

**GOVERNMENT OF PAKISTAN
FEDERAL BOARD OF REVENUE
[Pakistan Raises Revenue Program]**

Room-577, FBR House, Constitution Avenue, Islamabad
Off: 051-9215109; Email : kashif.younas@fbr.gov.pk

C.No. 1(7)Addl.Dir(P&F)/PO/2023 /53686 R

Date: 26th March, 2024

Subject: **Minutes of the Pre-Bid Meeting: Establishment of Data Center Infrastructure at Islamabad and Lahore (Tender-3750) – RFB No. 1(7)Addl.Dir(P&F)/PO/2023 (PK-FBR-402370-GO-RFB)**

Pre-Bid Meeting was held on 27th February, 2024 in FBR (HQ), regarding the Supply and Installation along with related services for Establishment of Data Center Infrastructure at Islamabad and Lahore, as published in the Specific Procurement Notice (SPN) in the national dailies, FBR, PPRA and World Bank website via the STEP portal. The respective participants of the FBR and bidders attended pre-bid meeting in-person and through virtual mode. List is attached as **Annex-I**.


2. The purpose of the pre-bid meeting was to provide clarifications on queries / questions, raised by the participants, representatives of the prospective bidders on the Bidding Documents for the subject procurement activity, to facilitate them in preparation of responsive bids.

3. The FBR's representative gave a brief overview of the World Bank Procurement Guidelines and apprised the prospective bidders of the structure of the Bidding Documents. In view of the queries raised by the bidders during the meeting and as received through email, were responded in the light of the relevant clauses of the Instructions to Bidders, Bid Data Sheet, General Conditions of Contract (GCC) and Special Conditions of Contract (SCC). Bidders were instructed to submit their bids along with bid security on the prescribed time and date, as the late bids would not be entertained.

4. In the pre-bid meeting, bidders were instructed to share any further queries in writing, especially if any clause is restricting competition Or is brand specific etc., within prescribed time so that the clarification or amendment be made accordingly. Replies to the queries shall be shared with bidders by placing Minutes of the Meeting and addendum on FBR's website (<https://fbr.gov.pk/tenders>), through email after visit to intended Datacenter sites.

5. The Chair elaborated on some of the queries related to the bidding process and contractual requirements and emphasized to the prospective bidders that they should carefully go through all the sections of the Bidding Document and incorporate all the clarifications provided by FBR through Minutes of the Meeting and addendum(s) in their bids for submitting a responsive bid.

6. The queries raised by the bidders, FBR's response to the same and the status regarding their incorporation into the Bidding Documents are tabulated as **Annex-II**.


Kashif Younas
Additional Director
(Procurement & Finance), PRRP

ANNEX-I

Sr.No	Name	Designation
1.	Mr. Ardsheer Saleem Tariq	Member Reforms & Modernization
2.	Mr. Muhammad Khalid Jamil	Director (Program Office)
3.	Mr. Zain-ul-Abidin Sahi	Chief IT (Systems)
4.	Mr. Kashif Younas	Additional Director (Procurement & Finance)
5.	Mr. Sardar Omer Sharif	Secretary (IT)
6.	Mr. Amjad Khan	Second Secretary (IT)
7.	Mr. Shahid Anwar	Chief Manager (Network & Infrastructure) - PRAL
8.	Mr. Mazhar Iqbal	Senior Manager Datacenter - PRAL
9.	Mr. Muhammad Riaz Alam	Sr. Network Administrator – PRAL
10.	Mr. Zubair Khan	Infrastructure Engineer -PRAL
11.	Mr. Shahzad Ali Shah	Contract Management Specialist
12.	Munib Khawaja	Consultant-DWP
13.	Ashar Ali	Consultant-DWP
14.	S.M. Asif Ali	Consultant-DWP
15.	M. Zahid Hussain	Consultant-DWP

Establishment of Data Center Infrastructure at Islamabad and Lahore**RESPONSE TO QUERIES**

Sr. No	Page/ Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
1.	98	17- It Racks	This requirement is exaggerated and looks brand specific. Is racks are moved after installing servers?	It is a mandatory requirement as multiple brand are full filling the said requirement.	Incorporated in Addendum No .02 to RFB
2.	98	17- It Racks	1991 mm is brand specific high requirement.? Can higher standard high can offer	1991 to 2000 can be offered.	Incorporated in Addendum No .02 to RFB
3.	99	19- Cable Access	as per statement is Minimum two acceptable? Four cable organizer is brand specific and not standard generic requirement	Already mentioned, two is acceptable. A minimum of two and maximum of four vertical PDU mount cable organizers shall be offered.	Responded
4.	99	21-Security	The specification for access control is brand specific and oversized Can Only IC card swapping for racks and finger print and IC card swapping can be offered. It will allow equal chance of participation for all major vendors	The respective response has been incorporated in the addendum. Thus the multiple brands are fulfilling the requirement. However, the suggested controls Finger Print and IC Card swapping can also be proposed.	Responded
5.	103	25-Uniteruptable power supply system	It is brand specific and need to revise by mentioning two limits i.e from 3-5 %	After considering the suggestion, necessary amendment has been made in RFB.	Please refer to the Addendum No.02
6.	105	25-Uniteruptable power supply system Mechanical	Is it optional? Requirement is tilted to specific brand.	This is not a mandatory requirement.	Responded
7.	110	28-UPS for NOC room battery	It is suggested to get monitoring from UPS as it is small UPS. The high requirement is used for lithium batteries not for VRLA Moreover it is brand specific requirement	This is not a mandatory requirement.	Responded
8.	110	28-UPS for NOC room Mechanical	Is it optional? Requirement is tilted to specific brand.	This is not a mandatory requirement	Responded
9.	112	31. Cooling unit for data centre Filters	The Filter specification for G.4 is brand specific, and request to allow to offer G3 efficient	The respective response has been incorporated in the addendum. Thus the multiple brands are fulfilling the requirement. However, filter specification	Please refer to the Addendum No.02

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
				efficiency can be G3 or higher.	
10.	112	31. Cooling unit for data center Humidifier	It is brand specific requirement. Also capacity is brand specific Please allow to offer as per OEM specification Humidifier. Moreover at page 111 Humidifier capacity is mentioned 1.5-2 KG but in description it is mention 4 KG. Please revise as per 1.5-2 KG	1.5KG will be accepted as per OEM, OEM will make sure sufficient humidification volume in server room	Responded
11.	114	39. Cooling Unit for Power Rooms Humidifier capacity	It is brand specific requirement Please revise to 1-2 Kg	2Kg is already mentioned	Responded
12.	116	Humidification	It is brand specific, requested to generalize the requirement	No brand name has been mentioned for providing the humidifier. However Steam/ Infrared generating humidifier is essential for design.	Responded
13.	163	114- It Racks	This requirement is exaggerated and looks brand specific. Is racks are moved after installing servers?	The suggestion has been considered and incorporated in addendum No. 02"	Please refer to the Addendum No. 02
14.	162	114- It Racks	1991 mm is brand specific height requirement.? Can higher standard height can offer	1991 to 2000 can be offered.	Please refer to the Addendum No. 02
15.	163	116- Cable Access	as per statement is Minimum two acceptable? Four cable organizer is brand specific and not standard generic requirement	Already mentioned, two is acceptable. A minimum of two and maximum of four vertical PDU mount cable organizers shall be offered.	Responded
16.	164	118-Security	The specification for access control is brand specific and oversized Can Only IC card swapping for racks and finger print and IC card swapping can be offered. It will allow equal chance of participation for all major vendors	The respective response has been incorporated in the addendum. Thus the multiple brands are fulfilling the requirement. However, the suggested controls Finger Print and IC Card swapping can also be proposed.	Please refer to the Addendum No. 02
17.	167	132-Uninterruptable power supply system	It is brand specific and need to revise by mentioning two limits i.e from 3-5 %	After considering the suggestion, necessary amendment has been made in RFB.	Please refer to the Addendum No. 02

