BID EVALUATION REPORT

TENDER FOR SUPPLY & INSTALLATION OF 1500 kVA GENERATING SETS (TWO UNITS), 1500 kVA TRANSFORMERS (TWO UNITS), 625 kVA UPS FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI.

1.	Name of Procuring Agency:	Jinnah Postgraduate Medical Centre, Karachi.
2.	Tender Reference No.	Tender No.F.1-349/2016-17-(P&D)/JPMC
3.	Tender description / Name of work / item.	Supply & Installation of 1500 kVA Generating Sets (Two Units), 1500 kVA Transformers (Two Units), 625 kVA UPS for Surgical Complex at Jinnah Postgraduate Medical Centre, Karachi.
4.	Method of Procurement:	Single Stage - Two Envelope Procedure.
5.	Tender Published:	The Daily English "The Nation" Dated 26-04-2017, The Daily Urdu "Daily Duniya" Dated 26-04-2017, The Daily Sindhi "Daily Sobh" Dated 28-04-2017, vide NIT Advertisement No. INF/KRY-2269/2017 As well as same NIT was also hoisted on SPPRA official website.
6.	Total Bid documents Sold:	(11)
7.	Total Bids Received:	(06)
8.	Technical Bid Opening date:	18-05-2017
9.	No. of Bid technically qualified:	(05)
10.	Bid (s) Rejected:	Nil
11.	Financial Bid Opening date	03-06-2017
12.	Bid Evaluation Report:	Details Attached as Annexure-I

dul (kr)id Chabbir) Mile Chabbir) Mile Chabineer (Nespak), Karachi

Co-Opted Men om Nespak, Karachi

(Dr. Abdul Japhar Memon) Member & Deputy Director (Dev) Representative from Health Department, Govt. of Sindh, Karachi

(Dr. Yahya Khar Tunio hie Secretary/Member & Deputy Director Jinnah Postgraduate Medical Centre, Junnah Pos Kladen

Member & Accountant Ge Karachi

(Mr. Abdul Rasheed Shaikh) / Energy-I

Member & Executive Engineer (Energy-I)

Representative from Works & Services Department (E/M Division)

(Prof. Tario Material Polos)

Chairman & Head of Radiology Cobera nife & Orcology Department

Jinnah Postgraduale Macdical Centre, Karachi

Head Department

Cypethile Robotic Huush Ostukung tagan

BID EVALUATION REPORT

(1)

TENDER FOR SUPPLY & INSTALLATION OF 1500 kVA GENERATING SETS (TWO UNITS)FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI.

Sr. No.	Name of Firm or Bidder	Cost offered by the bidder	Ranking in terms of cost	Comparison with Estimated cost	Reasons for acceptance / rejection	Remarks.
1	2	3	4	5	6	7
1.	M/s Allied Engineering & Services (Pvt.) Ltd.	PKR Rs.76,440,790/-	1 st lowest	Within Estimated cost	Meets the required technical specification.	Accepted
2.	M/s Greaves Pakistan (Pvt.) Ltd.	Rs 117,618,196/-	2 nd Iowest	Above Estimated cost	Meets the required technical specification.	Not Accepted
3.	M/s R.A Engineering & Services (Pvt.) Ltd.	N/A	N/A	N/A	Does not meet the bid evaluation and required technical specification, hence not qualified technically.	Not Accepted

(Mr. Abdul M. Jid Strabbir). Co-Opted Member & Schior Fordined (Wespak), Karachi Represidation (Mr. Abdul Mespak), Karachi

(Dr. Abduttabbar Memon) Member & Deputy Director (Dev) Representative from Health Department, Govt. of Sindh, Karachi

(Dr. Yahya Khan Tamio) call Centre Secretary/Member & Deputy Director Jinnah Postoradireto Malare Jinnah Postgraduate Medical Centre, Karachi Adra

Member & Repre Accountant General , Karachi

(Mr. Abdul Rasherd Shaikh) / Energy-I Member & Executive Engineer (Energy-I)

Representative from Works & Services Department (E/M Division)

Rasheed Shaikh)

Executive Engineer

(Prof. Tariq Mahnology Chairman & Head of Radiology Cyberk and & Oncology Department Jinnah Postgraduate Medical Centre, Karachi

BID EVALUATION REPORT

(2)

TENDER FOR SUPPLY & INSTALLATION OF 1500 kVA TRANSFORMERS (TWO UNITS)FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI.

