

# Clarifications

S.N.	Commercial Query	Employer's Response
1	<p>Each Bid must be submitted separately for each Lot and must be accompanied by a Bid Security for the corresponding amount specified in the table of this RFP, in the form of a bank guarantee from a scheduled bank in Pakistan or from a foreign bank, duly counter-guaranteed by a scheduled bank in Pakistan. The Bid Security must be valid for a period of not less than 180 days after the date of Bid opening.</p> <p>PLEASE CHANGE THIS CLAISE ALLOWING BID Security in form of CDR Also and for bank guarantee the process requires a time of almost 3-4 weeks and as for this bid period is short so allow bidder to submit CDR also</p>	<p>For ICB contracts, Bid Security in the form of a Bank Guarantee is considered a prudent practice. However, a Bidder may opt to submit a Call Deposit Receipt (CDR), if preferred.</p>
2	<p>As mentioned in above subject I need clarification reading eligibility criteria mentioned in ITB 4.2 that The PEC license of C1 category is mentioned for single bidder, As PEC license category allows the amount limit and specific codes, if the TS value of tender is below then C1 limit then why is this specific category mandatory? According to my knowledge some other bidders raise this issue in pre bid meeting as our representative attained meeting through online, it is our kind request to your office kindly review this concern and allow the bidders to have PEC license in such category which are eligible according to TS value of Tender</p>	<p>After thorough deliberations on the request of the Bidders, it was concluded that the PEC requirements for the eligibility of the Bidder are mandatory as specified in ITB 4.2.</p>
3	<p>Joint Venture Eligibility and Upper Limit:</p> <p>As per the prescribed categorization system, if the project cost is one billion rupees, then only a C-1 category company is eligible to undertake such work. Accordingly, it is reasonable and justifiable that both the lead partner and the joint venture partner should also fall under Category C-1. If a company below this category is made eligible—for example, a C-4 company, whose approved upper limit is 200 million rupees—and such a company is allowed to participate in a one-billion-rupee project through a joint venture, it creates a serious inconsistency. A C-4 category company cannot reasonably justify a one-billion-rupee work order in its profile, as it exceeds its approved financial and technical capacity. This undermines the purpose of the categorization framework and may lead to complications in evaluation, compliance, and future eligibility.</p> <p>Therefore, it is respectfully requested that a clear upper limit be fixed for joint venture partners, ensuring that all JV members meet the category requirements corresponding to the project value.</p>	<p>As explicitly specified under ITB 4.1 that in case, the bidder is a single entity it shall have valid PEC licence in category C1 and in case of JV, the combined value of limits of all the JV members shall not be less than that of C1.</p>

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4	<p>SECP-Only Registration Requirement: It is further submitted that making SECP registration the only mandatory requirement for eligibility is unprofessional and restrictive. Firms registered through the Registrar of Firms are legally valid entities and are fully recognized by the Pakistan Engineering Council (PEC). PEC already acknowledges and registers such firms for engineering works; therefore, excluding them solely based on SECP registration is unjustified. This condition is against PPRA Rules and PEC Regulations, as it unnecessarily limits competition and discourages eligible and competent firms from participating. Considering the above, it is humbly requested that this SECP-only requirement be withdrawn or amended, allowing firms registered through the Registrar of Firms and recognized by PEC to participate.</p>	<p>Registration from SECP is not mandatory. For clarity purpose, refer Addendum No.1 to the Bidding Documents.</p>
5	<p>Request for Extension of Bid Submission Date:  Furthermore, the time provided for bid preparation is very limited. Considering the harsh weather conditions across Gilgit, Astore, Diamer, and Baltistan divisions, along with the need for site visits, technical assessments, and joint venture finalization, additional time is essential.  In this regard, we respectfully request an extension of at least three to four weeks in the bid submission deadline to ensure fair participation and submission of technically sound and compliant bids.  We hope that our concerns will be given due consideration in the interest of transparency, fairness, and successful implementation of this important project.</p>	<p>No extension in bid submission date will be allowed, to adhere with the Timelines set by the PM and the Project Steering committee. The current timelines are already reasonable and were defined considering the information and details provided in the RFP.</p>
6	<p>Referring to this tender, it's a difficult task to analyse a no of sites and bid without proper working within short period of time. It is now requested to extend deadline at least up to one month (26 Jan 2026).</p>	<p>As previously answered in S.N.5</p>
7	<p>Submission Format (Volume-1, Section-1, 22(b)): It is stated that the bidder shall provide a complete searchable PDF version as well as Word, Excel, etc. Kindly clarify this point</p>	<p>As per Volume-1, Section-1, Clause 22(b), the Bidder is required to submit the Bid in a complete searchable PDF format. In addition, the Bidder shall also provide editable copies of relevant documents in Word, Excel, or other applicable formats for reference and evaluation purposes.</p>

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8	<p>Eligibility &amp; Qualification Criteria – PEC Licensing (C1 Category): The eligibility criteria require PEC licensing of C1 category. As this is the first mega solar project in the Gilgit-Baltistan region, there is currently no local contractor holding a C1 category with the required experience to meet this criterion. We therefore request you to kindly review this condition and consider making C3 category firms eligible. If revising the overall criteria is not possible, we request that C3 firms be made eligible at least for Lot-2 and Lot-3, as these lots are comparatively smaller than Lot-1.</p> <p>This will encourage participation of local companies, which would be beneficial for timely execution of the project, as non-local firms are generally unfamiliar with the region and its challenges.</p>	As previously answered in S.N.3
9	AEDB License vs PPIB Registration: If a firm already holds a valid AEDB license, kindly clarify whether separate PPIB registration is required, or if the AEDB license alone is sufficient.	If a Bidder is already registered with AEDB and has a valid License. He is not required a separate registration with PPIB.
10	<p>Active Taxpayer List (ATL) Requirement for GB-Based Firms:</p> <p>The bidding documents require Pakistani firms to be on the Active Taxpayer List (ATL). Kindly clarify the applicable criteria for Gilgit-Baltistan-based firms, as GB is a tax-free region.</p>	The Active Taxpayer List (ATL) is a central record of online Income Tax Return filers for the previous Tax Year. GB Firms that are legally exempt from income tax may not appear on ATL.
11	SECP Registration Requirement: There is no clear instruction regarding SECP registration. Kindly clarify whether SECP registration is mandatory for all JV partners, or if registration of any one JV partner is sufficient.	As previously answered in S.N.4
12	With reference to the pre-bid meeting held on 12 December 2025 for the 100 MW Solarization of GB Project, we kindly request you to please share the pre-bid meeting minutes for our record and further necessary action.	Minutes are being issued after compilation of responses
13	<p>Taxes, Duties &amp; VAT Applicability: Page 10 (Volume I), Section 15.3 states that all taxes, customs duties, sales tax, and VAT are applicable to the bid price. Please clarify whether:</p> <ul style="list-style-type: none"> <li>• These taxes apply equally to all bidders, including those outside Gilgit Baltistan, or</li> <li>• Bidders from Gilgit Baltistan are exempted from certain taxes.</li> </ul> <p>If exemptions exist, how will bid prices be compared fairly between bidders from Gilgit Baltistan and from other regions of Pakistan?</p> <p>If existing taxes are enhanced after bidding, will the employer be liable to compensate the enhancement?</p>	Yes, this requirement shall be applicable to all Bidders equally. For import purposes, the applicable duties and taxes shall be the same for all Bidders, irrespective of the origin of their firms. However, any change in taxes and duties occurring after the award of the Contract shall be dealt with in accordance with Sub-Clause 13.6 [Adjustments for Changes in Laws].