Sr. No	Page/ Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
18.	169	136-Uninterruptable power supply system Mechanical	Is it optional? Requirement is tilted to specific brand.	This is not a mandatory requirement	Responded
19.	174	143-UPS for NOC room battery	It is suggested to get monitoring from UPS as it is small UPS. The high requirement is used for lithium batteries not for VRLA Moreover it is brand specific requirement	This is not a mandatory requirement”	Responded
20.	174	143-UPS for NOC room Mechanical	Is it optional? Requirement is tilted to specific brand.	This is not a mandatory requirement	Responded
21.	177	159. Cooling unit for data center Filters	The Filter specification for G.4 is brand specific, and request to allow to offer G3 efficient	It is mandatory requirement.” The respective response has been incorporated in the addendum. Thus the multiple brands are fulfilling the requirement. However, filter specification efficiency can be G3 or higher	Please refer to the Addendum No.02
22.	177	159. Cooling unit for data center Humidifier	It is brand specific requirement. Also capacity is brand specific Please allow to offer as per OEM specification Humidifier. Moreover at page 111 Humidifier capacity is mentioned 1.5-2 KG but in description it is mention 4 KG. Please revise as per 1.5-2 KG	1.5KG will be accepted as per OEM, OEM will make sure sufficient humidification volume in server room	Responded
23.	178	168. Cooling Unit for Power Rooms Humidifier capacity	It is brand specific requirement Please revise to 1-2 Kg	2Kg is already mentioned	Responded
24.	181	Humidification	It is brand specific, requested to generalize the requirement	No brand name has been mentioned for providing the humidifier. However Steam/ Infrared generating humidifier is essential for design.	Responded:

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
25.	103	25. Uninterruptible Power System	The capacity is required 160 KW is oversized, normally at load is 0.8 power factor of sizing hence load will be around 126KW. It seems favoring specific brand commercially. Please change requirement to 150KW , it will give equal chance to every major vendor. Or make than 200 KW so commercially all are equal	The capacity requirement has been derived after due diligence and deliberation to the Design & load requirement of the Datacenter. Therefore the required Rating is 160KW.	Responded
26.	126	132 Uninterruptible Power System	The capacity is required 120 KW is oversized, normally at load is 0.8 power factor of sizing hence load will be around 96KW. It seems favoring specific brand commercially. Please change requirement to 100KW , it will give equal chance to every major vendor. Or make than 150 KW so commercially all are equal	120KW is minimum load requirement, so please follow as per required	Responded
27.	226	rPDUs	As per KW requirement 3phase in /single phase out can meet the requirement. Please allow to offer single phase out. As it will allow to participate equally	The referred requirement are according to the design requirement and 3 Phase in and 3 Phase Out. As deployed EXA Rack has 3 phase power supplies configuration.	Responded
28.	278	GCC 16.1	Would the last 10% be split quarterly over 5-years?	Incorporated in Addendum No 2 to RFB	Responded
29.	278	GCC 28.5 & 28.6		Incorporated in Addendum No 2 to RFB	Responded
30.	280	GCC 28.5 & 28.6		It is self explanatory & compulsory requirement	Responded
31.	94		Pre shipment inspection and training of critical physical infrastructure (Cooling, UPS, PDU, DCIM etc.) at factory and international training center. (Total 2 persons)	Incorporated in Addendum No 2 to RFB	Responded
32.	94		Pre shipment inspection of Diesel Generators at the manufacturing facility. (Total 2 person)	Incorporated in Addendum No 2 to RFB	Responded
33.	263	25.2e	training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods	Incorporated in Addendum No 2 to RFB	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
34.			Can quote be submitted in foreign currency and payment made in PKR at the rate applicable at the time of each payment?	Only in PKR	Responded
35.	Page # 135 and 200 respectively)	Section VII – Schedule of requirement: Bidding document Power Factor Improvement:	As per the requirement FBR required Power Factor Improvement plant for Islamabad and Lahore both site. But there is no specific size/capacity of equipment is mentioned in the document and also not in the BOQ's of each site. It is requested to share the technical details and the quantities of the equipment required. Moreover, FBR have asked OUTPUT POWER FACTOR: 1 in UPS's product/system description so there is no need of Power Factor Improvement for both Data centre separately. Power Factor improvement are the part of the UPS's so we request you to remove this additional requirement because there is No significant purpose and also it cost/burden on the national exchequer.	Incorporated in Addendum No 2 to RFB	Responded
36.		2. Section IX – Special Conditions of Contract: GCC 16.1 (Payment Schedule)	Payment Terms: As per the bidding documents Fifty (50) percent payment release is subject to Data Center execution on prorated basis. We are kindly requested that the payment should be at least 60% on delivery on prorated basis. Total duration of the project is 9 months and we assume that almost 100% of the works related to Civil, Furniture & Fixture and also major local works of the imported equipment will be finished within 2-3 months and its payment hold for 10- 12 months or release after execution of data center cannot be justified. Moreover, Ten (10) payment release is subjected to the SLA. Again it is recommended this milestone payment should be released after the completion of 1 or 2 years' warranty period	Incorporated in Addendum No 2 to RFB	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
			and separate payment terms will be incorporated for SLA services.		
37.		Section IX – Special Conditions of Contract:	As per the condition the performance security Ten (10) percent of the contract will be released after the successful completion of the warranty and performance obligation by the supplier under the contract.	Incorporated in Addendum No 2 to RFB	Responded
38.	Page No. 53	Section III – Evaluation and Qualification Criteria Technical Part	Please provide clarification that the required Financial Statements will be consecutive 5 years or Total No. of 5 Years in the business period of Bidder. What is the required Annual Turnover by FBR.	Incorporated in Addendum No 2 to RFB	Responded
39.	Page No. 51	Section III – Evaluation and Qualification Criteria Technical Part	What is the Evaluation and Qualification Criteria. Scoring Detail is unclear. How a bidder with technically qualify and. No technical scoring parameters are given in the RFB.	Incorporated in Addendum No 2 to RFB	Responded
40.	NA	NA	The Basics of Design require SLD, without SLD, no sizing can be considered correct hence it is requested kindly share the SLD, as this is a Public Tender, all items must be quantified for equal comparison and participation. and furthermore the below listing of Ratings kindly elaborate how are these furnished without the SLD? a) For ATS Panels ACB rating = 1250A F.P (Draw out type). b) For Data Centre Main UPS the MCCB rating = 400 A F.P. c) For Facility UPS the MCCB rating = 200A F.P. d) For Air-Conditioning Loads the MCCB rating = 400A F.P. e) For Facility load (Non UPS) MCCB = 75A F.P	Incorporated in Addendum No 2 to RFB	Responded
41.	NA	NA	AntiStatic ESD Vinyl Floor Tiling Missing, please share specifications, rooms and specify Quantities	Refer to Compliance Sheet provided in Addendum No.2	Responded
42.	121	64. Fire Detection & Suppression System	Kindly specify one (1) UL/FM or EN Approved System. UL is only applied on equipment designed for North American Region whereas EN is for the	Already mentioned UL, EN 54 or Equivalent Standard	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
			European Region, no single Panel will be both UL and EN, please confirm which is required?		
43.	123	16. Technical Specifications for RTO Islamabad	Kindly specify exactly which rooms are required to have Fire Suppression System? Specifications and Quantities need to be specified and not left to vendors interpretation of the Drawings otherwise comparison is not possible, kindly oblige	Refer to Compliance Sheet provided in Addendum No.2	Responded
44.	187	111. Technical Specifications for DOT Lahore	Kindly specify exactly which rooms are required to have Fire Suppression System? Specifications and Quantities need to be specified and not left to vendors interpretation of the Drawings otherwise comparison is not possible, kindly oblige	Refer to Compliance Sheet provided in Addendum No.2	Responded
45.	187	111. Technical Specifications for DOT Lahore	Kindly confirm the requirement of Fire Suppression System in Lahore Site Store Room, as the Drawing Shows a Cylinder and Piping in the Room.	Refer to Compliance Sheet provided in Addendum No.2	Responded
46.	137	70. Low Tension Cables and Wires	There is no BOQ Line Item for LV Cables, or any quantities mentioned, kindly specify	Refer to Compliance Sheet provided in Addendum No.2	Responded
47.	144-145	74. HVAC	As per the drawings only Four-way discharge cassette is shown, kindly confirm they can be of different types depending on the site limitations	This is mandatory requirement and it should be four way cassette type.	Responded
48.			VRF Indoor Unit Quantities for MMR is only one(1)? As per TIA-942-B it should be 2.	Already mentioned dual redundant units in BOQ	Responded
49.			Kindly share the detailed breakup of Lot.	The whole RFB is just one LOT as single JOB. Please refer to Addendum No.2	Responded
50.			Kindly share the Equipment Schedule for the VRF System. without the BOQ we can not ascertain the scope of the Project as Designed in RFP.	Refer to Compliance Sheet provided in Addendum No.2	Responded
51.	147-148 213-214	78. Ancillary Work	Quantities of Cameras? <i>Specifications and Quantities need to be specified and not left to vendors interpretation of the Drawings otherwise comparison is not possible, kindly oblige</i>	Refer to Compliance Sheet provided in Addendum No.2	Responded