Sr. No.	Name of Firm or Bidder	Cost offered by the bidder	in terms of cost	Comparison with Estimated cost	Reasons for acceptance/rejection	Remarks.
1	2	3	4	5	6	7

Co-Opted Membe ineer (Nespak), Karachi from Nespak, Karachi

Rasheed Shaikhl (Mr. Abdul Rasheed Shaikhi) al / Energy-I Member & Executive Engineer (Energy-1) hi Representative from Works & Services Department (E/M

Division)

(Dr. Abbuttabbar Memon) Member & Deputy Director (Dev) Representative from Health Department, Govt. of Sindh, Karachi

(Dr. Yahya Khan Timio Jolical Centre Secretary/Member & Deputy Director Jinnah Postgraduato Medical Centre, Karachi

Member & Rep Accountant General

(Prof. Tariq Mahmadat John Radiology)

Chairman & Head of Radiology, Cyberkhilian & Oncology Department

Jinnah Postgradu & Medican Cantraga Karachi

Head in Postgradu Postgra

BID EVALUATION REPORT

(3)

TENDER FOR SUPPLY & INSTALLATION OF 625 kVA UPS FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI.

Sr. No.	Name of Firm or Bidder	Cost offered by the bidder	Ranking in terms of cost	Comparison with Estimated cost	Reasons for acceptance/rejection	Remarks.
1	2	3	4	5	6	7
1.	M/s Greaves Pakistan (Pvt.) Ltd.	PKR Rs.26,224,858/-	3 rd Lowest	Within Estimated cost	Meets the required technical specification.	Accepted as 3 rd lowest
2.	M/s Bios	PKR Rs.19,745,855/-	1 st lowest	Within Estimated cost	Meets the required technical specification.	Accepted as 1st lowest
3.	M/s Net- Line (PK)	PKR Rs.21,977,949/-	2 nd lowest	Within Estimated cost	Meets the required technical specification.	Accepted as 2 nd lowest

gino Engines (achte) e figniblespak, Karachi Co-Opted MA Represina

> (Dr. Yahya Khan Tining) Centre Secretary/Member & Deputy Director Jinnah Postgraduate Medical Centre, Jinna Karachi

Member & Accountant G Karachi

(Mr. Abdul Kashwett Shaikh Energy-I

Member & Executive Engineer (Energy-I)

Representative from Works & Services Department (E/M Division)

heed Shaikhl

(Dr. Abyu (Yabbar Memon) Member & Deputy Director (Dev) Representative from Health Department, Govt. of Sindh, Karachi

(Prof. Tariq Medicio Oncology Chairman & Head of Radio of Chairman & Postgraduate Medical Centre, Karachi

FINANCIAL COMPARATIVE STATEMENT

(1)

TENDER FOR SUPPLY & INSTALLATION OF 1500 kVA GENERATING SETS (TWO UNITS) FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI.

Financial C.S. Tender No.F.1-349/2016-17-(P&D)/JPMC	Fin	ancial Bid opened on 03-06-2017
Status of the Bidder(s) as per the Rate Quoted	1st Lowest	2 nd Lowest
Name of Firm	Allied Engineering & Services	Greaves Pakistan Services
	(Pvt.) Ltd.	(Pvt.) Ltd.
Make	USA	France
Model	CAT 3512B, 1500 kVA/1200 eKW	KD 1650-F, 1500 kV A/1200 eKW
Sole Agent / Authorized Dealer of Manufacturer	Yes (Caterpillar)	Yes (Kohler SDMO)
Unit Price CFR US\$	US\$ 205,000/-	US\$ 385,244/-
	Equivalent to Pak Rupees	Equivalent to Pak Rupees
	Rs. 21,463,500/-	Rs. 40,450,680/-
Two Units Price CFR US\$	US\$ 410,000/-	US\$ 770,488/-
	Equivalent to Pak Rupees	Equivalent to Pak Rupees
	Rs.42,927,000/-	Rs.80,901,360/-
Schedule Work	Rs. 33,513,790/-	Rs.36, 716, 836/-
Two Units Price + Schedule Work	Rs. 76,440,790/-	Rs. 117,618,196/-

Co-Opted Members Benjaming meer (Nespak), Karachi
Representative from Nespak, Karachi

(Mr. Abdul Rasheed Shaikhanneer Member & Executive Engineer (Energy I) Representative from Works & Services Department (E/M Division)

Member &

(Dr. Yahya Khan Tunfo)

Secretary/Member & Deputy Director Jinnah Postgraduate Medical Centre, Karachi

(Prof. Tarin Mahmood Chairman & Head of Radiology, Cyberleh fewer Queology Department Jinnah Postgraduate Wedayan Centre, Karachi

(Dr. Abdul Jabbar Memon) Member & Deputy Director (Dev) Representative from Health Department, Govt. of Sindh, Karachi

FINANCIAL COMPARATIVE STATEMENT

(2)

TENDER FOR SUPPLY & INSTALLATION OF 1500 kVA TRANSFORMERS (TWO UNITS) FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI.