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14	We kindly request your consideration for an extension of the tender submission deadline to allow adequate time for proper technical evaluation and proposal preparation	As previously answered in S.N.5
15	Could you please clarify the tax treatment in the tender documents, specifically whether quoted prices should be inclusive or exclusive of all applicable taxes	Refer Preamble under Schedule A [Schedules of Rates and Prices].
16	The project completion period for LOT-III is stated as 150 days, which appears to be insufficient. We kindly request consideration for a possible extension of this duration	Time for Completion of Lot-III is reasonable and cannot be changed.
17	Kindly clarify the exact name under which the <b>Bid Security</b> is required to be issued	Refer ITB 19.3 in Volume-1 of the Bidding Documents.
18	<p>We submit that our firm is a <b>Partnership Firm</b> duly registered with the <b>Registrar of Firms</b>. The <b>Form-C</b> and <b>registered Partnership Deed</b>, issued under the <b>Partnership Act</b>, establish the firm as a legally recognized entity authorized to participate in bids anywhere in Pakistan</p> <p>In this regard, we respectfully request that either the SECP registration or the Registration from the Registrar of Firms (Form-C and registered Partnership Deed) be accepted as valid and sufficient documentation for compliance purposes</p>	As previously answered in S.N.4
19	<p>It is submitted that in <b>all W&amp;P Department tenders, Performance Guarantee and Mobilization Advance Guarantee</b> in the form of <b>Insurance Guarantees</b> are acceptable, as decided under the approval of the <b>W&amp;P Committee</b>. Therefore, we respectfully request that <b>both the Performance Guarantee and Mobilization Advance Guarantee be allowed in the form of Insurance Guarantees</b> for this project as well</p>	It will be required to submit by the Bidder in accordance with the requirements specified in the Bidding Documents.
20	<p>The tender does not show any scoring for technical evaluation. Please confirm whether:</p> <ol style="list-style-type: none"> <li>1. The technical evaluation is pass/fail, and</li> <li>2. The contract will be awarded to the Lowest Evaluated Bidder who meets all mandatory requirements</li> </ol>	Evaluation will be made in accordance with ITB-40.

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21	<p>The tender states that a JV must show at least 40% of the required turnover collectively.</p> <p>Please confirm if, for example, a PKR 1,000 million turnover requirement means the JV must show PKR 400 million combined.</p> <p>Also confirm whether the Lead Firm must separately show 60%</p>	<p>Refer detail requirements specified under item 3.1[Financial capabilities] and 3.2[Average Annual Turnover] in Section-III-Evaluation and Qualification Criteria.</p>
22	<p>Please clarify if the same JV partner is allowed to participate with different lead bidders in different lots</p>	<p>No, refer item 4.5 under ITB-4.</p>
23	<p>If a JV has one company with a PPIB license (Federal/Punjab) and the Lead Contractor is from Gilgit Baltistan, will this JV meet the technical qualification requirements?</p>	<p>Refer items 4.2 under ITB-4.</p>
24	<p>Need clarification on EPC - Lum sum price BOQs - which format to use</p>	<p>It is an EPC/Turnkey Bidding Documents and requires lump sum Price in the format given in Schedule A.</p>
25	<p>B1 Payment terms revision is required</p>	<p>It is already consistent and rationale, no revision is required.</p>
26	<p>Kindly confirm please that, SECP from each party is enough to meet compliance in JV as other parties included has local registration in GB.</p>	<p>As previously answered in S.N.4</p>
27	<p>Due to the extensive technical requirements, site-specific considerations, and the time needed for detailed coordination with our technical partners and suppliers, we respectfully request an extension of thirty (30) days in the bid submission deadline. The additional time will enable us to prepare a more comprehensive and competitive technical and Commercial proposal in compliance with the bidding requirements</p>	<p>As previously answered in S.N.5</p>
28	<p>Due to the extensive technical requirements, site-specific considerations, and the time needed for detailed coordination with our technical partners and suppliers, we respectfully request an extension in the bid submission deadline. The additional time will enable us to prepare a more comprehensive and competitive technical and Commercial proposal in compliance with the bidding requirements</p>	<p>As previously answered in S.N.5</p>
29	<p>During the 36-month O&amp;M period, please clarify who will be responsible for the security of the installed system against theft or related incidents</p>	<p>The Owner of the premises will be responsible for the security of the installed system.</p>
30	<p>Please confirm responsibility for snow removal from PV panels and project sites during the O&amp;M period</p>	<p>The O&amp;M Contractor will be responsible for snow removal from PV panels and project sites during the O&amp;M period.</p>

<b>S.N.</b>	<b>Commercial Query</b>	<b>Employer's Response</b>
31	There is no clarity regarding the release timeline of the 5% retention money. Kindly clarify the applicable conditions and schedule	Refer Sub-Clause 14.9 [Release of Retention Money] of GCC of Section V of the Bidding Documents.
32	Please confirm whether Sales Tax is to be quoted separately as follows: PV modules @ 10% Other materials @ 18% Services @ 16% or whether 16% Sales Tax is applicable to the entire quotation	No, Lumpsum price(s) will be quoted by the Bidder as per directions specified in the Preamble under Schedule A.
33	The tender documents specify that only one lot shall be awarded to a single bidder. However, in cases where a bidder demonstrates adequate technical expertise, Commercial strength, and resource capacity to execute multiple lots within or before the stipulated timeframe, while fully complying with all tender requirements, we request you to kindly review and consider relaxing this restriction to allow the award of more than one lot to such capable bidders	Tender requirements shall be unchanged
34	Kindly clarify whether the stipulated 40% turnover requirement by one member is applicable exclusively to the lead member of a Joint Venture (JV), or if it may be fulfilled by any single member within the JV	As previously answered in S.N.22
35	We request consideration for relaxing the requirement of a provisional PEC license for foreign firms at the bidding stage. Alternatively, the provisional PEC license may be required after award of the bid and prior to signing of the contract	After through deliberation, it was decided that the Bidder's request in this regard can not be entertained.
36	As per tender documents, SECP requirement is met if any member of JV provides this and it is not required to be provided by the firm that is showing its experience. Please confirm it	As previously answered in S.N.4
37	Insurance requirements are mentioned for certain services/products. Please clarify whether insurance coverage is required at the bidding stage or only after contract award. If during bidding stage, then should include only cost or need to provide any certificates etc	Insurance requirements will be after award of the Contract. Please go through the Bidding Documents.
38	Due to multiple sites under different lots, it is not possible to conduct all site visits within the given short timeframe. Kindly confirm whether an extension can be announced for detailed bid submission	As previously answered in S.N.5
39	Kindly share the official pre-bid meeting minutes along with clarifications discussed	As previously answered in S.N.13

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40	<p>As per the bidding documents, Bid Securities issued by a foreign bank must be <b>“duly counter-guaranteed by a scheduled bank in Pakistan.”</b> Please clarify what level of confirmation or undertaking the Pakistani scheduled bank must issue for such a counter-guarantee</p>	<p>As per the Bidding Documents, where the Bid Security is issued by a foreign bank, it must be duly counter-guaranteed by a scheduled bank in Pakistan. The counter-guarantee shall be an unconditional and irrevocable undertaking issued by a scheduled bank in Pakistan, confirming and guaranteeing the obligations of the foreign issuing bank under the Bid Security. The Pakistani scheduled bank shall be fully liable to the Employer for payment of the guaranteed amount upon first written demand, without any reference to or consent of the foreign bank or the Bidder, and without any conditions or reservations.</p>
41	<p>Our company holds <b>AEDB/PPIB Category C1</b>, but our <b>PEC licence is Category C2</b>. Please confirm whether PEC Category C1 is mandatory or if AEDB C1 and PEC C2 are acceptable for bid participation.</p>	<p>As previously answered in S.N.10</p>
42	<p>Gilgit-Baltistan is a tax-exempt region. Kindly clarify whether the tendered cost/contract price for this project is also to be considered tax-exempt, including GST, income tax deductions, and any other federal or provincial taxes</p>	<p>Yes, there will be no tax deducted by the Employer at source as per applicable law of G-B.</p>
43	<p>As mentioned, the advance payment will be recovered at 20% of each milestone hence advance payment will be fully recovered at milestone 3 and milestone 4&amp;5 will be retention free. Kindly clarify</p>	<p>No, it will not as per a bidder is perceiving. Repayment of Avance will be made in accordance with Sub-Clause 14.2.3 of GCC of Section V of the Bidding Documents.</p>
44	<p>Also 10% retention will be deducted from each payment until it reaches 5% of the contract price, 2.5% each shall be released at TOC and DNP. Kindly clarify</p>	<p>Yes, Retention Money will be released under the mechanism specified under Sub-Clause 14.9 [Release of Retention Money] of GCC.</p>
45	<p>10% performance guarantee will also be released after DNP hence in essence 15% Retention + PG will be withheld and released after 3 years. Kindly clarify</p>	<p>Please go through the Conditions of the Contract (Section V &amp; VI)</p>
46	<p>Lastly due to the above-mentioned clarifications requested and ambiguity on many scopes of the project it is requested to extend the bid submission timeline by a month for more clear and concise scope and detailed working</p>	<p>As previously answered in S.N.5</p>