Sr. No	Page/ Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
52.	149, 214-215	78. Ancillary Work	Kindly confirm the Device must be All-in-One, or can be separate modules?	The Devices must be all in one.	Responded
53.	149, 214-215	78. Ancillary Work	Kindly confirm the Fire Exits to have Access Control Devices as well?	Not Required. However, Alarm/Alert should be available on DCIM in case of Door Opened.	Responded
54.	149, 214-215	78. Ancillary Work	Quantities of Access Control Devices? <i>Specifications and Quantities need to be specified and not left to vendors interpretation of the Drawings otherwise comparison is not possible, kindly oblige</i>	Refer to Compliance Sheet provided in Addendum No.2	Responded
55.	150, 216	78. Ancillary Work	Is a Central Controller for all rooms or a Single Controller for each Room separately required?	Single controller is required for each room	Responded
56.			Kindly confirm the Controller I/O Specifications	Refer to Compliance Sheet provided in Addendum No.2	Responded
57.			Kindly confirm, Videowall Screen Quantities per Room	Refer to Compliance Sheet provided in Addendum No.2	Responded
58.			Kindly confirm, the housing for the Controller	Refer to Compliance Sheet provided in Addendum No.2	Responded
59.			Kindly confirm the mounting type of the Screens, Wall Mounted or Floor Stand.	Wall Mount,[Refer to Compliance Sheet provided in Addendum No.2]	Responded
60.	227	Bill of Quantity (BOQ): Equipment Details - RTO Islamabad Site	Kindly ealaborate with quantities, as there is no specifications for this requirement	Refer to Compliance Sheet provided in Addendum No.2	Responded
61.	230	Bill of Quantity (BOQ): Equipment Details - DTO Lahore Site			Responded
62.	122, 186-187	64. Fire Detection & Suppression System	Kindly specify exactly which rooms are required to have VESDA?	Refer to Compliance Sheet provided in Addendum No.2	Responded
63.		193. Fire Detection & Suppression System	Kindly confirm, each Room will have separate VESDA?	Yes	Responded
64.	227, 229	3. Technical Specifications	kindly confirm if WAPDA PPMC Inspection Certificate is Required?	Only for 11KVA metering WAPDA metering panel	Responded
65.			Kindly confirm the understanding of this, as WAPDA does not provide NOC	FBR will provide the related documentation for application and	Responded

Sr. No	Page/ Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
			or Approval for Dry Type Transformers, typically Dry Type Transformers are used for Private Distribution for Billing Arrangements	connection will be in the name of FBR. Moreover, FBR will arrange all necessary NOCs for deployment of Dry Transformer .	
66.			Furthermore, the Losses for the 630kVA and 400kVA are identical which may be incorrect, kindly review.	Kindly follow IEC 60076 standard as mentioned in RFB	Responded
67.	227	Bill of Quantity (BOQ)	Kindly confirm the Rating of the Generators is Prime or Standby?	Standby ratings	Responded
68.	124	67. Generator	2- Kindly confirm the Fuel Storage Requirement, you require internal 8 Hrs Capacity and Fuel Storage of Combined 48Hrs? As this says different	Refer to Compliance Sheet provided in Addendum No.2	Responded
69.	230	Bill of Quantity (BOQ)	Kindly confirm the Rating of the Generators is Prime or Standby?	Standby	Responded
70.	189	196. Generator	Kindly confirm the Fuel Storage Requirement, you require internal 8 Hrs Capacity and Fuel Storage of Combined 48Hrs? As this says different	Refer to Compliance Sheet provided in Addendum No.2	Responded
71.	136	69. Bus Way Trunking distribution	Kindly confirm the where the BTD will be installed? a. Transformer to ATS Panel Only? b. GENSET to ATS Panel Only?	Refer to Compliance Sheet provided in Addendum No.2 .	Responded
72.	201	198. Bus Way Trunking distribution	2- If there is a requirement for further downstream distribution to be with BTD kindly specify down to the exact DB or Equipment as the RFP is vague in this regard.	Refer to Compliance Sheet provided in Addendum No.2	Responded
73.	123	64. Fire Detection & Suppression System	Do you require Centralized Fire Control Panel with Suppression Release Modules? Or Independent Suppression Modules besides the Fire Control Panel?	Centralized control panel is required.	Responded
74.	187	193. Fire Detection & Suppression System	Kindly confirm if UL/FM Certified Cylinders are required for the Suppressant Gas or not?	Yes	Responded
75.	98	16. Technical Specifications for RTO Islamabad	There is no clarity on MMR Racks load, where is the power provisioned? The calculation does not include the Power requirement for the MMR Racks or the Staging Rack	Comply PDU ratings, load is already included in load calculation	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
76.	162	111. Technical Specifications for DOT Lahore	There is no clarity on MMR Racks load, where is the power provisioned? The calculation does not include the Power requirement for the MMR Racks or the Staging Rack	Comply PDU ratings, load is already included in load calculation	Responded
77.	100	16. Technical Specifications for RTO Islamabad	Fire Nozzle Hole in Containment is mentioned as well as collapsible Ceiling for containment is also required, kindly confirm which requirement will prevail? or they are interchangeable?	Collapsible required, nozzle hole is optional	Responded
78.	164	111. Technical Specifications for DOT Lahore	Fire Nozzle Hole in Containment is mentioned as well as collapsible Ceiling for containment is also required, kindly confirm which requirement will prevail? or they are interchangeable?	Collapsible required, nozzle hole is optional	Responded
79.	111	16. Technical Specifications for RTO Islamabad	Kindly share the supply air DB, return air DB, Delta T and Relative Humidity used for the Net Sensible Rating of 30-35kW with 46 DegC Ambient.	sensible rating is 24-29KW, further follow RFB	Responded
80.	175	111. Technical Specifications for DOT Lahore		sensible rating is 24-29KW, further follow RFB	Responded
81.	103	16. Technical Specifications for RTO Islamabad	Please confirm that UPS backups are required for 100% load capacity as required in BOQ or 80% load	UPS rating 160KW, 30 minute backup @ 0.9 PF	Responded
82.	167	111. Technical Specifications for DOT Lahore	Please confirm that UPS backups are required for 100% load capacity as required in BOQ or 80% load	UPS rating 120KW, 30 minute backup @ 0.9 PF	Responded
83.	138	16. Technical Specifications for RTO Islamabad	Kindly confirm the quantity and locations for the Earth Pits, including the requirement for Lightning Arrestors.	Refer to Compliance Sheet provided in Addendum No.2 . However, the Location will be as Site Survey.	Responded
84.	203	111. Technical Specifications for DOT Lahore	Kindly confirm the quantity and locations for the Earth Pits, including the requirement for Lightning Arrestors.	Refer to Compliance Sheet provided in Addendum No.2 . However, the Location will be as Site Survey.	Responded
85.	152	16. Technical Specifications for RTO Islamabad	Kindly Share the Topology, Network Diagrams/Schematics and Details for the assessment of the Structured Cabling Required. Or share the BOQ	Design topology for Datacenter Core Area is TOR. For NOC SOC, rest of the datacenter floor vendor is required to provide the design as per actual in concealed/Conduit,	Responded