Financial C.S. Tender No.F.1-349/2016-17-(P&D)/JPMC

Financial Bid opened on 03-06-2017

No Bidder Participated

Co-Opted NR Senio (Pagineer (Nespak) at Action Nespak, Karachi ngineer (Nespak), Karachi

(Dr. Abdul Jabbar Memon) Member & Deputy Director (Dev) Representative from Health Department, Govt. of Sindh, Karachi

(Mr. Abdul Raskeed Shaikh) Member & Executive Engineer (Energy-1) Representative from Works & Services Department (E/M Division)

(Dr. Yahya Khan Tunio) Secretary/Member & Deputy Director Jinnah Postgraduate Medical Centre, O' Karachio

Member & Accountant Windh), Karachi

(Prof. Tario Mahmood), Koron Chairman & Head of Radiology, Control & Oncology Department Jinnah Posteraduale Medical Centre, Karachi

FINANCIAL COMPARATIVE STATEMENT

(3)

TENDER FOR SUPPLY & INSTALLATION OF 625 kVA UPS FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI.

Financial C.S. Tender No.F.1-349/2016-17-(F	2&D)/JPMC	Financial Bid opened on 03-06-2017		
Status of the Bidder(s) as per the Rate Quoted	1st Lowest	2nd Lowest	3rd Lowest	
Name of Firm	M/s Bios.	M/s Net-Line (PK)	M/s Greaves Pakistan Services (Pvt.) Ltd.	
Make	Germany	Italy	Finland	
Model	UPS-MAK Level Series	MASTERYS GP-Green Power 2.0	EATON 93 PS/EATON 93 PM	
Sole Agent / Authorized Dealer of Manufacturer	Yes (MAK)	Yes (Socomec)	Yes (EATON)	
Total Price CFR including schedule work	Euro 168,150/-	US\$ 209,913.55	US\$ 250,476.19	
Equivalent to Pak Rupees	Rs. 19,745,855/-	Rs. 21,977,949	Rs.26,224,858/-	

(Mr. Abdul Kasheed Shaikh Engineer Member & Executive Engineer (Energy-1) gy-1

Representative from Works & Services Department (E/M

Division)

Horneer (Nespak), Karachi rom Nespak, Karachi

> (Dr. Yahya Khan Tunio) Secretary/Member & Deputy Director Jinnah Postgraduate Medical Centre, Jinnah Karachi

Member Sindh), Karachi

(Prof. Tarig Mahmoods 110 (Prof. Tarig Mahmo

(Dr. Abdul Janbar Memon) Member & Deputy Director (Dev) Representative from Health Department, Govt. of Sindh, Karachi

Dated 03-06-2017

SUBJECT:-

MINUTES OF THE MEETING REGARDING THE OPENING OF FINANCIAL BIDS FOR THE TENDER FOR "SUPPLY & INSTALLATION OF 1500 kVA GENERATING SETS (TWO UNITS), 1500 kVA TRANSFORMERS (TWO UNITS) AND 625 kVA UPS FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI FOR THE YEAR 2016-17.

A meeting of Procurement Committee was held on 03-06-2017 at 11:00 AM under the chairmanship of Chairman Procurement Committee at Hall-C, Najamuddin Auditorium, JPMC, in order to undertake the Financial Appraisal for 1500 kVA Genset (02 Units) of "M/s Allied Engineering & Services (Pvt.) Ltd. and "M/s Greaves Pakistan (Pvt.) Ltd." and for 625 kVA UPS of "M/s Greaves Pakistan (Pvt.) Ltd., M/s Bios and M/s Net-Line (PK)" who has qualified technically against the Government of Sindh, Jinnah Postgraduate Medical Centre's Tender regarding procurement of subject matter.

The following members were present at the time of opening Bids:

1. Prof. Tariq Mahmood, Head of Radiology, Cyberknife & Oncology Dept., JPMC, Karachi.

(Chairman)

2. Dr. Yahya Khan Tunio,

(Secretary /Member)

Deputy Director, JPMC, Karachi. 3. Dr. Abdul Jabbar Memon,

(Member)

Deputy Director (Dev), Representative from Health Department. Govt. of Sindh. Karachi.

