

# Pre-Bid Meeting (April 15, 2025) Clarifications and Responses FUUAST\_Solar\_Project 2

| Inverter Specifications       Total 400 KW         Inverter 1: Academic Block 3 (120 KW)         Inverter 2: Admin Block 2 (80 KW)         Inverter 3: Above Water Tank (100 KW)         Inverter 4: Cafeteria Ground (100 KW)         Package 2:Gulshan Iqbal Karachi         Total 100 KW         Inverter 1: 80 KW |                         | Package 1: Islamabad Campus:                    |
|---|-------------------------|---|
| Inverter Specifications Inverter 2: Admin Block 2 (80 KW) Inverter 2: Admin Block 2 (80 KW) Inverter 3: Above Water Tank (100 KW) Inverter 4: Cafeteria Ground (100 KW) Package 2:Gulshan Iqbal Karachi Total 100 KW Inverter 1: 80 KW  | Inverter Specifications | Total 400 KW                                    |
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| Inverter Specifications       Inverter 4: Cafeteria Ground (100 KW)         Package 2:Gulshan Iqbal Karachi         Total 100 KW         Inverter 1: 80 KW  |                         | Inverter 3: Above Water Tank (100 KW)           |
| Package 2:Gulshan Iqbal Karachi<br>Total 100 KW<br>Inverter 1: 80 KW  |                         | Inverter 4: Cafeteria Ground (100 KW)           |
| Inverter 1: 80 KW   |                         | Package 2:Gulshan Iqbal Karachi<br>Total 100 KW |
|   |                         | Inverter 1: 80 KW                               |



FUUAST Islamabad (33.67935068206666, 73.19614317816892)



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| ElluiAST Gulshan a Ighal Campus Karashi  |   |  |
|  | (24.909645862297786, 67.08788030230032)   |  |
|  | Package 1: Islamabad Campus (400KW)   |  |
|  | Two Categories:   |  |
|  | 1. Roof Top + Water Tank (300KW)  |  |
|  | 2. Cateteria Gournd (100 KW)  |  |
|  | *The solar capacities for Roof Tops, water tank and cafeteria areas                                 |  |
| <b>PV Mounting Structure</b><br>(Further Clarification)  | may be changed by bidders according to the proposed design and                                      |  |
|  | solar panels layout   |  |
|  | 1. Root Top + Water Tank (Total 300 KW)   |  |
|  | <ul> <li>BOO/Specifications are as per the RFP Section 3.1</li> </ul>                               |  |
|  | <ul> <li>Minimum Technical Specifications Section 3.2</li> </ul>                                    |  |
|  | <ul> <li>Heatproofing in the Islamabad Campus is approx. 6 inches for<br/>each building.</li> </ul> |  |
|  |   |  |



## 2. Cafeteria Ground (100 KW):

Mounting Type: Ground-mounted with steel poles

### **Structural Design of Mounting Pole**

Pole Material: Galvanized Steel (14-gauge) Pole Diameter: 6 inches Pole Heights: Front – 8 ft, Back – 12 ft Base Plate: 10"x10"x10mm thick, welded J-Bolts: 4 ft long, M16/M20 with embedded depth into RCC

## **Foundation Design**

Excavation Size: 3.5 ft x 3.5 ft x 3.5 ft Foundation Type: Isolated RCC pedestal Lean Concrete: 1:4:8 (Base Layer) Main Concrete: 1:1.5:3 (Structural RCC) Steel Reinforcement: ~30 kg per pole (12 mm vertical bars with stirrups) Safety Margin: Verified against overturning, vertical, and lateral loads

\*The specifications provided serve as reference benchmarks; the contractor's proposed design must meet or exceed the required structural load-bearing and wind resistance criteria in accordance with applicable engineering standards and codes. Substitution of the specified pole with equivalent structural members, such as H-beams or I-beams, is permissible provided they conform to the required mechanical strength, moment resistance, and stability parameters.

#### **Engineering Note**

Note: The contractor, upon award of the project, must perform a geotechnical investigation.

Final depth, reinforcement, and concrete grades are subject to revision based on soil report and must be approved by the supervising structural engineer.

| Pac          | <ul> <li>kage 2: Karachi Campuses</li> <li>Elevated/Semi Elevated (70KW)</li> <li>GI L2/L3 12SWG (30 kW) *can be changed as per Requirement </li> </ul>  |  |
|--------------|--|--|
| Stru<br>*Bio | <ul> <li>a. Elevated MS structure with red oxide and epoxy paint, with SS304 nuts and bolts or</li> <li>b. Semi Elevated GI structure with SS304 nuts and bolts; Also, in cases where post-galvanizing modifications are necessary (e.g., on-site punching or edge trimming), the affected surfaces shall be thoroughly cleaned and treated with zinc-rich paint conforming to ASTM A780 to restore corrosion protection.</li> <li>as per strength requirement (wind speed resistance 140km/h) dders can perform their survey</li> </ul> |  |