Sr. No	Page/ Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
				Trunking. Refer to Compliance Sheet provided in Addendum No.2	
86.	218	111. Technical Specifications for DOT Lahore	Kindly also confirm and detail requirements for Third-Party Service Providers External Cable Entry , Terminations and Passive provisioning.	For third Party and ISPs, external service providers cable entry points will follow through the Meet Me Rooms and allied components e.g. ONTS, converter ODFs, switches, Router owned by Service Providers for termination of various connectivity will be deployed in MMR. Accordingly, FBR will provide access and space area in MMR room at both locations.	Responded
87.	111	16. Technical Specifications for RTO Islamabad	Kindly share the DeltaT used to determine the CFM required per Rack.	Kindly comply required CFM range	Responded
88.	175	111. Technical Specifications for DOT Lahore		Kindly comply required CFM range	Responded
89.	98	16. Technical Specifications for RTO Islamabad	Standard Rack Static Load Rating is 1600kg, kindly allow range of 1600kg to 1800kg for equal opportunity and participation	1600kg - 1800kg is allowed	Responded
90.			Standard Rack Dynamic Load Rating is 1000kg, kindly allow range of 1000kg to 1200kg for equal opportunity and participation	1000kg - 1200kg is allowed	Responded
91.	162	111. Technical Specifications for DOT Lahore	Standard Rack Static Load Rating is 1600kg, kindly allow range of 1600kg to 1800kg for equal opportunity and participation	1600kg - 1800kg is allowed	Responded
92.			Standard Rack Dynamic Load Rating is 1000kg, kindly allow range of 1000kg to 1200kg for equal opportunity and participation	1000kg - 1200kg is allowed	Responded
93.	226	Bill of Quantity (BOQ)	As per the quantities, the Duty Cycle will mean, the Units with the Humidifier and Heater may be off-duty in certain rotations, kindly confirm this is understood and accepted.	Please follow as per requirement of the RFB	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
94.				Please follow as per requirement of the RFB	Responded
95.	229	Bill of Quantity (BOQ)	As per the quantities, the Duty Cycle will mean, the Units with the Humidifier and Heater may be off-duty in certain rotations, kindly confirm this is understood and accepted.	Please follow as per requirement of the RFB	Responded
96.				Please follow as per requirement of the RFB	Responded
97.	111	16. Technical Specifications for RTO Islamabad	Kindly revise specification to 3-4kW to allow partitication.	Agreed. Please Refer to Compliance Sheet provided in Addendum No.2	Responded
98.	175	111. Technical Specifications for DOT Lahore	Kindly revise specification to 3-4kW to allow partitication.	Agreed. Please Refer to Compliance Sheet provided in Addendum No.2	Responded
99.	228	Bill of Quantity (BOQ)	<p>Kindly Clarify the Total Quantity of the Racks+Dis+InRow in the POD, as per the drawing,</p> <p>1. Server Racks 600x1070/1100, Qty: 18</p> <p>2. Network Racks 800x1070/1100, Qty: 2</p> <p>3. EXA Data Racks 600x1200, Qty:2 [FBR Supplied]</p> <p>4. InRow Units 300x1095, Qty: 6</p> <p>5. Modular Distribution 600x1070, Qty: 2</p> <p>These are 22 Server/Network Racks, the power calculation shared is for 20 Racks with 6kW Rating per Rack on Page 162, kindly revise and correct where required.</p>	FBR requires 22 racks in the PODs to be energized as per diagram. Thus, power requirement will remain same	Responded
100.			with 22 x Racks in the POD with 6kW Rating the Total Load of the POD should be 132kW. but the Network Racks PDUs required are of 3KW Rating, which makes the total Load of the POD to 126kW. Kindly also confirm the EXA Data Racks will be rated at 6kW as well?	Yes Exadata racks will be rated at 6KW.	Responded
101.			The Quantity of the MMR is one then Racks required should be 3 only for the MMR, 2 x	Total 24 Racks are required including 1 in staging.	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
			Server Racks and 1 x Network Rack, hence the overall count of Racks will be revised as well. Hence, the total count should be revised to 23 Racks as well.		
102.	228	Bill of Quantity (BOQ)	The Number of PDUs need to be revised to 44 as well per previous query	32A = 40 PDU (server Room) 16A = 10 PDU (6xMMR, 2x Staging room, 2x spares)	Responded
103.			Kindly confirm is there no need for Three Phase PDUs for EXA Data Racks for the Lahore Site? If so, kindly list them in the BOQ.	Yes Exadata rack will be installed at Lahore and Three phase PDU is required.	Responded
104.	226	Bill of Quantity (BOQ)	Kindly Clarify the Total Quantity of the Racks in POD 1, 1. Server Racks 600x1070/1100, Qty: 16 2. Network Racks 800x1070/1100, Qty: 2 3. EXA Data Racks 600x1200, Qty:2 [FBR Supplied] <i>These are missing in the Drawing but added in the PDUs</i> These are 20 Server/Network Racks, the power calculation shared is for 18 Racks with 6kW Rating per Rack on Page 98, kindly revise and correct where required.	Calculations are average out, please follow power requirement	Responded
105.			with 20 x Racks in the POD 1 with 6kW Rating the Total Load of the POD should be 120kW. But the Network Rack PDUs required are of 3kW Rating, as per this the total Load becomes 114kW for POD 1. Kindly also confirm the EXA Data Racks will be rated at 6kW?	Calculations are average out, please follow power requirement	Responded
106.			Kindly confirm there is no need for Network Racks in the POD 2 in Islamabad Site? If so, kindly specify in Racks, and revise PDUs etc.	Not required	Responded
107.	102	16. Technical Specifications for RTO Islamabad	Kindly confirm the Three-Phase PDUs are Metered and Monitored or not, as the BOQ does not reflect the Specifications.	Metered and monitored	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
108.	226	Bill of Quantity (BOQ)			Responded
109.	227	Bill of Quantity (BOQ)	Kindly confirm the specific Type Testing Standards.	The Type Tested Standards of LT Panels/Switch Board are already mentioned in the RFB in Section VII-Schedule of Requirements at Page 136 of the Published RFB. Please refer to the RFB	Responded
110.	230	Bill of Quantity (BOQ)		Please refer to the RFB	Responded
111.	226	Bill of Quantity (BOQ)	Is the Modular Distribution Racks not required to be placed inside the POD in Islamabad, the drawing does not show this, please confirm and revise.	Modular distribution Rack will be placed in POD, 300mm or 600mm	Responded
112.	114	16. Technical Specifications for RTO Islamabad	Kindly allow, external Changeover functionality for Dual Source Power Supply	Automatic changeover is allowed	Responded
113.	178	111. Technical Specifications for DOT Lahore		Automatic changeover is allowed	Responded
114.	NA	NA	Kindly share requirement of network switches	Refer to Compliance Sheet provided in Addendum No.2	Responded
115.	NA	NA	Kindly confirm the dumping location/site for the dismantled equipment from both sites	Dumping will be responsibility of the Vendor at any site of his choice. Items if any that can be re-used shall be stored at the same location/premises.	Responded
116.	NA	NA	Is there are requirement for Design Certification from TIA?	Not required	Responded
117.	NA	NA	Is there are requirement for Constructed Facility Certification from TIA?	Not required	Responded
118.	NA	NA	Please confirm if two independent DCIMs suites are required for each site or one DCIM for Lahore and Islamabad with integration and access?	Two independent DCIM	Responded
119.	NA	NA	Kindly share the Specifications and Quantities of Desktops for	Desktop PCs are not required.	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
			Users for Operations Centers and Management Rooms		
120.	NA	NA	Kindly confirm are desktops for ACS and Fire System Management required?	Required	Responded
121.	NA	NA	Transformer Sizing need to be Responded, Based on calculations, either the Transformer is under-sized or the UPS is over-sized for Final Load.	Please follow as per requirement	Responded
122.	NA	NA	Kindly confirm, 1- Is the Consultant of the RFP allowed to Bid against this RFP? 2- Is the Consultant of the RFP allowed to be part of the Bid as a JV Partner of a Lead Bidder? 3- Is the Consultant allowed to be a Supplier/Subcon of the a Bidder for this RFP?	Consultant is Not allowed	Responded
123.	NA	NA	Kindly confirm the following doors are also Wooden Doors, 1. Duct Room Door 2. Serving Kitchen Store Door 3. Secretary IT Room Toilet Door 4. Common Toilet Doors 5. Elec. Room by the Lift Room	YES	Responded
124.	NA	NA	Is there no requirement for Smoke Extraction System?	NA	Responded
125.	NA	NA	Is there no requirement for Flood Drainage System?, as there are numerous toilets on the Floor, there is a risk of Water Hazard.	NA	Responded
126.		Payment Terms & Performance BG	As per Payment Terms: "Ten (10) % of the contract price will be on quarterly basis in advance for SLA", whereas Performance BG will be there as well. Please limit the Performance BG to 1 year and make SLA payment quartely of the SLA value only not the contract value.	Please refer to Addendum No.2	Responded
127.	Page 46	Bid Weightage	As per RFP there is 70% Financial Weightage and 30% Technical Weightage. Please reconder to increase Technical Weightage %age for selection of best Technical Solution	Please refer to Addendum No.2	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
			which will be in the interest of FBR.		
128.	Page 45		Considering RFP requirement for establishment of data centers around 50+ racks, Evaluation criteria for bidder is with reference of 10 Racks Data Center only. Please increase No. of Racks criteria so that only potential bidders may participate.	Please refer to Addendum No.2	Responded
129.	Page 52		As per RFP, there is requirement for ATD/CDCS/CDCE, CDCP/CDFOS team certification but there is no. number system mentioned against each certification level out of 20 marks. Kindly bifurcate the scoring Nos. against each certification level.	Please refer to Addendum No.2	Responded
130.	Page 43		As per RFP, bidding currency is in PKR. This is requested to please consider bidding currency as US Dollars and Payment to be released in PKR by applying Interbank dollar to rupees conversation rate of respective Invoice Date.	Bid has to be submitted in PAK Rupees Only.	Responded
131.			Bid submission is due on 13th March, kindly extend the bid submission for 6 to 8 weeks after response of queries.	Please refer to Addendum No.01	Responded
132.	98	17- It Racks	This requirement is exaggerated and looks brand specific. Is racks are moved after installing servers?	It is a mandatory requirement as multiple brand are full filling the said requirement.	Responded
133.	98	17- It Racks	1991 mm is brand specific height requirement.? Can higher standard height can offer	1991mm to 2000mm can be offered.	Responded
134.	99	19- Cable Access	as per statement is Minimum two acceptable? Four cable organizer is brand specific and not standard generic requirement	Already mentioned, two is acceptable. A minimum of two and maximum of four vertical PDU mount cable organizers shall be offered.	Responded
135.	99	21-Security	The specification for access control is brand specific and oversized Can Only IC card swapping for racks and finger print and IC	Response is mentioned at Sr.No 04	Responded