4. Representative from Works & Services Dept. (E/M Division). Representative from Accountant General (Sindh) Karachi.

(Member) (Member)

6. Representative from NESPAK, Karachi.

(Co-opted Member)

Cataly Director (Dev.1)

The following Firm(s) representative were present at the time of opening Bids:

For 1500 kVA Genset (02 Units)

For 625 kVA UPS

M/s Greaves Pakistan (Pvt.) Ltd.

M/s Bios

M/s Net-Line (PK)

M/s R.A. Engineering & Services (Pvt.) Ltd.

ABDUL MAID SHABBIR

5 kVA UPS Senior Engineer (Electrical) NESPAK (A&P DIV), Karachi

PROF. Dr. MEBS, DNRO ORCHOR
Head Department of Radiology Oncolor Mesa versadiato Modical Contre Karach una umana sanoanda danca (saute ka se)

The Chairman Procurement Committee announced the technical evaluation report with the reasons for acceptance / rejection of bids and returned the sealed financial proposals to firms who disqualify technically.

Executive Engineer Electrical / Energy-l Karachi

Debrity Prector Property Prector

Dr. Abdul Jabbat Sistant Accounts Officer the Accountant General sindh Karachi

The Bid(s) was opened in presence of the firm's participants and the rates quoted by the Bidder(s) was read aloud and encircled by the Chairman of the Procurement Committee. All the members of the Procurement Committee signed each & every page of Financial Proposals.

The comparative statement of the Bid(s) announced in the meeting attached as "Commercial C.S.".

Meeting ended with the vote of thanks to the chair.

Co-Opted Moniber of From Nespak, Karachi
Reported to Report of From Nespak, Karachi

asheed Shaikh (Mr. Abdul Member & Executive Engineer (Energy-I)

Representative from Works & Services Department (E/M

Division)

(Dr. Abdul anbar Memon) Member & Deputy Director (Dev) Representative from Health Department, Govt. of Sindh, Karachi

(Dr. Yahya Khan Tonio) Secretary/Member & Departy Director Jinnah Postgraduate Medical Centre, Karachi

Member & Repres Accountant Gener

(Prof. Tariq Malanood)

Chairman & Head of Radiology, CyberReffe & Oncology Department Jinnah Postgraduate Medical Centre, Karachi

PROCUREMENT COMMITTEE ATTENDANCE SHEET

Dated the 03rd June, 2017

SUBJECT:-

OPENING OF FINANCIAL BIDS FOR THE TENDER "SUPPLY & INSTALLATION OF 1500 kVA GENERATING SETS (TWO UNITS), 1500 kva transformers (two units) 625 kva ups for surgical COMPLEX THROUGH DEVELOPMENT SCHEME "PROVISION OF EQUIPMENT FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI" FOR THE YEAR 2016-17.

S.No.	NAME & DESIGNATION	SIGNATURE
	Prof. Tariq Mahmood,	
1.	Head of Radiology, Cyberknife & Oncology Dept., JPMC, Karachi.	10/
	(Chairman)	7 00
	Dr. Yahya Khan	1 1 1 m
2.	Deputy Director, JPMC, Karachi	
	(Member/Secretary)	134
	Dr. Abdul Jabbar Memon	
3.	Deputy Director (Dev),	14
	Representative from Health Department, Govt. of Sindh. Karachi.	
	(Member)	
	Mr. Abdul Rasheed Shaikh	abdul Roston
4.	Executive Engineer (Energy-I)	Exer due lon
	Representative from Works & Services Department (E/M Division)	Gastifical / Er
	(Member)	Kanchi
	Representative from Accountant General (Sindh)	11/1/
5.	(Member)	MUHAMMAD WASIULL
		Assistant Accounts Office of the Accountant Ger
_	Abdul Majid Shabbir	A CIA - War
6.	Senior Engineer	ABBIR
	Representative from Nespak (E/M Division)	ABDUL MAID SHABBIR ABDUL MAID SHABBIR
	(Co- Member)	MAJIL (Elect arec

PROF. Dr. TARIS ONER. Head Children of Radiology Abekula kondic kaduzni Gelile i ik orur Mutah bozlikadiku ilisi ori Gelile i ik orur

BIDDERS ATTENDANCE SHEET

Dated the 03rd June, 2017

SUBJECT:-

OPENING OF FINANCIAL BIDS FOR THE TENDER "SUPPLY & INSTALLATION OF 1500 kVA GENERATING SETS (TWO UNITS), 1500 kVA TRANSFORMERS (TWO UNITS) 625 kVA UPS FOR SURGICAL COMPLEX THROUGH DEVELOPMENT SCHEME "PROVISION OF EQUIPMENT FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI" FOR THE YEAR 2016-17.

