

ANNEXURE-A

EXPRESSION OF INTEREST (EOI) -TERMS OF REFERENCE (TORs)

“HIRING OF THIRD PARTY VALIDATION CONSULTING FIRM FOR RETROFITTING AND SOLARIZATION OF PUBLIC INSTITUTES UNDER PGDP(DHQ HOSPITAL NANKANA SB, DHQ HOSPITAL LAHORE, KOT KHAWAJA SAEED, DHQ HOSPITAL BHAKKAR, DHQ HOSPITAL JHANG) ” (PPRA Rule 46(A))

INTRODUCTION

Government of the Punjab has established Punjab Energy Efficiency and Conservation Agency (PEECA) that aims to enforce policies/standards on provincial level to meet the objectives that are in synchrony with the Federal Energy Efficiency & Conservation (EE&C) Objectives.

In pursuance of the objectives of the Program, the Government of the Punjab (GoPb) through PEECA intends to solarize public institutes of Punjab. There are estimated 95,677 electrical connections in Punjab with an estimated load of around 1500 MW. PEECA will replace the inefficient electrical appliances and solarize the roof tops, providing a complete energy efficient solution to each public institute.

Use of renewable energy systems and Demand Side Management (DSM) approach is relatively new to Pakistan and Punjab. With consumption up to 50% of electricity in public buildings, replacement of electric fans and lights present a good opportunity for the introduction of DSM concepts and interventions that can help promote market acceptance of the recently launched Energy Efficient (EE) fans and other EE products and technologies.

Table 1. List of Public Institutes Retrofitting and Solarization under PGDP Details.

Sr. No	District	Name	Lights	Fans	Sanction load (KW)	Proposed Solar PV Generation Capacity (KW)
1.	Nankana	DHQ Hospital Nankana Sb	182	470	341	221.60
2.	Lahore	DHQ Hospital Lahore, Kot Khwaja Saeed	483	139	832	75
3.	Bhakkar	DHQ Hospital Bhakkar	105	278	1553.25	350
4.	Jhang	DHQ Hospital Jhang	262	484	1384.9	277.00
		Total	1032	1371	4111.15	923.6

OBJECTIVES OF MONITORING & EVALUATION

Punjab Energy Efficiency Conservation Agency (PEECA) intends to Retrofitting and Solarize the roof tops in four DHQ's sites as stated in above table.

The main objective of TPV is given as below:

- To take an objective view through an independent professional team of experts.
- To achieve transparency through third-party validation.
- Efficient/Professional analysis, appraisal, examination, vetting of the project concept/design implementation and other technical aspects as per the scope of work.
- Physical verification of the solar and retrofitted equipment and civil/mechanical/electrical works of the project.
- Ensure that the civil, mechanical and electrical works/activities are strictly in accordance with specifications and terms of the contract agreement.
- Monitor and review of quantity and quality of the solar and retrofitted equipment and civil/mechanical/allied works of the project.
- To certify that all contractual obligations and procedural formalities have been completed in all respects for the implementation of the project as per the scope of work.
- Review the operation and commissioning of the project.
- Verification of invoices submitted by the contractors/firms after the successful completion.

SCOPE, DUTIES AND RESPONSIBILITIES OF CONSULTANT:

The duties and responsibilities of Consultant for solarization of public institutes, detailed in Table 1 above, shall include but not be limited to the following:-

- i. Prepare a comprehensive and logical work plan as inception report.
- ii. Ensure that all documents as per tender requirement have been fulfilled and received by the client.
- iii. Evaluate and validate the quality of construction/civil/mechanical/electrical works as per prevailing/approved standards/codes of quality set out in contract documents.
- iv. Validate the solar and related equipment as per bill of quantities.
- v. Validate the Lights and Fans quantity as per bill of quantities.
- vi. Certify that all procedural/codal formalities have been completed in all respects for extension in time and release of payments.
- vii. Prepare a detailed evaluation, validation cum verification report on assessed quality and measured quantities of all material/equipment and works of the project.
- viii. Evaluation of operation and commissioning plan of the project.
- ix. The physical verification shall be carried out in the presence of representatives of Employer (PEECA), Focal Person (Public Institute) and contractor.
- x. Validation of the testing sample comprising of 0.5% of all solar panels.
- xi. Validation of the testing sample comprising of 0.5% of lights and Fans (Old & New).
- xii. Verification of invoices related to all works for solarization of the project.