S.N.	Technical Query	Employer's Response
1	Relaxation needed in UI type Certifications as these are available with only specific brands not with top tier Pakistani Brands	Keeping in view the grid interconnection requirements, requirements related to UL certification shall remain unchanged.
2	Conducting site surveys within the given timeline is challenging. We kindly request that the BOQ and SLDs for each site be shared, if possible	Employer's Design on PV Module Layout is attached as Annex A alongwith estimations related to DC Cable lengths for each lot. Whereas AC Cable lengths for rewiring are attached as Annex C.
3	1. As the scope includes rewiring for multiple sites within the lot, please confirm whether this involves complete building rewiring or only load redistribution.	Rewiring for essential/servicable load shall be required which shall either include fans and lights only or in addition other small loads sum of which is given under Table 1 of RfP.
4	<p><b>Inverter Ratings &amp; Configuration:</b>            The documents mention inverter ratings such as 29 kVA, 39 kVA, 56 kVA, 65 kVA, 69 kVA, 76 kVA, 88kVA etc. Kindly clarify the intended configuration and application of these ratings because in this rating inverters are not available.</p> <p>Additionally, please confirm whether parallel installation of inverters is allowed, for example:            Using two 6 kW inverters in parallel for a 12 kW site Using two 12 kW systems in parallel for a 24 kW site</p>	<p>The specified inverter ratings represent the minimum required capacity, and equivalent or higher standard-rated inverters shall be acceptable at the detailed design stage.</p> <p>Parallel installation of inverters shall be allowed to achieve the required system capacity.</p>

S.N.	Technical Query	Employer's Response
5	<p>Integration with Existing LV Panels, Wiring &amp; Extra Works        Kindly clarify how the proposed solar system should be configured with existing LV panels, wiring, transformers, and transmission lines in cases where the existing infrastructure is not compatible or does not meet required standards.        At most sites, the existing LV panels and wiring standards are very low, and direct integration may pose a risk of damage to the newly installed solar system.        Furthermore, please clarify the mechanism for approval and payment of extra works if additional scope is identified at site, such as replacement or upgradation of:</p> <ol style="list-style-type: none"> <li>1. Existing LV panels</li> <li>2. Internal or external wiring</li> <li>3. Transformers</li> <li>4. Transmission or distribution lines</li> <li>5.. Any other associated infrastructure</li> </ol> <p>Kindly advise whether such additional works will be treated as variation orders and how their costs will be evaluated and reimbursed.</p>	<p>As stated in Volume II, Section 1, Sub-Section 2.4, modification of LV panels shall be the responsibility of the EPC Contractor which may include change of Breaker / Busbar etc.</p> <p>Distribution and transmission network is beyond the scope of the EPC Contractor.</p>
6	<p>As per the RFP clause 3 sub clause 3, it is submitted that PV–genset synchronization requirements have not been specified for the rooftop solar installations included in the project scope. To ensure accurate system design and sizing, it is requested that the department clarify whether PV–genset synchronization is required for each rooftop building.</p>	<p>Genset Synchronization capability of hybrid inverter is an essential capability requirement which must be complied with each building.</p> <p>Buildings where rewiring is not required have Gensets already available with them, synchronization of which with Solar PV System shall be the responsibility of EPC Contractor.</p>
7	<p>As per the list of drawings attached in Annexure-I (S. No. 1 to S. No. 11), it is submitted that the detailed drawing for the interfacing of the solar panel modules with the mounting structure is missing. To facilitate accurate structural design and compliance with installation standards, it is requested that the complete drawings of the panel-module interfacing with the structure be provided.</p>	<p>The attached drawing set (Annex B) is being provided for reference for different type of mounting structures.</p> <p>The contractor will provide detailed designs for PV module mounting which must be in line with the Manufacturer's recommendations.</p>

S.N.	Technical Query	Employer's Response
8	<p>As per the list of drawings attached in Annexure-I (S. No. 12 to 26), it is concluded that the detailed specifications of the existing LV panels installed in the buildings are not provided. Since the drawings indicate that the outgoing circuit breakers and allied accessories must be compatible with the existing LV panels, the absence of this information creates uncertainty and directly affects accurate sizing, engineering, and pricing. It is therefore requested that the department kindly provide the complete specifications, make, model, ratings, and configuration details of the existing LV panels for all relevant buildings to ensure compliance with the RFP and proper cost estimation.</p>	<p>As stated in Volume II, Section 1, Sub-Section 2.4, modification of LV panels shall be the responsibility of the EPC Contractor which may include change of Breaker / Busbar etc.</p>
9	<p>It is further submitted that the existing state of the electrical infrastructure for each site across all three lots has not been clearly detailed in the bidding documents. These details are critical for accurate system design, proper integration, and ensuring smooth and reliable operation of the proposed solar solutions.</p> <p>For clarity, the NRTC technical team conducted field visits to two sites in District Shigar at the following coordinates: a) 35.409892, 75.742450 b) 35.574283, 75.547760 Upon visiting the first site, it was observed that the location is still in the construction phase, with only the grey structure in progress. In such a condition, it is not possible to assess or calculate the electrical infrastructure requirements, as no operational electrical system exists on-site.</p> <p>At the second site, it was noted that the premises do not have a dedicated transformer, and the existing LV panel is equipped with a 63A, 2-Pole AC circuit breaker.</p> <p>This configuration is incompatible with the proposed 70 kW solar solution, as injecting 70 kW AC power would require an upgraded LV panel, which falls outside the bidder's scope and would significantly increase cost. Additionally, introducing such a high level of PV penetration into a distribution network connected to a general-purpose transformer may cause undesirable voltage fluctuations, load imbalance, and could lead to inverter tripping during operation.</p> <p>In view of the above technical constraints, it is highly critical that the department provide complete and accurate data on the existing electrical infrastructure of all buildings and sites. This information is essential for developing an optimized, safe, and technically compliant solution in line with RFP requirements.</p>	<p>As stated in Volume II, Section 1, Sub-Section 2.4, modification of LV panels shall be the responsibility of the EPC Contractor which may include change of Breaker / Busbar etc.</p>

S.N.	Technical Query	Employer's Response
10	<p>With reference to RFP Section-IV (AC Systems), clarification is requested regarding the type of AMI meters required to be deployed at each site. It is noted that multiple types of AMI meters may be applicable, including AMI single-phase meters, AMI three-phase meters, AMI LT meters, and AMI HT meters, as defined under the NEPRA Consumer Service Manual.</p> <p>As per standard practice, the specific type of meter installed at a premises is determined by WAPDA authorities based on the sanctioned load of the site. At present, bidders have not been provided with information regarding the sanctioned loads for the respective sites; therefore, it is not possible to accurately determine or price the appropriate meter type without this clarification.</p> <p>Furthermore, it is requested to clarify whether the scope of the bidder includes the supply of AMI meters, or only the installation and integration of meters provided and programmed by WAPDA authorities. As per the NEPRA Consumer Service Manual, such meters can be supplied by the contractor but programming, and installation is done by WAPDA, and not by third-party bidders. Accordingly, bidders request clear guidance on:</p> <ul style="list-style-type: none"> <li>a. The sanctioned load of each site, to determine the applicable AMI meter type</li> <li>b. Whether the bidder's scope includes the supply of AMI meters, or merely coordination/installation activities after meter provisioning by WAPDA.</li> </ul> <p>The above points highlight several critical information gaps in the RFP that directly impact the accurate design, engineering, and costing of the proposed rooftop solar systems. Specifically, the absence of clarity regarding PV–genset synchronization requirements, missing structural interface drawings, incomplete specifications of existing LV panels, and insufficient details of site-specific electrical infrastructure create significant uncertainty for bidders during system design and BOQ preparation. Field observations further demonstrate that site conditions vary considerably, including locations still under construction and sites lacking adequate transformers or compatible LV panels. Without verified data on existing electrical infrastructure, bidders are unable to correctly size inverters, protection systems, switchgear, cabling, and grid interconnection equipment. This may result in either under-designed system that pose operational and safety risks, or over-designed solutions that unnecessarily increase project costs. Additionally, the lack of information on sanctioned electrical loads and applicable AMI meter types prevents accurate determination of metering requirements and associated costs, particularly since meter selection, programming, and installation are governed by WAPDA and NEPRA regulations. These clarifications are essential to:</p> <ul style="list-style-type: none"> <li>· Develop a technically compliant and site-appropriate system design</li> <li>· Accurately size equipment and protection systems</li> </ul>	<p>At present, net metering policy does not exist in GB region for which approvals shall not be required under this Project.</p> <p>PV Module, Inverter and BESS have been sized while taking into account the interconnection requirements which must be complied by the EPC Contractor.</p> <p>For the purpose of estimation, provision for three phase AMI LT meters may be considered for installation at each building except for 02 no. of sites in each lot where AMI HT meter shall be required.</p>

