded contractor.
- 84.** Please clarify the nature of the problems that are associated with the defected inverters.
Please refer to the attached Zaatari OM ticket.
- 85.** Please provide exact details of the cause of the issue.
Please refer to the attached Zaatari OM ticket.
- 86.** Please provide logs of defected or replaced parts of the inverters to further understand the issue of the cooling of the inverter.
Please refer to the attached Zaatari OM ticket.
- 87.** Are inverters under warranty? Is it scope of new OM contractor to fix them or they can be operated at the same manner being operated now? Why those inverters were not fixed by current OM contractor?
Please refer to the attached Zaatari OM tickets for the LOG, the warranty of the power stations and the inverters is until April 2022. Yes, it is under the scope of the new contractor to fix it in accordance with the warranty offered.
- 88.** Please clarify how is the expected degradation of the efficiency will be calculated.
Please refer to Q40.