- xiii. The consultant shall thoroughly access/analyze and prepare a draft report which will be discussed, and accordingly based on the comments of the PEECA, final report will be submitted against each deliverable.
- xiv. Any other aspect for validation given by the client during the contract agreement.

ROLE OF THE CLIENT

PEECA will oversee all the activities related to the deliverables to be submitted by the consultant. No lodging, boarding and logistics will be provided by the client.

DURATION OF THE ASSIGNMENT

The duration of the Consultant firm is linked up with the deliverables of the Contractors.

QUALIFICATION OF KEY-STAFF

<u>SR NO</u>	<u>KEY STAFF</u>	<u>QUALIFICATION</u>	<u>EXPERIENCE</u>
1.	Team Leader/ Resident Engineer	Bachelors in Engineering Electrical / Electronics / Mechanical/ Mechatronics.	Minimum 05 years of Professional Experience
2.	Monitoring & Evaluation Officer	Bachelors in engineering Electrical / Electronics / Mechanical/ Mechatronics.	3 Years of Relevant Experience
3.	Quality Assurance Manager	Bachelors in engineering in relevant field i.e. Electrical / Electronics / Mechanical/ Mechatronics /Total Quality Management (TQM).	3 Years of Relevant Experience
4.	Research Assistant	Bachelors in engineering in relevant field i.e. Electrical / Electronics / Mechanical/ Mechatronics.	2 Years of Relevant Experience

PROFILE OF THE CONSULTANT

The Short-Term Consulting Firms must fulfill the following criteria:

1. The firm/company must be registered with NTN, PRA, PEC and SECP.
2. The firm/company must have a professional team of not less than four (4) engineers and provide CVs of key personnel describing qualification and similar nature assignments' experience.
3. The Team Leader should be PhD in Engineering having 5 years of experience in the relevant field with 3 years' experience in power/energy sector.
4. The firm must not be blacklisted by any national/international or donor agency.

5. The firm or key personnel must have experience related to subject assignment and has also worked for public sector entities/departments/organizations and
6. The firm or key personnel must have research and design experience in the power/energy sector.

REPORTING ARRANGEMENTS

1. The Consultant shall report Managing Director, PEECA for the said services.
2. All documentation, reports shall be submitted in the English Language
3. All the data, documents and reports produced by the Consultant for the said services shall be the property of the PEECA. The Consultant shall not share and use these data, documents and reports for any other purpose/job without explicit written approval of Managing Director PEECA.
4. In case the Consultant fails to fulfill the contractual obligations and violate the contract agreement, the contract agreement shall be terminated and the Consultant shall not be liable to make any pending claims.

1. SCOPE OF WORK

- 1.1. The TPV Consultant for Retrofitting & Solarization of Public Institutes under PGDP shall provide the services in accordance with the terms of reference and scope of work defined in the EOI.

2. TERM & PAYMENT

- 2.1. This Agreement shall come into force on the date of execution of this Agreement and shall lapse in accordance with the terms of the EOI.

- 2.2. The Client shall pay the Professional Fee and in the manner stipulated in the EOI which is as follows:

Sr#	Paymnet Milestones/ Deliverables	Percentage
1	<ul style="list-style-type: none"> • On Validation and Verification of Survey & Design Approval • On Validation and Verification of Site preparation (clearance of roof/Ground, Civil work for PV Mounting Structure) of (DHQ HOSPITAL KOT KHAWAJA SAEED, LAHORE, DHQ HOSPITAL BHAKKAR) 	5%
2	<ul style="list-style-type: none"> • On Validation and Verification of Survey & Design Approval • On Validation and Verification of Site preparation (clearance of roof/Ground, Civil work for PV Mounting Structure) of (DHQ HOSPITAL NANKANA) 	2.50%