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	<ul style="list-style-type: none"> <li>Avoid scope ambiguities and unpriced variations during execution</li> <li>Optimize project cost while ensuring safe and reliable operationIn the absence of this information, bidders are forced to make assumptions, leading to inconsistent BOQs across bidders and potentially non-comparable bids. It is therefore strongly recommended that the department provide: <ul style="list-style-type: none"> <li>Complete and accurate site-specific electrical and structural information</li> <li>A standard reference BOQ issued by the employer/consultant, which can be uniformly applied or adjusted across all sites based on defined parameters (e.g., system size, sanctioned load, and infrastructure availability).</li> </ul> </li> </ul> <p>Provision of a standard reference BOQ will enable bidders to propose best-possible, optimized, and technically compliant solutions, ensure fair bid comparison, and minimize cost and scope variations during project execution.</p>	
11	<p>Site Surveys for 499 Rooftop Locations: Each rooftop site has different conditions, accessibility issues, and technical challenges. It is not practically possible to conduct site surveys for all 499 locations within the given bid timeline. If physical surveys cannot be done, we shall have to the addition the cost of build unknown challenges, site-specific difficulties, and out-of-scope modifications while preparing the bid?</p>	<p>Employer's Design on PV Module Layout is attached as Annex A alongwith estimations related to DC Cable lengths for each lot.</p> <p>Whereas AC Cable lengths for rewiring are attached as Annex C.</p>
12	<p>Preparation of Layouts, SLDs, and BOQs:</p> <p>Preparing detailed site layouts, SLDs, and BOQs for every site in all lots is not feasible within the short bidding period. Can we submit: One BOQ per lot, and</p> <ul style="list-style-type: none"> <li>General/typical site layout and SLD only for reference, and then prepare the actual detailed layouts and SLDs for each individual site after the contract is awarded? Please confirm.</li> </ul>	<p>Employer's Design on PV Module Layout is attached as Annex A alongwith estimations related to DC Cable lengths for each lot.</p> <p>Whereas AC Cable lengths for rewiring are attached as Annex C.</p>
13	<p>Temporary Site Offices and Warehousing:</p> <p>Since the sites are spread across remote and widely distributed areas in 10 districts of Gilgit Baltistan, it is very difficult for the contractor to arrange temporary offices, material storage, and staff accommodation at every location. Can the employer provide material storage areas and residential space for the project team? Please clarify. If this cost is to be added.</p>	<p>The Contractor shall arrange, at his own cost, any additional land required for temporary facilities such as camps, workshops, offices, and storage areas. (5.1, Employer's Requirements)</p>

S.N.	Technical Query	Employer's Response
14	<p>Centralized &amp; Decentralized Monitoring System: On Page 08 (Volume II), Section 2.6 mentions a centralized/decentralized satellite monitoring system for connecting all rooftop systems to one LED display. To transmit data, reliable internet service is necessary. Please clarify: What is the proposed location for the centralized LED screen?</p> <p>• If internet service is not available at some sites, will the employer be responsible for providing the required internet connectivity?</p>	<p>1. The Tentative Locations of CMS in each region are :</p> <ol style="list-style-type: none"> <li>Central Billing Building , Gilgit</li> <li>Chief Engineer's Office, Skardu</li> <li>Chief Engineer's Office Chilas</li> </ol> <p>Internet Connectivity in the regions where internet service is available, is responsibility of the W&amp;PDGB (Employer)</p>
15	<p>Synchronization with Existing Generators: On Page 09 (Volume II), Section 3.1 states that the rooftop PV system must synchronize with an existing generator if one is available at the site. For sites where the PV system is very small, but a generator exists, how should the generator synchronization requirement be handled? Please clarify.</p>	<p>Genset Synchronization capability of hybrid inverter is an essential capability requirement which must be complied with each building.</p> <p>Buildings where rewiring is not required have Gensets already available with them, synchronization of which with Solar PV System shall be the responsibility of EPC Contractor.</p>
16	<p>Solar Modules Withstanding 50 mm Hail: Page 48 (Volume I), Section 1.0 specifies that PV modules must withstand hail impact of <math>\geq 50</math> mm diameter. Please clarify whether this specification is mandatory or if alternatives are acceptable.</p>	<p>The specified requirement is mandatory for all sites.</p>
17	<p>Battery Safety Integrity Level (SIL-2):</p> <p>Page 51 (Volume II), Section 3.2 requires battery systems to have a safety integrity level of SIL-2 or higher. However, SIL-2 batteries are typically designed for industrial/commercial BESS, not for smaller residential-scale systems.</p> <p>Residential BESS usually meet SIL-1, and SIL-2 options are not widely available for small-capacity systems. Please clarify whether SIL-2 is mandatory for all battery sizes.</p>	<p>The specified requirement is mandatory for all sites.</p>

S.N.	Technical Query	Employer's Response
18	<ul style="list-style-type: none"> <li>- Could you please clarify the types of structures required for the project, as these are not clearly specified in the tender documents?</li> </ul>	<p>Employer's Design on PV Module Layout is attached as Annex A alongwith estimations related to DC Cable lengths for each lot. Whereas AC Cable lengths for rewiring are attached as Annex C.</p> <p>The attached drawing set (Annex B) is being provided for reference for different type of mounting structures.</p> <p>The contractor will provide detailed designs for PV module mounting which must be in line with the Manufacturer's recommendations.</p>
19	Could you please confirm the status of sites that are currently under construction, as this information is not mentioned in the documents	Employer's Design on PV Module Layout is attached as Annex A under which are marked for PV Module placement is readily available for installation.
20	Could you please confirm whether alternative inverter and storage ratings may be proposed, as the specified ratings do not align with current market availability	The specified inverter and battery ratings represent the minimum required capacity, and equivalent or higher standard-rating may be used.
21	<ul style="list-style-type: none"> <li>- Could you please provide details of the sites sanctioned loads and transformer (T/F) ratings, as these are not provided in the tender documents?</li> </ul>	Distribution and transmission network is beyond the scope of the EPC Contractor.
22	<ul style="list-style-type: none"> <li>- Please confirm the availability of single-phase or three-phase connections at the sites, because without this, it is difficult to select the inverter type</li> </ul>	Single Phase inverters shall be allowed for sites with PV System Rating of upto 8 kW.
23	Could you please clarify the AC/DC ratio considered in the shared BOQ, as the inverter capacity appears to be sized at 1.25× while the corresponding PV capacity is not aligned accordingly. In practice, most OEMs recommend a minimum DC-to-AC ratio of 1.25 times based on the inverter's rated capacity. The incorrect inverter and PV sizing may result in overvoltage/undervoltage faults	<p>PV Module, Inverter and BESS have been sized while taking into account the interconnection requirements which must be complied by the EPC Contractor.</p> <p>Any manufacturer that does not comply with the specified requirements may not be proposed.</p>
24	Could you please clarify whether the EPC vendor is permitted to supply different inverter brands within the same lot	Please refer to Volume 1, Section IV, Tech-6 (B) (Proposed Manufacturer) which implies that multiple manufacturers shall be allowed.
25	<p>In many locations (e.g., Lot 1 Gilgit, Sr. 5: 54 kVA inverter &amp; 23 kWh battery), the given sizes are non-standard.</p> <p>Please confirm if we can use multiple inverters or multiple batteries to achieve the required capacity. Also, kindly confirm whether the inverter should be single-phase or three-phase.</p>	<p>The specified inverter and battery ratings represent the minimum required capacity, and equivalent or higher standard-rating may be used.</p> <p>Single Phase inverters shall be allowed for sites with PV System Rating of upto 8 kW.</p>