Sr. No	Page/ Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
			card swapping can be offered. It will allow equal chance of participation for all major vendors		
136.	103	25-Uninterruptable power supply system	It is brand specific and need to revise by mentioning two limits i.e from 3-5 %	Response is mentioned at Sr.No 05	Responded
137.	105	25-Uninterruptable power supply system Mechanical	Is it optional? Requirement is tilted to specific brand.	This is not a mandatory requirement.	Responded
138.	110	28-UPS for NOC room battery	It is suggested to get monitoring from UPS as it is small UPS. The high requirement is used for lithium batteries not for VRLA Moreover it is brand specific requirement	This is not a mandatory requirement.	Responded
139.	110	28-UPS for NOC room Mechanical	Is it optional? Requirement is tilted to specific brand.	This is not a mandatory requirement.	Responded
140.	112	31. Cooling unit for data center Filters	The Filter specification for G.4 is brand specific, and request to allow to offer G3 efficient	Response is mentioned at Sr.No. 09	Responded
141.	112	31. Cooling unit for data center Humidifier	It is brand specific requirement. Also capacity is brand specific Please allow to offer as per OEM specification Humidifier. Moreover at page 111 Humidifier capacity is mentioned 1.5-2 KG but in description it is mention 4 KG. Please revise as per 1.5-2 KG	Response is mentioned at Sr.No. 10	Responded
142.	114	39. Cooling Unit for Power Rooms Humidifier capacity	It is brand specific requirement Please revise to 1-2 Kg	Response is mentioned at Sr.No. 11	Responded
143.	116	Humidification	It is brand specific, requested to generalize the requirement	Response is mentioned at Sr. No. 12	Responded
144.	163	114- It Racks	This requirement is exaggerated and looks brand specific. Is racks are moved after installing servers?	It is a mandatory requirement as multiple brand are full filling the said requirement.	Responded
145.	162	114- It Racks	1991 mm is brand specific Height requirement.? Can higher standard height can offer	Response is mentioned at Sr. No. 14	Responded
146.	163	116- Cable Access	as per statement is Minimum two acceptable? Four cable organizer is brand specific and not standard generic requirement	Response is mentioned at Sr. No. 15	Responded

