

Civil Aviation Regulatory commission (CARC) wants to purchase, Install, operate and Commission Two Uninterruptable Power Supply (UPS) with the following Technical Specifications:

1. Technical specifications of Modular UPS (20KVA)

1.1. General

This specification is for a three-phase, on-line, continuous operation, solid-state UPS. The UPS shall operate as an active power control system, working in conjunction with the building electrical system to provide power conditioning and on-line power protection for the critical loads.

The supplier shall supply, install and commission UPS at King Hussein International Airport / Tower Building. In addition to installation of the related electrical works (Electrical Distribution Board with its connections to serve UPS loads)

Training proposal should be submitted for at least five (5) CARC employees to maintain the offered UPS includes location, material and hours needed for such training. The training shall cover UPS theory, location of subassemblies, safety, battery considerations and UPS operational procedures.

Two separate offers (technical and financial includes sales tax) should be submitted

1.2. System description:

- The UPS shall support installation with 4-wire (L1, L2, L3, N, PE) WYE.
 - The UPS shall contain a static bypass switch and a display.
 - The UPS shall be using a modular design in which power functions, static bypass, battery and system control are embedded in modules for optimal MTTR.
 - Battery Runtime shall be at least 120 minutes at current load of (5KVA).
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1.3. Specification Compliance Table

General			Comply (Yes / No)	Score	Comments
1	UPS Capacity	20 KVA			
2	Input / Output connection	3ph/3ph			
3	Type Topologies	True online double conversion technology			
4	System architecture	Modular design			
5	Efficiency in double conversion mode	≥ Up to 93% in Online mode, 97% in ECO mode			
6	Inverter / rectifier topology	Transformer – free, IGBT with PWM			
7	Brand	Well-known brand, European preferred			Highest score for European
8	Origin	European preferred			Highest score for European
9	Related Electrical works	Distribution Board, CBs, Cables..			
Input					
10	Rated voltage	400V 3-phase (adjustable for 380V or 415V 3-phase)			
11	Frequency	50 HZ			
12	Input Frequency Range	45Hz-66Hz,			
13	Power factor	> 0.99 at full load			
Output					
14	Nominal voltage	400V 3-phase (adjustable for 380V or 415V 3-phase)			
15	Voltage Regulation	±2%			
16	Frequency	50 HZ			
17	Power factor	≥ 0.9			
18	(THDU%)	<3%			
19	Overload capability / Inverter	110%: ≥05 Minutes 125%: ≥01 Minutes 150%: ≥10 Seconds >150% : 100ms			
Battery					

20	Type	Maintenance-free VRLA batteries (AGM)			
21	Soft start capability	Yes			
22	Backup time	≥ 120 min @5KVA Load			
23	Date of production	≤ 4 Months			
24	Lifetime	≥ 5 years			
25	Battery Technology	Smart Advanced Battery Management Technology			
26	Battery test	Automatic battery test			
Connectivity and function extensions					
27	Front panel	Graphical LCD			
28	SNMP Card	For Remote Monitoring			
Environmental					
29	Operating temperature range	0 °C to 40 °C			
30	Audible noise at (1) meter	≤ 55 (dBA) at normal mode			
Standards and certifications					
31	Safety	IEC/EN 62040-1			
32	Electromagnetic compatibility (EMC)	IEC/EN 62040-2			
33	Approvals	CE, CB report (TUV)			
34	WARRANTY	Two years			
35	The supplier should be a certified service center (provide the certificates)				
36	The supplier should have a trained engineer on the same UPS (provide the certificates)				
37	The supplier should be distributor for the UPS Brand in Jordan (provide the certificates)				
38	The supplier should Provide a List of References in Jordan				
39	Total				

Note: The "Score" section is designated for CARC assessment only. Vendors should complete only the "Comply (Yes/No)" column. If the response is "Partially Comply," please provide additional comments in the "Comment" column.

2. Technical specifications of UPS (6KVA)

2.1. General

- This specification is for a single-phase, solid-state, uninterruptible power system. The UPS shall operate as an active power control system, working in conjunction with the building electrical system to provide power conditioning and on-line power protection for the critical loads.

- The supplier shall supply, install and commission UPS at AQABA / DVOR Station. In addition to installation of the related electrical works (Electrical Distribution Board with its connections to serve UPS loads).

2.2. Specification Compliance Table for 6KVA UPS

General			Comply (Yes / No)	Score	Comments
1	UPS Capacity	6 KVA			
2	Input / Output connection	1ph/1ph			
3	Type Topologies	True online double conversion technology			
4	Efficiency in double conversion mode	≥ Up to 93% in Online mode, 97% in ECO mode			
5	Inverter / rectifier topology	Transformer – free, IGBT with PWM			
6	Brand	Well-known brand, European preferred			Highest score for European
7	Related Electrical works	Distribution Board, CBs, Cables..			
Input					
8	Rated voltage	220-240 VAC			
9	Frequency	50 HZ			
10	Input Frequency Range	45Hz-66Hz,			
11	Power factor	> 0.99 at full load			

Output					
12	Nominal voltage	220VAC with additional selectable range not exceed 240VAC			
13	Voltage Regulation	±2%			
14	Frequency	50 HZ			
15	Power factor	≥ 0.9			
16	(THDU%)	<3%			
17	Overload capability / Inverter	125% 1 minute; 150% 10 seconds			
18	Low harmonic distortion of the output With nonlinear loads	< 3%			
19	Low harmonic distortion of the output with linear loads.	<1%			
Battery					
20	Type	Maintenance-free VRLA batteries (AGM)			
21	Soft start capability	Yes			
22	Backup time	10 min. @ full load			
23	Date of production	≤ 4 Months			
24	Lifetime	≥ 5 years			
25	Battery Technology	Smart Advanced Battery Management Technology			
26	Battery test	Automatic battery test			
Connectivity and function extensions					
27	Front panel	Graphical LCD			
28	SNMP Card	For Remote Monitoring			
Environmental					

29	Operating temperature range	0 °C to 40 °C			
30	Audible noise at (1) meter	≤ 55 (dBA) at normal mode			
Standards and certifications					
31	Safety	IEC/EN 62040-1			
32	Electromagnetic compatibility (EMC)	IEC/EN 62040-2			
33	Approvals	CE, CB report (TUV)			
34	WARRANTY	Two years			
35	Total				

Note: The "Score" section is designated for CARC assessment only. Vendors should complete only the "Comply (Yes/No)" column. If the response is "Partially Comply," please provide additional comments in the "Comment" column.