S.N.	Technical Query	Employer's Response
26	<p>Please confirm what type of BESS is required. Is a small hybrid setup (50 kW inverter + 10 × 5 kWh batteries) acceptable, or do you require a full container/cabinet-type BESS? Which level of size of inverter will be of low voltage of BESS and which size will be with High voltage?</p>	<p>During detailed design stage, EPC Contractor shall propose BESS configuration in line with the provisions of the Contract which shall be reviewed and approved by the Employer.</p>
27	<p>Pg # 14, Lot 1, Volume II, Sr. # 48 shows:</p> <ul style="list-style-type: none"> <li>• 650 kW PV</li> <li>• 780 kVA inverter</li> <li>• 300 kW battery</li> </ul> <p>Please clarify how this combination is intended to operate technically</p>	<p>Minimum Ratings of PV Module, Inverter and BESS have been specified while taking into account the interconnection requirements which must be complied by the EPC Contractor. Any manufacturer that does not comply with the specified requirements may not be proposed.</p>
28	<p>The tender mentions “Roof-Mounted CGI Sheet.” Please confirm if this means solar panels will be installed on corrugated GI sheet roofs using a flat (zero-degree) channel-type mounting frame</p>	Confirmed.
29	<p>Some inverter and battery ratings in the tender (e.g., 9 kW, 41 kW, 28 kW) are not standard market sizes. Should we use the closest available standard sizes when designing the system?</p>	<p>The specified inverter and battery ratings represent the minimum required capacity, and equivalent or higher standard-rating may be used.</p>
30	<p>How the evaluation will be on inverter size in KVA? Normally in solar we design the solar inverter sizing in KW not in KVA</p>	<p>Unity Power Factor shall be considered for conversion between the two.</p>
31	<p>Nowhere we found that its mentioned that for small size or requirements what will be the model of inverter single or three phase? Please clarify. Also clear that for how much large size we will be allowed to use inverter stacking like, for 30KW requirement, can we use 6 inverters of 5kw each? Or 3 inverters of 10KW?</p>	<p>Single Phase inverters shall be allowed for sites with PV System Rating of upto 8 kW. Parallel installation of inverters shall be allowed to achieve the required system capacity which shall be reviewed at the detailed design stage.</p>
32	<p>Batteries/ panels / inverter manufacturer should be Tier 1 listed companies or any company can be selected who can meet the technical requirements?</p>	<p>Please refer to Volume I, Schedule IV (Tech 6b) for further details.</p>
33	<p>Inverter rating is given in kVA- is PF applied 1 or 0.8.</p>	<p>1.0 has been considered for sizing.</p>
34	<p>Hybrid Inverters vs Off Grid Inverters.</p>	<p>Hybrid Inverters</p>
35	<p>Kindly provide POCs for all survey locations.</p>	<p>Interconnection points shall be proposed by the EPC Contractor which shall be reviewed and approved by the Employer.</p>

S.N.	Technical Query	Employer's Response
36	Provided necessary existing electrical infrastructure details	Interconnection points shall be proposed by the EPC Contractor which shall be reviewed and approved by the Employer.
37	Sizes of BESS/Battery systems are not provided in absolute values.	BESS ratings represent the minimum required capacity, and equivalent or higher standard-rating may be used..
38	A list of BESS systems as per the availability in market	N.A
39	Need clarification on Roof tops & ground based civil works	The attached drawing set (Annex B) is being provided for reference for different type of mounting structures. The contractor will provide detailed designs for PV module mounting which must be in line with the Manufacturer's recommendations.
40	Welding is required for solar mounting structures; however, welding affects galvanization. Kindly clarify the approved on-site treatment method post-welding (e.g., ZRC coating, or paint application)	Refer to Volume 2, Section V, (Civil and Structure work), sub-section 1.6.11
41	Please clarify the acceptable DC/AC ratio for the solar PV system. Specifically, confirm whether inverter AC capacity must strictly match or exceed the installed DC capacity, or if DC overloading (clipping) is permitted within an acceptable margin (e.g., DC/AC ratio up to 1.2–1.3), in line with international utility-scale solar design practices, where exact inverter sizing is constrained by market-available compliant models For BESS exceeding 100 kWh, can we please get further details of sites and clarity whether the system must be terminated at a single centralized LV/MV point, or a distributed or modular integration architecture	Minimum Ratings of PV Module, Inverter and BESS have been specified while taking into account the interconnection requirements which must be complied by the EPC Contractor. Interconnection points shall be proposed by the EPC Contractor which shall be reviewed and approved by the Employer.
42	The bid documents specify LV/MV panels. For small sites, LV terminations are typically executed using high-quality distribution boards with assembled protection devices. These DB boxes are generally locally fabricated (e.g., 20-gauge GI sheet, powder-coated or hot-dip galvanized) as branded enclosures are often unavailable for small capacities. Kindly confirm whether locally fabricated DB boxes meeting the specified technical standards are acceptable, while branded protection devices (e.g., Schneider or equivalent) will be provided	Refer to Volume 2, Section IV, (AC system), sub-section 1.

S.N.	Technical Query	Employer's Response
43	Detailed site information and corresponding BOQs are required to ensure uniform costing and fair comparison among all bidders. Kindly provide the complete site-wise details	Employer's Design on PV Module Layout is attached as Annex A alongwith estimations related to DC Cable lengths for each lot. Whereas AC Cable lengths for rewiring are attached as Annex C. The attached drawing set (Annex B) is being provided for reference for different type of mounting structures. The contractor will provide detailed designs for PV module mounting which must be in line with the Manufacturer's recommendations.
44	We request further clarification and review of the scope and requirements related to the three (3) years Operation & Maintenance (O&M) period	The mentioned requirements under the RfP shall remain the same.
45	Site-specific drawings are essential for accurate design and costing. In the absence of drawings, bidders would need to physically visit all sites, which is not feasible within the limited tender timeframe. Kindly provide the relevant drawings for all specified sites	Employer's Design on PV Module Layout is attached as Annex A alongwith estimations related to DC Cable lengths for each lot. Whereas AC Cable lengths for rewiring are attached as Annex C. The attached drawing set (Annex B) is being provided for reference for different type of mounting structures. The contractor will provide detailed designs for PV module mounting which must be in line with the Manufacturer's recommendations.
46	The scope of building electrical works requires further elaboration. Kindly clarify the extent of work included under this item	As stated in Volume II, Section 1, Sub-Section 2.4, modification of LV panels shall be the responsibility of the EPC Contractor which may include change of Breaker / Busbar etc. Rewiring for essential/ servicable load shall be required which shall either include fans and lights only or in addition other small loads sum of which is given under Table 1 of RfP
47	It is stated that spare parts must not be used during the after-sales period and must be handed over to the client in brand-new (unused) condition after three years. kindly, clarify who will be responsible for keeping the spare parts safe during the O&M period	Refer to Volume 2, Section VI, sub Section 4.5.

S.N.	Technical Query	Employer's Response
48	<p>AMI is mentioned in the tender documents. Kindly clarify: Whether AMI is mandatory at this stage or planned for future implementation. Whether the system will be single-phase or three-phase.</p> <p>We note that net-metering is currently not permitted in GB, and approximately 99% of connections are single-phase. Additionally, three-phase connections require WAPDA approvals, transformer details, and location information. Please clarify whether such approvals and coordination will fall under the bidder's scope</p>	<p>At present, net metering policy does not exist in GB region for which approvals shall not be required under this Project. PV Module, Inverter and BESS have been sized while taking into account the interconnection requirements which must be complied by the EPC Contractor.</p> <p>For the purpose of estimation, provision for three phase AMI LT meters may be considered for installation at each building except for 02 no. of sites in each lot where AMI HT meter shall be required.</p>
49	<p>A centralized online monitoring system is required; however, considering that the projects consist of multiple small sites located far apart, such a system would be a significant standalone project. Typically, individual site/inverter-level monitoring with remote access is feasible, with optional aggregation of data. Kindly review and clarify the requirement for full centralization</p>	<p>A centralized online monitoring system is required along with complete accessories Centralized points for each district will be finalized by the Employer after Contract award, internet will be provided by client.</p>
50	<p>Electrical termination details at each site are unclear. Kindly provide clarification to avoid discrepancies during execution as well as uniform costing for all bidders</p>	<p>As stated in Volume II, Section 1, Sub-Section 2.4, modification of LV panels shall be the responsibility of the EPC Contractor which may include change of Breaker / Busbar etc.</p>
51	<p>Please provide the distances from: PV installation location to inverter location, and Inverter location to the client's main DB for each site</p>	<p>Employer's Design on PV Module Layout is attached as Annex A alongwith estimations related to DC Cable lengths for each lot. Whereas AC Cable lengths for rewiring are attached as Annex C.</p>
52	<p>If underground cabling is required at any site, kindly identify: Cable Length , Trenching dimensions, Restoration requirements.</p>	<p>During detailed design stage, cable routing shall be proposed by the EPC Contractor which shall be reviewed and approved by the Employer.</p>
53	<p>Site-wise cable routes should be clearly defined to avoid assumptions and variations during execution &amp; costing</p>	<p>During detailed design stage, cable routing shall be proposed by the EPC Contractor which shall be reviewed and approved by the Employer.</p>
54	<p>If any site requires ground levelling, backfilling, or compaction, please specify: Extent of levelling , Backfilling depth and Type and degree of compaction required</p>	<p>During detailed design stage, cable routing shall be proposed by the EPC Contractor which shall be reviewed and approved by the Employer.</p>