Sr. No	Page/ Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
147.	164	118-Security	The specification for access control is brand specific and oversized Can Only IC card swapping for racks and finger print and IC card swapping can be offered. It will allow equal chance of participation for all major vendors	Response is mentioned at Sr.No. 04	Responded
148.	167	132-Uninterruptable power supply system	It is brand specific and need to revise by mentioning two limits i.e from 3-5 %	Response is mentioned at Sr.No 05	Responded
149.	169	136-Uninterruptable power supply system Mechanical	Is it optional? Requirement is tilted to specific brand.	This is not a mandatory requirement.	Responded
150.	174	143-UPS for NOC room battery	It is suggested to get monitoring from UPS as it is small UPS. The high requirement is used for lithium batteries not for VRLA Moreover it is brand specific requirement	This is not a mandatory requirement.	Responded
151.	174	143-UPS for NOC room Mechanical	Is it optional? Requirement is tilted to specific brand.	This is not a mandatory requirement.	Responded
152.	177	159. Cooling unit for data center Filters	The Filter specification for G.4 is brand specific, and request to allow to offer G3 efficient	Response is mentioned at Sr.No. 09	Responded
153.	177	159. Cooling unit for data center Humidifier	It is brand specific requirement. Also capacity is brand specific Please allow to offer as per OEM specification Humidifier. Moreover at page 111 Humidifier capacity is mentioned 1.5-2 KG but in description it is mention 4 KG. Please revise as per 1.5-2 KG	Response is mentioned at Sr.No. 10	Responded
154.	178	168. Cooling Unit for Power Rooms Humidifier capacity	It is brand specific requirement Please revise to 1-2 Kg	Response is mentioned at Sr.No. 11	Responded
155.	181	Humidification	It is brand specific, requested to generalize the requirement	Response is mentioned at Sr. No. 12	Responded
156.	103	25. Uninterruptible Power System	The capacity is required 160 KW is oversized, normally at load is 0.8 power factor of sizing hence load will be around 126KW. It seems favouring specific brand commercially. Please change requirement to 150KW , it will give equal chance to every major vendor.	Response is mentioned at Sr. No. 25	Responded

Sr. No	Page/ Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
			Or make than 200 KW so commercially all are equal		
157.	126	132 Uninterruptible Power System	The capacity is required 120 KW is oversized, normally at load is 0.8 power factor of sizing hence load will be around 96KW. It seems favoring specific brand commercially. Please change requirement to 100KW , it will give equal chance to every major vendor. Or make than 150 KW so commercially all are equal	Response is mentioned at Sr. No. 26	Responded
158.	226	rPDUs	As per KW requirement 3phase in /single phase out can meet the requirement. Please allow to offer single phase out. As it will allow to participate equally.	Response is mentioned at Sr. No. 27	Responded
159.		Project Background -Page 93	Do you want to have Rated-III certification for Data Center or just the design/conformance to Rated-III Data Center. Please clarify.	FBR requires the Data Center design/conformance to TIER-III/Rated-III Data Center	Responded
160.		General Scope of work-Page-93-	The member-in-charge, who is the chosen bidder, will be responsible for constructing, operating, and managing the Data Center (DC) for a duration of five (5) years following the successful completion of the Final Acceptance Test (FAT). Kindly clarify with regards to operating and managing the Data Center.	Please refer to Addendum No.2. SLA clarification is provided.	Responded
161.		Operation and Maintenance phase-Page93-	Kindly clarify with regards to warranty and SLA of Civil Work and Furniture for 5 years. Does it include the repair/maintenance of Furniture and Paint Work, Walls etc.	Please refer to Addendum No.2.	Responded
162.		Operation and Maintenance phase-Page- 94-	Bidder will also arrange multiple training programs consist on operation and maintenance skills of installed equipment. Please specify the scope of training and number of resources to be trained.	Please refer to Addendum No.2.	Responded
163.		Rack Power Distribution Unit-Page-102-	Three Phase PDU have been asked for, kindly clarify the rack load for these PDUs along with the quantity. Additionally, have these additional racks have been	Please refer to Addendum No.2	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
			catered for in the UPS sizing and the POD. Please clarify.		
164.		Fire Detection & Suppression System-Pag3-121	Please specify the locations where Fire Suppression System is required.	Please refer to Addendum No.2 & Uploaded Diagram on FBR Website.	Responded
165.		Addressable Fire Alarm Control Panel-Page121-	Do we need to install Fire Alarm System for the whole Facility? Please clarify.	Please refer to Addendum No.2 & Uploaded Diagram on FBR Website.	Responded
166.		VESDA-Page-122-	Please specify location for the where VESDA solution is to be deployed.	Please refer to Addendum No.2 & Uploaded Diagram on FBR Website.	Responded
167.		Video Wall Display-Page-150-	Please specify the size of Video Wall Matrix, i.e. 2x2, 3x3, 2x3 etc.	Please refer to Addendum No.2	Responded
168.		Cooling Unit	Cooling units for MMR and Stagging Room are not mentioned.	Please refer to Addendum No.2	Responded
169.		Power Cable	Main power Cable is not mentioned, is it the responsibility of the bidder to determine the size of cable? please clarify.	Main to Distribution Power Connectivity is through BTM. Please Refer to Addendum No. 02	Responded
170.			Can quote be submitted in foreign currency and payment made in PKR at the rate applicable at the time of each payment?	NO, Bid can be submitted only in PKR	Responded
171.			Please share JV/Subcon (civil, electrical, mechanical) detailed criteria	Please Refer to Addendum No.2	Responded
172.			Please share existing buildings details for dismantling	Detail has been provided to the bidders during the Site Survey Visit.	Responded
173.			Please share Fiber/Copper layout plan, network points etc.	Drawings are already uploaded on FBR Website in Tender Section.	Responded
174.			Please share earth pit finalized locations & plan	Please Refer to the Compliance sheet of Addendum No.2	Responded
175.			Please share existing architecture drawings	Autocad drawing of Datacenter Floor of the building is already uploaded on the FBR Site	Responded
176.			Please clarify MAF would be required for which products	MAF is required for all products and BOQ items	Responded