3	<ul style="list-style-type: none"> • On Validation and Verification of Survey & Design Approval • On Validation and Verification of Site preparation (clearance of roof/Ground, Civil work for PV Mounting Structure) of (DHQ HOSPITAL JHANG) 	2.50%
4	<ul style="list-style-type: none"> • On Validation and Verification of Supply and Installation of PV Mounting Structure • On Validation and Verification of Supply of all the Material (LED & Fans) at (DHQ HOSPITAL KOT KHAWAJA SAEED, LAHORE, DHQ HOSPITAL BHAKKAR) and Submission of approved Sample Test Reports (Old & New) 	20%
5	<ul style="list-style-type: none"> • On Validation and Verification of Supply and Installation of PV Mounting Structure • On Validation and Verification of Supply of all the Material (LED & Fans) at (DHQ HOSPITAL NANKANA) and Submission of approved Sample Test Reports (Old & New) 	10%
6	<ul style="list-style-type: none"> • On Validation and Verification of Supply and Installation of PV Mounting Structure • On Validation and Verification of Supply of all the Material (LED & Fans) at (DHQ HOSPITAL JHANG) and Submission of approved Sample Test Reports (Old & New) 	10%
7	<ul style="list-style-type: none"> • On Validation and Verification of Supply & Installation of Solar Modules) and Submission of approved Sample Test Reports • On Validation and Verification of Supply & Installation of Inverter along with Genset Controller, AC Cables, DC Cables, Earthing and Lightning Arrestors at (DHQ HOSPITAL KOT KHAWAJA SAEED, LAHORE, DHQ HOSPITAL BHAKKAR) 	10%
8	<ul style="list-style-type: none"> • On Validation and Verification of Supply & Installation of Solar Modules) and Submission of approved Sample Test Reports • On Validation and Verification of Supply & Installation of Inverter along with Genset Controller, AC Cables, DC Cables, Earthing and Lightning Arrestors at (DHQ HOSPITAL NANKANA) 	5%
9	<ul style="list-style-type: none"> • On Validation and Verification of Supply & Installation of Solar Modules) and Submission of approved Sample Test Reports • On Validation and Verification of Supply & Installation of Inverter along with Genset Controller, AC Cables, DC Cables, Earthing and Lightning Arrestors at (DHQ HOSPITAL JHANG) 	5%

10	<ul style="list-style-type: none"> • On Validation and Verification of Installation of Fans and LEDs • On Validation and Verification of Safe disposal of all non-conventional items at (DHQ HOSPITAL KOT KHAWAJA SAEED, LAHORE, DHQ HOSPITAL BHAKKAR,) <p>Note: Inefficient fans to be disposed off whilst inefficient lights to be provided safe storage for both sites</p>	5%
11	<ul style="list-style-type: none"> • On Validation and Verification of Installation of Fans and LEDs • On Validation and Verification of Safe disposal of all non-conventional items at (DHQ HOSPITAL NANKANA) <p>Note: Inefficient fans to be disposed off whilst inefficient lights to be provided safe storage for site</p>	2.50%
12	<ul style="list-style-type: none"> • On Validation and Verification of Installation of Fans and LEDs • On Validation and Verification of Safe disposal of all non-conventional items at (DHQ HOSPITAL JHANG) <p>Note: Inefficient fans to be disposed off whilst inefficient lights to be provided safe storage for site</p>	2.50%
13	<ul style="list-style-type: none"> • On Validation and Verification of Complete commissioning and upon Installation of Security Cameras at all Sites; real time as well as Online Monitoring Access. • On Validation and Verification of Rectification of Punch List of (DHQ HOSPITAL KOT KHAWAJA SAEED, LAHORE, DHQ HOSPITAL BHAKKAR) 	5%
14	<ul style="list-style-type: none"> • On Validation and Verification of Complete commissioning and upon Installation of Security Cameras at Site; real time as well as Online Monitoring Access. • On Validation and Verification of Rectification of Punch List of (DHQ HOSPITAL NANKANA SB) 	2.50%
15	<ul style="list-style-type: none"> • On Validation and Verification of Complete commissioning and upon Installation of Security Cameras at Site; real time as well as Online Monitoring Access. • On Validation and Verification of Rectification of Punch List of (DHQ HOSPITAL JHANG) 	2.50%
16	<p>On Validation and Verification of Upon installation of Bi-Directional Meter and submission of Net metering Application of both sites (DHQ HOSPITAL KOT KHAWAJA SAEED, LAHORE, DHQ HOSPITAL BHAKKAR) to DISCO as per NEPRA rules and submission of Final Report after successful completion of the Project. And upon submission of performance security against O&M.</p>	5%