S.N.	Technical Query	Employer's Response
55	Please share complete details for Lot-1 sites regarding rewiring works, including the defined scope and estimated cable lengths	Rewiring for essential/servicable load shall be required which shall either include fans and lights only or in addition other small loads sum of which is given under Table 1 of RfP. AC Cable lengths for Rewiring cables are attached as Annex-C.
56	The bidding document only mentions installation types (roof-mounted, roof-elevated, CGI sheet, ground-mounted, parking). Kindly provide site-wise and area-wise capacity allocation, indicating how much capacity will be installed at each dedicated location	The attached drawing set (Annex B) is being provided for reference for different type of mounting structures. The contractor will provide detailed designs for PV module mounting which must be in line with the Manufacturer's recommendations.
57	Please share complete Lot-1 site details for site visits, including: Contact person name and contact number	Office of the Project Director may be approached for facilitation of site visits. The following Staff is available for Co-ordination: <ol style="list-style-type: none"> <li>1. Engr. Mohammad Alam 0334-0445059</li> <li>2. Engr. Tehzeeb Sardar 0346-9747908</li> <li>3. Engr. Amir Muhammad 0346-5554546.</li> </ol> Full List for Individual buildings may be obtained from the above officers or PD Office
58	Kindly confirm approval for conducting site visits at all Lot-1 locations	As stated above
59	There appears to be a capacity discrepancy in the bid document. Kindly confirm the exact capacity to be installed for Lot-1, Hunza section, and mark the correct figures, particularly referenced on	Please see addendum 1 to the RfP for further details.
60	Please confirm whether 1–3 kW systems are planned for execution, as manufacturers do not typically offer inverter designs meeting the specified bidding conditions for such small capacities	The specified inverter ratings represent the minimum required capacity, and equivalent or higher standard-rating may be used according to availability.
61	Some sites fall under high-security / sensitive premises, including: a) ISI HQ, Sonikot, Gilgit, NAB Building, Gilgit, GB Assembly Building, Gilgit Kindly advise on: b. Restricted areas during site visits a. Required permissions and clearance procedures c. Approved visit schedule and protocols	Office of the Project Director may be approached for facilitation of site visits. The following Staff is available for Co-ordination: <ol style="list-style-type: none"> <li>1. Engr. Mohammad Alam 0334-0445059</li> <li>2. Engr. Tehzeeb Sardar 0346-9747908</li> <li>3. Engr. Amir Muhammad 0346-5554546.</li> </ol> WAPD GB Will provide Full Support for site access

S.N.	Technical Query	Employer's Response
62	We observed unclear or mismatched GPS coordinates for the following locations: Markazi Imamia Jamia Masjid Shaheed Syed Zia-ud-Deen Rizvi, Punial Road, Gilgit, Markazi Jamia Masjid Ahle-Sunnat, Gilgit Accurate GPS coordinates, verified location pins, or site layout drawings are required for design validation.	Employer's Design on PV Module Layout is attached as Annex A alongwith estimations related to DC Cable lengths for each lot. Whereas AC Cable lengths for rewiring are attached as Annex C.
63	For smooth coordination and security compliance, kindly nominate one authorized representative for each site to: Facilitate access and approvals, Confirm exact site boundaries, Coordinate during physical inspections, Verify civil, electrical, and installation constraints	The list will be provided after award of contract.
64	Kindly clarify whether: One building will host solar generation for multiple buildings, or Each building will have an independent solar system Also confirm allocation of PV installations for: a) Parking sheds (capacity & quantity) b) Ground-mounted systems c) Rooftop systems d) Any structural or shading constraints to be considered. Please confirm the following for each site: a) Point of Common Coupling (POCC) b) Termination point (LT panel / MDB / HT panel / grid incomer) c) Whether BESS will terminate on the LT side or HT side d) Single POCC or multiple POCCs per campus/site	Employer's Design on PV Module Layout is attached as Annex A alongwith estimations related to DC Cable lengths for each lot. Whereas AC Cable lengths for rewiring are attached as Annex C. Interconnection points shall be proposed by the EPC Contractor which shall be reviewed and approved by the Employer
65	Kindly share PV drawings or preliminary designs for all Lot-1 sites in accordance with the prescribed capacities mentioned in the bid document	Employer's Design on PV Module Layout is attached as Annex A alongwith estimations related to DC Cable lengths for each lot. Whereas AC Cable lengths for rewiring are attached as Annex C.
66	Please confirm the proposed BESS installation configuration: a) Containerized BESS b) Indoor battery room c) Outdoor cabinet-based system	Solution shall be proposed by the EPC Contractor which shall be reviewed and approved by the Employer
67	Please confirm generator-available sites along with generator capacities and quantities for synchronization requirements	Sites requiring rewiring do not have generator available with them, however hybrid inverters must have genset synchronization capability with them.

S.N.	Technical Query	Employer's Response
68	Kindly confirm whether a single centralized monitoring system with a central display/TV screen is required, or individual monitoring systems at each site	A centralized online monitoring system is required along with complete accessories Centralized points for each district will be finalized by the Employer after Contract award, internet will be provided by client.
69	Please share site-wise details related to preparation works, compaction, and leveling requirements	During detailed design stage, cable routing shall be proposed by the EPC Contractor which shall be reviewed and approved by the Employer.
70	The BESS capacities listed in the Lot-wise summaries are significantly smaller compared to the inverter capacities. Kindly clarify whether these BESS values are final or if PCS sizing must align with the inverter capacity	The mentioned minimum quantities shall remain the same.
71	Please confirm whether bidders are required to supply: 1. complete BESS units (battery + PCS + controller), or 2. hybrid inverters with batteries	The solution by the EPC Contractor must comply with the requirements as specified under the RfP which shall be reviewed and approved at the detailed design stage.
72	Kindly confirm whether <b>net metering is currently active and permitted</b> in Gilgit-Baltistan, particularly for government-owned buildings	At present, net metering policy does not exist in GB region for which approvals shall not be required under this Project.
73	Please confirm whether <b>PV–Genset synchronization</b> is required on <b>all sites</b> , or only on selected locations where generators already exist	Genset Synchronization capability of hybrid inverter is an essential capability requirement which must be complied with each building. Buildings where rewiring is not required have Gensets already available with them, synchronization of which with Solar PV System shall be the responsibility of EPC Contractor.
74	the document mentions <b>1% of spare equipment</b> (batteries, inverters, etc.). Please confirm the exact list of items required and whether this 1% applies <b>per site or per Lot</b>	Per Lot

S.N.	Technical Query	Employer's Response
75	Since building capacities range from <b>1 kW to 600 kW</b> , please provide the <b>site-wise BOQs and SLDs separately</b> so bidders can design systems accurately	Employer's Design on PV Module Layout is attached as Annex A alongwith estimations related to DC Cable lengths for each lot. Whereas AC Cable lengths for rewiring are attached as Annex C. The attached drawing set (Annex B) is being provided for reference for different type of mounting structures. The contractor will provide detailed designs for PV module mounting which must be in line with the Manufacturer's recommendations.
76	Termination points.	As stated above.
77	Single & Three phase connected buildings.	As stated above.
78	Inverter and battery/BESS locations.	As stated above.
79	Enlist the building with grid availability and also those which don't have grid accessibility. Also share electricity bills for AMI meters.	As stated above.
80	Type testing requirement of LV/Power panels etc.	The requirements as specified under RfP shall remain unchanged.
81	Roof & Shed load bearing details and responsibility.	Any modification to existing Rooftop is not within EPC Contractor's Scope.
82	Load profile of each building.	N.A
83	Existing wiring configuration.	N.A
84	Power Factor requirement.	The requirements as specified under RfP shall remain unchanged.
85	Voltage drop limit and threshold.	The requirements as specified under RfP shall remain unchanged.
86	Cable routing methods.	As stated above
87	Transformer details.	As stated above
88	Mechanism of survey especially for sensitive building.	As stated above.
89	Clarity on the coordinates of each building as typo errors present in tender documents.	Annex A.
90	If module orientation and tilt angle must follow drawings or can be optimized per site analysis.	As stated above.