Sr. No	Page/ Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
177.			Please clarify if Fiber to be through MMR or outer	All the Fiber cable of ISPs shall be laid through MMR	Responded
178.	15.1	The currency(ies) of the Bid and the currency(ies) of payments shall be the same. The Bidder shall quote in the currency of the Purchaser's Country	Currency of Bid needs clarity, can we bid should be in \$ for both offshore part & on shore part, which will safeguard for any currency devaluation.	No, Bid Can only be submitted in PKR	Responded
179.	GCC 16.1	Payment Terms	Payment terms may allow 70% on delivery of equipment, multiple products has different type of installation / execution which may lead time very long. 30% upon operational acceptance	Please Refer to the Addendum No.2	Responded
180.	ITB.40.1	The weight of cost is 70%	Wight of technical should be greater than cost for reliability & sustainability, in current scenerio multiple OEM such as ATOM etc would be participating due to cheaper product	Please Refer to the Addendum No.2	Responded
181.	ITB 32.4	1. Bidder delivered OEM/ Manufacturer Datacenter solutions in last 10 years	Total Number of Jobs need to identify how many data Centers minimum deployed in last ten years	Please Refer to the Addendum No.2	Responded
182.		2. Product (Data center min of 10 IT racks) delivered by principal/OEM (Last ten (10) years)	How many total number of assignments executed in ten years	Please Refer to the Addendum No.2	Responded
183.		4. Relationship with OEM	Please explain is that Tier Level of partnership with OEM, secondly criteria for tier level	Please Refer to the Addendum No.2	Responded
184.		6. Rated/Tier-III Compliance design (Both sites)	Do we need provide design compliance documentation / certification as well from any of one authority TIA942 or Uptime Institute?	The Design Compliance to Tier-III/Rated-III (TIA 942) is required. However, Certification is not required.	Responded
185.	GCC 18.1	The amount of the Performance Security shall be: Ten (10) % of the Contract(s) Price in the shape of an unconditional and irrecoverable Bank Guarantee issued by any scheduled bank in Pakistan for the	Can we provide performance security till OEM Standard Warranty period or its required for period of SLA? Also please elaborate, do FBR required back to back OEM warranty or local SLA with Parts is acceptable?	All BOQ components are required with 05 Years Warranty & Support services w.e.f Project sign off date. Therefore, Performance Security is also required for a period of 05 Years. Further FBR requires BACK TO Back OEM Warranty with Part	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
		duration of the contract.		Replacement of all BOQ Components.	
186.	1 Project Background	PURCHASER intends to build a new Rated/Tier III compliant	shall we have to obtain design and build certification from uptime/TIA or we just have to comply ? If yes can we opt uptime for the certification ?	The Design Compliance to Tier-III/Rated-III (TIA 942) is required. However, Certification is not required.	Responded
187.	3. Electrical Connections	Electrical load sanction from IESCO and LESCO	Load sanctioning required on existing feeder or new feeder , if it is to be made on existing feeder what is operational sanction load as of today and what is the maximum consumption on existing feeder ?	New load sanction will be applied by vendor and FBR will support	Responded
188.	66. Incoming Main Transformer:	02 Transformers for path A and B	Since TIER-III requires 01 transformer , shall we comply TIER standard or your guidelines ?	In order to maintain N+1 Redundancy & High Availability, FBR requires two (02) Transformers.	Responded
189.	67. Generator	Genset Prime Power Rating 630KVA	Do we need to comply the mentioned prime rating or we should size the rating according to the load and standard requirement ? as normally TIER compliance object is DCC instead of Prime ,	The rating is calculated as per LOAD requirement and design. It is Standby Rating. Moreover, the requisite detail is already mentioned in Bill of Quantity Section VII, Schedule of Requirement at Page 227 Row No. 11 of the Published RFB.	Responded
190.	67. Generator	Make/Assembler	will you allow If same OEM having assembling factory in different country	Supply and the manufacturing of Generators should be the same country as the original/actual OEM established in country of origin. Moreover, the requisite detail is already mentioned in Section VII, Schedule of Requirement [Make/Assembler] at Page 125 of the Published RFB.	Responded
191.	67. Generator	Make/Assembler	Do you allow third part coupling of alternator and engine as there are many parameters mentioned in alternators specification those	Coupling of the Alternator should be the same country as the original/actual OEM established in country of	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
			are allowing third party coupling ?	origin. The requisite detail is already mentioned in Section VII, Schedule of Requirement [Alternator] at Page 125 of the Published RFB.	
192.	67. Generator	3 Pole MCCB/ ACB Temperature 50°C	what If an OEM provides internal an advanced protection in alternator instead of circuit breaker.	Please comply to the RFB Requirement	Responded
193.	ATS/AMS Panel:	ATS/AMS should be installed with automatic phase reversal protection panel.	Do you required only protection of the phase reversal or correction as well ?	Please comply to the RFB Requirement	Responded
194.	ATS/AMS Panel:	ATS should be integrated with DCIM	Please specify it bit further , only ATS module integration required only or complete switchgear including all breaker's status , visibility of energy meters etc.	The integration with DCIM is required holistically and completely which includes visibility of switchgear, ATS, all breaker's status , energy meters and all allied components.	Responded
195.	Installation & Testing	The load testing to prove the Prime Rating of the D.G Set	Please mention where to conduct the testing at site or at vendor premises	Factory testing is required	Responded
196.	Installation	All the LT Panels and Switchboards shall be Type Tested.	Please mention if same OEM requirement is mandatory for the components and panel ?	No. The manufacturer of LT Panel and Switchboard shall be certified by OEM for Type Testing.	Responded
197.	Bus Trunking System	Made of electrolytic copper 99.9%	Can we quote Copper contact instead of copper complying the desired voltage drop requirement ? As it's a commonly used technology around the globe.	Please Refer to the Addendum No.2	Responded
198.	Bus Trunking System	Housed in aluminum casing which act as an earth having louvers at sides	is it a mandatory requirement because Schneider Electric does not provide aluminum casing in bus way systems.	Please Refer to the Addendum No.2	Responded
199.	Bus Trunking System	IP68 CAST Resin for outdoor.	IP 68 normally used for submarine systems or for submersible applications , request is to please change the specs with IP 65 /66.	Please Refer to the Addendum No.2 IP 66 Accepted	Responded
200.	2. General Scope of work	Pre shipment inspection and training of critical physical infrastructure	Does it imply that Factory Acceptance Test is required? If yes how can it be managed since different products have different manufacturing facilities	Please refer to Addendum No.2. Further, Bidder/OEMs has to comply the requirement.	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
		(Cooling, UPS, PDU, DCIM etc.) at factory and international training center. (Total 2 persons)			
201.	Racks	Static & Dynamic Rating	Static Rating mentioned is very high. Please share load calculation. Generally 1000-1200 kg is enough for 5-6kW IT load Dynamic rating is also very high. Generally 500-600kg is enough for 5-6kW IT load as racks are seldom moved when loaded. Please accept 1000-1200kg static and 500-600kg dynamic	Please Refer to the Addendum No.2	Responded
202.	Racks	Material Requirements	All weight bearing components shall be constructed from steel with a thickness no less than > 1.2mm is required however 1mm thickness is enough for the given IT load. Please also accept 1mm	Please Follow as required in RFB	Responded
203.	Racks	It is an optional feature, Multiple authentication methods are required and IC card swapping feature.	Is this required for all racks? Server Room, Meet-me, Staging? When server room access control is provided, is per rack access needed? APC provides RFID card option only. Please accept it	As, it is an optional feature, however, Finger Print & IC card will be preferable.	Responded
204.	Hot / Cold Aisle Containment System	Minimum Light Transmission 85% or greater.	APC provides $\geq 82\%$ minimum light transmission as per ASTM D1003. Please accept this as 85% is very specific.	Please Refer to the Addendum No.2 82-85% is permitted	Responded
205.	Hot / Cold Aisle Containment System Sensor and camera	Reserved hole & ceiling drop down	Usually one of the fire suppressant propagating methodology is used. Either a reserved hole nozzle insertion method or a ceiling drop down/rotation. Are both really required together for this site or any one is acceptable?	Collapsible required, nozzle hole is optional	Responded
206.	Rack Power Distribution Unit	Output Connections	C13 ≥ 12 & C19 ≥ 3 outlets are requested whereas usually 24 outlets are suitable for a 42U rack. Please double check this as to why such low number is asked for?	These are only minimum required	Responded
207.	Uninterruptible	Hot swappable	Hot swappability is discouraged by UL, IEC, OSHA and NFPA. APC offers "Live Swap"	Please Refer to the Addendum No.2	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
	Power System		technology which is safe to use as per these standards. Please also accept "live swap"		
208.	Uninterruptible Power System	Capacity	Clarity required on UPS & module capacity. 25kW modules don't add up to 160kW. Also in BOQ 30-60kW module rating is mentioned.	These are only base values	Responded
209.	Uninterruptible Power System	Backup	The UPS is requested to be sized for 30 mins backup at 0.9 power factor. $160kVA \times 0.9 = 144kW$ where as total load is 158kW. The UPS shall be sized for 158kW load. Please correct this. Moreover, 30 min backup is required when both UPS are sharing load between path A and path B OR single UPS when path redundancy is lost?	160KW is minimum load, please follow as per required, 30 min Backup required for each UPS	Responded
210.	Uninterruptible Power System	Capacitor running life	APC UPS can detect capacitor change life based on number of years through Life Cycle Monitoring feature. The mentioned capacitor monitoring is very specific so please neutralize this.	Multiple OEMs are providing this feature, if APC lags capacitor monitoring technology then state capacitor life expectancy	Responded
211.	Uninterruptible Power System	System capacity	RFP requirement is 305V ~485 V, whereas SE complies 304V ~ 477V. Voltage needs to be normalized	Please Refer to the Addendum No.2	Responded
212.	Uninterruptible Power System	Lithium Ion Type	SE offers LMO+NMC type which has better Specific Energy than LFP type mentioned in the RFP.hence type needs to be modified. Please accept LMO+NMC too	Please Refer to the Addendum No.2	Responded
213.	Uninterruptible Power System	Lithium Ion Test	Cells acupuncture test report is requested which is a specific test not performed by all OEMs. Instead we will provide test report for UL9540A compliance which is the strictest fire code for Energy Storage Systems but not requested in the RFP. Please accept this	Multiple OEMs are providing this test, if APC don't have capacity to provide this test then UL9540A is permitted	Responded
214.	Uninterruptible Power System	Lithium Ion Protection Level	RFP requirement is IPX1 lithium ion cabinet which is specific. Like all other indoor equipment, please allow IP20 protection	IPX1 is generic standard, IP20 is also permitted	Responded
215.	Uninterruptible Power System	Fire protection system	Fire protection system built-in within cabinet or module level is managed by cell level and module level fuses. Fire	UL9540A is accepted	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
			suppression sysem is not required by Schneider lihtium ion cabinets due to compliance to UL9540A.		
216.	Uninterruptible Power System	5x Years Warranty for HW		5x Year OEM Back to Back warranty along with part replacement	Responded
217.	Modular Power Distribution for UPS Output	Color Display	RFP requirement is of color display which is not fulfilled by all OEMs, therefore this clause needs to be modified/neutralized	Please Refer to the Addendum No.2	Responded
218.	UPS for NOC, SOC, System Room, Network Room and other IT load	System input	RFP requirement is 305V ~485 V, whereas SE complies 342V ~477V at 100% load and down to 150VAC at 30% load. Voltage needs to be normalized	Please Refer to the Addendum No.2	Responded
219.	Battery	80% DoD > 400 cycle requirement	SE offers 50% DoD > 300 cycle with Exide batteries as the UPS does not discharge batteries at 80% DOD. therefore clause needs to be neutralized.	Please Follow as required in RFP	Responded
220.	Cooling Units for Data Center	30-35 KW or higher sensible cooling 24-29KW at 46C ambient / outdoor temperature	As per ASHRAE for Lahore Extreme annual temperature (n=5) is 45.4°C and For Islamabad it is (n=5) 44.9°C . Please allow to calcualte on the same	Please comply as required	Responded
221.	Cooling Units for Data Center	Reheat Capacity	Reheat Capacity for APC 300mm unit is 3kW. Please allow this to accomadate specs variations of different OEMs	3KW is permitted	Responded
222.	Cooling Units for Data Center	SPD must be equipped inside	Needs to modify since SE offer external SPD	SPD required built-in or external, both are accepted	Responded
223.	Cooling Units for Data Center	Outdoor flooded receiver package for ambient temperatures down to -40C/-40F.	Flooded receiver is not required for Islamabad and Lahore as the temperature does not drop below -40 Degree C	Flooded receiver required as per RFB	Responded
224.	Auto Water Leak detection system		Need clarity on Auto water detection , which parts of the DC infrastructure requires auto water leak detecion system. Is leak detection with indoor units is enough as it can cover all leakgae prone areas. OR is the requirement comprises of a	Areas already mentioned in RFB, leak detection sytem integrated with DCIM	Responded