17	On Validation and Verification of Upon installation of Bi-Directional Meter and submission of Net metering Application of at site (DHQ HOSPITAL NANKANA SB) to DISCO as per NEPRA rules and submission of Final Report after successful completion of the Project. And upon submission of performance security against O&M.	2.50%
18	On Validation and Verification of Upon installation of Bi-Directional Meter and submission of Net metering Application of at site (DHQ HOSPITAL JHANG) to DISCO as per NEPRA rules and submission of Final Report after successful completion of the Project. And upon submission of performance security against O&M.	2.50%
Total		100%

Note: Payment (s) for the TPV Consultant shall be triggered on the validation and verification of each deliverable submitted by the Contractor.

3. Obligations of the Client

- 3.1. The Client shall cooperate with the TPV Consultant for Retrofitting & Solarization of Public Institutes under PGDP and shall be obliged to provide the TPV Consultant for Retrofitting & Solarization of Public Institutes under PGDP (DHQ HOSPITAL NANKANA SB, DHQ HOSPITAL LAHORE, KOT KHAWAJA SAEED, DHQ HOSPITAL BHAKKAR, DHQ HOSPITAL JHANG) with the information/documents necessary to provide the services.
- 3.2. The Client shall ensure that, where cooperation is required from, or decisions need to be taken or approvals given by the Client during the period of this Agreement that cooperation will be promptly given and these decisions or approvals will not be unreasonably withheld or delayed.

4. Obligations of the TPV Consultant for Retrofitting & Solarization of Public Institutes under PGDP

- 4.1. The TPV Consultant for for Retrofitting & Solarization of Public Institutes under PGDP shall perform the services under this Agreement with all due diligence, efficiency and economy, in accordance with generally accepted techniques and practices used in the sector and professional consulting standards as recognized by international professional bodies, and shall observe sound management practices.
- 4.2. The TPV Consultant for for Retrofitting & Solarization of Public Institutes under PGDP shall provide qualified personnel as per the Client's satisfaction or replace with qualified personnel as per the Client's instruction.

5. Relationship Between the Parties

5.1. The Parties agree that the TPV Consultant for Retrofitting & Solarization of Public Institutes under PGDP shall act as an independent contractor in the carrying out of his obligations under this Agreement, and that no principal/agent and/or employer/employee relationship shall arise between the parties as a result of entering into this Agreement.

6. Confidentiality, Liability and Indemnification

6.1. The TPV Consultant for for Retrofitting & Solarization of Public Institutes under PGDP shall not, either during the term, or after the expiration of this Agreement, disclose any proprietary or confidential information relating to the Client, the services, this Agreement, or the Client's business or operations without the prior written consent of the Client, unless such disclosure is required by law or regulation or such information has entered the public domain other than by a breach of this Agreement.

7. Good Faith and Fairness

7.1. The parties undertake to act in good faith with respect to their respective rights under this Agreement and to adopt all reasonable measures to ensure the realization of the objectives of this Agreement.

7.2. In the event of there being any dispute between the Parties arising out of this Agreement such dispute shall be resolved through good faith negotiations and the Parties expressly undertake not to seek settlement of any dispute through litigation before any court or arbitrator.