S.N.	Technical Query	Employer's Response
91	Confirm the maximum allowable string voltage and expected ambient derating.	As per manufacturer's recommendations.
92	Please confirm whether all inverters must have AFCI integrated.	The requirements as specified under RfP shall remain unchanged.
93	Please confirm if DC combiner boxes are required or string inverters can accept direct strings.	The requirements as specified under RfP shall remain unchanged.
94	Please clarify whether the BESS must be installed in:	As stated above
95	Containerized units	
96	Dedicated indoor rooms	
97	Please provide minimum clearance requirements for BESS containers.	As per manufacturer's recommendations
98	Please clarify the required fire suppression system (Novec, aerosol, water mist, etc.).	The requirements as specified under RfP shall remain unchanged.
99	Please clarify whether PCS (Power Conversion System) must be separate or integrated inside container.	As stated above.
100	Please confirm required short circuit withstand level for ACDB/Main MDB.	The requirements as specified under RfP shall remain unchanged.
101	Please clarify whether AC protection relays must be numerical (microprocessor-based).	The requirements as specified under RfP shall remain unchanged.
102	Please clarify whether neutral-earthing is required at inverter output.	As per manufacturer's recommendations
103	Please clarify whether rooftop AC cable routing is allowed in PVC conduits or must be laid in trays.	Cable trays shall be installed on priority wherever applicable.
104	Please confirm surge protection rating for AC system	The requirements as specified under RfP shall remain unchanged.
105	Please clarify whether synchronization relays must be supplied by bidder.	The requirements as specified under RfP shall remain unchanged.
106	Please clarify maximum allowable voltage drop limit from inverter to MDB.	The requirements as specified under RfP shall remain unchanged.
107	Please confirm whether structural load calculations for each roof must be verified and stamped by a licensed structural engineer.	Any modification to existing Rooftop is not within EPC Contractor's Scope.
108	Please confirm that anchor bolt drilling into existing RCC roofs is permitted.	Not permitted.
109	Please clarify whether ballasted solutions are permissible for weak roofs.	Any modification to existing Rooftop is not within EPC Contractor's Scope.

S.N.	Technical Query	Employer's Response
110	Please clarify whether bidders may propose alternate structure designs (aluminum, elevated, hybrid).	True, the requirements of windspeed withstand capability as specified under RfP and compliance with mentioned standards shall be considered at detailed design stage.
111	Please confirm minimum walkway width between PV rows.	As stated above.
112	Please clarify whether any roofs require waterproofing before installation.	Any modification to existing Rooftop is not within EPC Contractor's Scope.
113	Please clarify whether the Employer will provide architectural drawings of each building.	As stated above.
114	Please confirm the required format for Design Basis Report (DBR).	As specified under RfP.
115	Please clarify whether GA drawings must indicate weight and load distribution.	As specified under RfP.
116	Please confirm the required SCADA architecture (centralized vs. distributed).	As specified under RfP.
117	Please clarify the acceptance criteria for PR (Performance Ratio).	N.A
118	Please clarify the testing requirements for earthing system	As specified under RfP.
119	It is suggested to share each data gathered during the surveys of locations by the consultant in the form of pictures of building roofs, termination points, termination rooms and <b>IF CONTACT DETAILS OF EACH BUILDING CAN BE SHARED</b>	As stated above.
120	Rewiring is required for each building? It is suggested that solar wiring should be in contractor scope and building wiring for serviceable load should be in employer scope	As shown in table under Rewiring 0 = Don't need rewiring 1 = need Rewiring
121	SCADA or Human Machine interface will be provided at each building which is illogical and is suggested to be only provided at 1 or max 3 buildings in a lot with maximum load	A centralized online monitoring system is required along with complete accessories Centralized points for each district will be finalized by the Employer after Contract award, internet will be provided by client.
122	Methodology of connectivity of all the buildings through SCADA also need to be elaborated	Refer to Volume 2, Section III, (DC system), sub-section 6.
123	Single & Three phase connectivity clarity is required, for small capacity sites single phase connectivity is suggested	Single Phase inverters shall be allowed for sites with PV System Rating of upto 8 kW. For the purpose of estimation, provision for three phase AMI LT meters may be considered for installation at each building except for 02 no. of sites in each lot where AMI HT meter shall be required

<b>S.N.</b>	<b>Technical Query</b>	<b>Employer's Response</b>
124	It is suggested to define a PV capacity for Hybrid & BESS separately with building segregation as well	As specified under RfP.

**RESPONSE TO THE CLARIFICATIONS RECEIVED FOR 18.15 MWDC ROOFTOP SOLARIZATION OF GILGIT BALTISTAN**

S.N.	Clause No.	Bidder's Query	Employer's Clarification
1	--VOLUME – II Employer's Requirements-3.1 Rooftop Solar PV--Table 1 – Rooftop Solar	<p>We have discovered significant discrepancies concerning photovoltaic capacity, inverter capacity, and energy storage system capacity in the capacity statistics table, as they fail to align properly. In numerous instances, the energy storage capacity is considerably lower than both the inverter capacity and the photovoltaic capacity. For instance, at Natco's headquarters in Gilgit, the photovoltaic and inverter capacities are 40kW, while the energy storage capacity is a mere 10kWh. Under such circumstances, selecting an appropriate battery to match the inverter becomes unfeasible. Given the limited energy storage capacity, the system will directly fail and disconnect when the load becomes excessively high during off-grid operation. Could you please elucidate why the capacity requirements outlined in these tables are taken into account, and whether the energy storage capacity is intended to ensure load support under off-grid conditions? We need to specify the power load conditions for each location in the corresponding tables to optimize the energy storage capacity. Additionally, could you also clarify the role of energy storage systems—is it to cater to the electricity demands of various locations?</p>	<p>The batteries are intended to supply only the critical loads, the total capacity of which is specified under the 'Serviceable Load' column in Table-1 of Section 3.1, Volume-II of the Bidding Document. During off-grid or hybrid operation, the battery bank will feed only these designated serviceable loads, and the EPC Contractor will undertake any required rewiring.</p> <p>For buildings where the critical or serviceable load is not explicitly defined, the serviceable load is either below the BESS capacity or the rewiring of critical loads has already been completed for the existing genset, and the connected load will be served jointly by the genset and the BESS capacity specified in the RfP. In both cases, the serviceable load remains within the available battery capacity, or together with the genset and battery capacity, ensuring that the batteries are not subjected to loading beyond their design limits.</p>
2	--VOLUME – II Employer's Requirements-3.1 Rooftop Solar PV--Table 1 – Rooftop Solar---PV Module mounting structure shall have atleast 85 microns of zinc coating for rooftop and ground mounted whereas 120 micros for parking sheds.	<p>Based on our discussions with the photovoltaic bracket manufacturer, it is feasible to produce roof photovoltaic brackets with an 85-micron galvanized coating. However, for carports requiring a 120-micron galvanized layer, only the columns can achieve this thickness. Generally, the steel thickness of the upper brackets in photovoltaic carports is below 3mm, and in such cases, the maximum achievable galvanized layer thickness is only 85 microns. Requiring a 120-micron galvanized thickness may lead to issues such as rough coating and easy peeling.</p>	<p>The 120-micron galvanization requirement applies only to the parking shed columns due to severe cold and snow conditions. For all other members, Section V – Civil &amp; Structure Works specifies hot-dip galvanization as per ASTM A123</p>
3	--VOLUME – II Employer's Requirements- SECTION-III DC SYSTEMS-2. HYBRID INVERTERS	<p>Please clarify whether this project mandates the use of hybrid inverters for all inverter installations. Are solutions combining ordinary photovoltaic inverters with hybrid inverters, or ordinary photovoltaic inverters with energy storage Power Conversion Systems (PCS), acceptable?</p>	<p>Only Hybrid Inverter</p>