Sr. No	Page/Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
			stand alone leak detection system		
225.	Cooling Unit for Power Rooms	Must have Dual input power	Please also allow external dual supply	Please Refer to the Addendum No.2	Responded
226.	Cooling Unit for Power Rooms	Touch Screen Display	RFP requirement is of touch screen display which is not fulfilled by all OEMs, therefore this clause needs to be modified/neutralized	Please Refer to the Addendum No.2	Responded
227.	Security & Surveillance System	Security & Surveillance System	Any specific Brand requirement for Surveillance System? Chinese/European?	Please Refer to the Addendum No.2	Responded
228.			What type of IP cameras require? Fixed Lens or Varifocal lens?	Please Refer to the Addendum No.2	Responded
229.			Please specify the application / installation locations for thermal cameras.	Please Refer to the Addendum No.2	Responded
230.			Can we provide Network Video Recorder instead of SAN storage for Video Recording solution?	Please Refer to the Addendum No.2	Responded
231.			What type of integration require with DCIM? Can we provide links within DCIM to access the respective software?	Please Refer to the Addendum No.2	Responded
232.			Please provide AutoCAD drawings for clear view and detailed understanding.	Autocad uploaded on FBR portal	Responded
233.			Roof Top Camera can be installation. 10 feet Pole required for Roof Top cameras?	Please Refer to the Addendum No.2	Responded
234.			Camera Required For Power Room, transformer Room, Genset Area?	Please Refer to the Addendum No.2	Responded
235.			Camera required for Main Gate?	YES	Responded
236.	Access Control System	Access Control System	Any specific Brand requirement for Access Control? Chinese/European?	Please Refer to the Addendum No.2	Responded
237.			Only standalone 4 in 1 devices require for Access Control System? Or do we need to provide Access Controllers along with 4 in 1 devices as well?	Please Refer to the Addendum No.2	Responded

Sr. No	Page/ Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
238.			What type of integration require with DCIM? Can we provide links within DCIM to access the respective software?	Please Refer to the Addendum No.2	Responded
239.			Access Control Required for Power Room and transformer Room?	Please Refer to the Addendum No.2	Responded
240.			Please provide AutoCAD drawings for clear view and detailed understanding.	Autocad uploaded on FBR portal	Responded
241.	Video Wall Display	Video Wall Display	Any specific Brand requirement for NOC & DOC Video Walls? Chinese/European?	Please Refer to the Addendum No.2	Responded
242.			What are the total no of screens require per video wall? or please specify the required matrix (MxN).	Please Refer to the Addendum No.2	Responded
243.			For Multiple Inputs requirement, what are the minimum no. of Inputs (HDMI/DVI) require per controller for Video Wall?	Please Refer to the Addendum No.2	Responded
244.			Please provide AutoCAD drawings for clear view and detailed understanding.	Autocad uploaded on FBR portal	Responded
245.	Passive Equipment	Passive Equipment.	Redundancy is required. Please share If there are any special requirements?	Please Refer to the Addendum No.2	Responded
246.			Please share requirements for the rack connectivity in DC room Rows and PODs and distribution Rack connectivity with MMR1 and MMR2 Racks.	Please Refer to the Addendum No.2	Responded
247.			All rooms NOC, SOC , Network Teams etc. connectivity/ Termination will be done in MMR1 & MMR2? Or in DC Passive/ distribution racks.	In MMRs	Responded
248.	Lahote Site Civil Works	1. The roof height of whole facility is 10' and there are 4 beams 1-1/2' dropped in DC area. In this regard following approach is required a. Network and power trough over the rack can be used instead of cable trays. b. False ceiling cannot be used in	Kindly comment on civil works constraints after site survey of Lahore Site done	Lahore site required partially compliant to Rated-III keeping in view the civil works challenges. Please make adjustments according to site	Responded

Sr. No	Page/ Section	Clause No/Description	Description of the Bidder Query	FBR Response	Query Status
		DC, Power Rooms and Staging areas. c. All services like HVAC, FSS, CCTV, ACS etc. must be designed precisely to overcome the challenge of roof height.			
249.		2. The floor is level up in some rooms, after walls dismantling for reconstruction of facility floors screeding is required to maintain the level. Tiles for whole facility may be required to level the floor.	Kindly comment on civil works constraints after site survey of Lahore Site done	Please make adjustments according to site	Responded
250.		3. NOC and Conference Room areas floor is 2' lower than the facility, which is required to be leveled. In this regard back filling specification if any from client is required.	Kindly comment on civil works constraints after site survey of Lahore Site done	sand, Gravel and crushed stone	Responded
251.		4. Gen-Set and transformer room area working is required as the space is very congested, we need to layout the space according to actual proposed equipment dimensions.	Required documentation	Please proceed with equipment dimensions	Responded