4	--VOLUME – II Employer's Requirements-2.9 Compliance and Standards-All works and equipment shall comply with IEC, IEEE, ISO, NEC, ASTM, and Pakistan Grid Code requirements	According to the requirements of NEC 2017, 2020, and 2023 (Section 690.12): "PV system circuits installed on or within buildings must incorporate a rapid shutdown function that controls specific conductors in compliance with the provisions outlined in 690.12 through (5)." However, rapid shutdown devices are costly, even more expensive than inverters. Please clarify whether this project will adhere to this requirement by installing a Rapid Shutdown Device.	No, a Rapid Shutdown Device (RSD) is not required as a minimum project requirement.
5	--VOLUME – II Employer's Requirements-3. BATTERY ENERGY STORAGE SYSTEM (BESS)- Depth of Discharge (DoD) $\geq$ 90%; Cycle Life $\geq$ 6,000 cycles @ 80% DoD	1- There exists a discrepancy between the discharge depth and cycle life in this context. Please clarify whether the energy storage battery's capacity should be calculated at 80% DoD or 90% DoD.  2- Additionally, please specify whether the capacity requirement for the energy storage system refers to the energy discharged at the POC point or the rated nameplate capacity of the energy storage battery.	1- For determination of Battery capacity, nameplate capacities as defined under the RFP shall be considered. For this Nameplate Battery Capacity, 90% DoD is the capability required from these Batteries, however cycle life should be 6,000 @ 80% DoD.  2- The capacities mentioned under Table 1 – Rooftop Solar (Volume-II, Section 3.2 of the RFP) are rated nameplate capacities of batteries and same are required under the Project.
6	--VOLUME – II Employer's Requirements-3. BATTERY ENERGY STORAGE SYSTEM (BESS)- Charging Temperature-30°C to +50°C (self-heating for sub-zero charging)	We are considering using the solution of pasting an electric heating film on the outside of the battery to achieve preheating of the energy storage battery. Please clarify whether you accept this solution	No. The BESS shall be equipped with a manufacturer-integrated (OEM) thermal management system as required under the RFP; external or retrofitted heating solutions are not acceptable.
7	--VOLUME – II Employer's Requirements-5. LIGHTNING PROTECTION SYSTEM-Lightning protection system include 5 spikeon copper ball	1- Please provide the technical requirements for this copper ball. Is this a pre discharge lightning rod?	Copper ball is copper air terminal ball, strike ball or spherical electrode typically installed at the tip of the lightning rod (air terminal). The Lightning Arrestor Equipments are conventional and follow IEC 62305, IEC 62561 and other relevant standards.
8	--BIDDING DOCUMENTS-Schedule-C Schedule of Performance Guarantees-2.1Guaranteed Performance Parameters:	Due to the ongoing attenuation of photovoltaic modules after they are shipped from the factory, the power output of the modules from the time of shipment to the time of on-site installation will be lower than their nameplate power. Please clarify whether the installed capacity of photovoltaic power should be based on the nameplate power of photovoltaic modules or on-site testing. If on-site testing is used as the standard, we will consider installing a certain percentage more photovoltaic modules to compensate for the attenuation of the modules.	The installed DC capacities required under the project are based on the nameplate DC ratings at STC. However, during the Testing and Commissioning phase, if the DC capacities are found to be lower than the ideal capacities—after accounting for manufacturer-allowed degradations and site-specific conditions—the Contractor shall provide additional capacity in line with the contractual requirements mentioned under the RFP.

9	--BIDDING DOCUMENTS-Schedule-C Schedule of Performance Guarantees	The assessment penalties do not specify assessment regulations for the energy storage system. Please clarify the relevant assessment requirements for the energy storage system.	Performance of ESS shall be evaluated in line with the approved design through remote monitoring system in line with the provisions of RfP
10	--BIDDING DOCUMENTS-Technical Requirements Sheet	In the technical parameter table, the inverter capacity is almost always 1.2 to 1.5 times that of the photovoltaic module capacity (and in some cases, it reaches 2 to 3 times). According to the principle of the photovoltaic module power generation system, the capacity of the inverter is usually 0.8 to 1 times that of the photovoltaic modules. Please clarify what the reason is for the inverter capacity being much larger than the photovoltaic capacity?	The inverter upsizing is dictated by the site-specific harsh conditions such as sub-zero temperatures, high altitude, and other site specific factors. The EPC Contractor is required to comply the minimum capacity requirements stated in the RfP. Bidders are further encouraged to visit the sites to gain a better understanding of the site-specific conditions and constraints.
11	--BIDDING DOCUMENTS-Technical Requirements Sheet	In the technical parameter table, the capacity of the energy storage battery is much smaller than that of the inverter. Under this configuration, when the power of the load is large (exceeding the discharge capacity of the battery) and the grid power fails, the battery's charge will be rapidly depleted, causing system imbalance and system shutdown. Please clarify whether the power grid in the project location is stable? Does this system only ensure the power supply for some key loads after the grid power failure?	As specified for the response of Sr. No. 1 above.
12	Sr. No.4 of Section III - Evaluation and Qualification Criteria of Bidding Documents, require the Bidder to fulfil the following criteria:  a) Successful execution and completion of at least one single location solar PV project with capacity $\geq$ 250 KWDC and cumulative PV installation capacity of $\geq$ 2.5 MWDC. b) Successful execution and completion of at least one single location Battery Energy Storage System (BESS) installation of $\geq$ 100 kWh and cumulative BESS installation capacity of $\geq$ 750 kWh.	We need some clarification that whether the experience of any proposed sub-contractor or manufacturer will be considered for evaluation of the Bidder in meeting with the above requirement or not?	As explicitly stated under Item 4.1 of the Qualification Criteria, if the Bidder is participating as a single entity, it must meet all requirements independently. In the case of a Joint Venture (JV), all members combined must meet the requirements. Accordingly, these provisions apply only to JV partners and are not applicable to any proposed sub-contractors or manufacturers. Thus, the experience of any proposed sub-contractor or manufacturer will not be considered for evaluation of the Bidder.
13	Request for Extension in Bid Submission Deadline	Due to unforeseen circumstances, we are finding it challenging to meet the current deadline and in dire need of extension in bid submission date. Therefore, the Employer is requested to extend the date of submission for one month and oblige.	No request for an extension of the bid submission timeline can be considered, as the current timelines are already reasonable and were defined considering the information and details provided in the RFP.

14	<p>As per requirement at Sr. No. 4.1(b) of Section III, stated below:</p> <p>b) Successful execution and completion of at least one single location Battery Energy Storage System (BESS) installation of &gt; 100 kWh and cumulative BESS installation capacity of &gt; 750 kWh. (LOT I)</p>		
15	<p>As per requirement at Sr. No. 4.1(b) of Section III, stated below:</p> <p>b) Successful execution and completion of at least one single location Battery Energy Storage System (BESS) installation of &gt; 100 kWh and cumulative BESS installation capacity of &gt; 500 kWh. (LOT II)</p>	<p>Though the above required, it has been mandated that the bidder must have completed at least one project with above said requirements. We need your clarification that whether the experience of an in-hand project (which is still not completed) will be considered for evaluation to meet the above requirement or not?</p>	<p>As per requirements specified under Item 4.1 of the Qualification criteria, only successfully completed projects are eligible for evaluation. Thus, the experience from any ongoing, in-hand, or partially completed project does not meet the requirement of "successful execution and completion" and therefore shall not be counted toward fulfilling the experience criteria.</p>
16	<p>As per requirement at Sr. No. 4.1(b) of Section III, stated below:</p> <p>b) Successful execution and completion of at least one single location Battery Energy Storage System (BESS) installation of &gt; 100 kWh and cumulative BESS installation capacity of &gt; 350 kWh. (LOT III)</p>		
17	<p>Schedule-B</p> <p>Schedule of Payments</p>	<p>Currently, Point No. 02 of Table B1 of Schedule B, specifies a 50% payment upon delivery (<math>\geq 70\%</math> of cumulative district capacity delivered at site or Employer's designated store after FAT).</p> <p>We request to kindly split this 50% into two equal parts as follows:</p> <p>25% upon delivery of <math>\geq 70\%</math> cumulative district capacity to the site or Employer's designated store after FAT.</p> <p>25% after inspection and countersigning of delivery certificates by the Employer's Representative.</p> <p>All remaining payment terms (Points 01, 03, 04, and 05) will remain the same as originally specified in the document.</p> <p>This modification will help ensure smoother financial management and timely execution of the project. We request your kind consideration and approval of this adjustment.</p>	<p>No. The bidders are instructed to comply with the payment schedule given in the RFP.</p>