S.No.	NAME OF FIRM(S)	FOCAL PERSON NAME	CONTACT NO.	SIGNATURE
1.	Allied Engineering & Services (Pvt.) Ltd.	MINGEN A. KNOSKI	0342-2329301	(
2.	Greaves Pakistan (Pvt.) Ltd. (For Generating Sets)	Almed Risa	(3)2793701	6
3.	RA Engineering & Services Pvt. Ltd.	Faraz M. 106	0334-331632	July Ce
4.	Greaves Pakistan (Pvt.) Ltd. (For 625 kVA UPS)	Ahmed RASA	0321253/070	8
5.	M/s Bios	Ac Alma	0324 26 58974	4
6.	Net-Line (Pvt.) Ltd.	Umair Zavany	6333-3096903	+5

(Mr. Abdal Majja Walthey (Mr. Abdal Majja Walthey) o-Opted Member & Senja Lingia er (Maspak), Karachi Representativa from Research, Karachi

(Dr. Abdul Jabbar Memon) Member & Deputy Director (Dev) Representative from Health Department,

Govt. of Sindh, Karachi

(Dr. Yahya Khan Tunio)

Secretary/Member & Deputy Director Jinnah Postgraduate Medical Centre,

Karachi

(Mr. Abdul Rasheed Shaikh)Energy-

Member & Executive Engineer (Energy-I)

Representative from Works & Services Department (E/M Division)

Member & Representative from

Member & Representative from Accountant Gene (1.35), h), Karachi

(Prof. Taxio Mathews 1999)

Chairman & Head of Radiology Cyberknite & Oncology Department

Jinnah Postgraduate Medical Centre, Karachi

Che Huis bestantini 1660;

TECHNICAL EVALUATION REPORT (As per details provided by the participants / bidders)

(1)

TENDER FOR SUPPLY & INSTALLATION OF 1500 kVA GENERATING SETS (TWO UNITS) FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI.

	Supply & Installation of 1500 kVA Generating		· .	nah Postgraduate Med	dical Centre, Karachi.
	Technical Comparative Statement of Tender	No.F.1-349/2016-17-(P&	&D)/JPMC	(Opened on 18-05-2017
S. No.	Specifications/Requirements	M/s Allied Engineering & Services Works (Pvt.) Ltd.	M/s Greaves Pakistan (Pvt.) Ltd.	M/s R.A Engineering & Services (Pvt.) Ltd.	Remarks
1.	1500 kVA DG set Product Specifications	Model no. 3512B	Model no. KD1650-F	Model no. MTU 12V4000 DS1650	
1.1	General Genset Requirements				
	The generator set shall be Prime Duty rated at 1200 ekW, 1500 kVA, 1500 RPM, 0.8 power	Complied	Complied	Complied	All bidders complied.
	factor, 415 V, 3-Phase, 50 hertz, including radiator fan and all parasitic loads. Generator set shall be sized to operate at the specified load at a maximum ambient of 122° F (50° C) and altitude of 328 feet (100 m) without derated.	Project sizing report is submitted for compliance with 50 C ambient temperature.	De-rating chart is submitted for compliance with 50 C ambient temperature.	But no documentary evidence submitted in technical bid.	MASIULIAN.
	Prime Power Rating: Average Power Output = 70% of prime power rating Load = Varying Typical Hours/Year = Unlimited	WAJID SHABBIR	A KHARA O	Men.	MARKET BURNETH FEET
	 Typical Hours/Year = Unlimited Typical Peak Demand = 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of one (1) hour in 12. Overload operation cannot sexceed 25 hours per year. Typical Application = Industrial, Pumping, Construction, Rental or Co- 	DUL MAJID CELECTRICAL CONTROL CONTRO	Dr. YAHYA KYMEE CO	OF. Or TARIGNAN	HMCOOS Rediciosy loss Rediciosy loss
	Generation	(Abd ashee	d Shaikhl	PRES ad DePartolic Williams	Di. Solation
1.2	Material and Parts	Frecutive F	ngneer	Heavile waterday	
	All materials and parts comprising the unit shall be new and unused.	Complied Electrical / Karacl	Complied	Complie Sylmen Posso	All bidders complied.
1.3	Engine	igarao			
	The engine shall be diesel fueled, four (4) cycle,	Complied	Complied	Complied	All bidders complied.

	water-cooled, while operating with nominal speed				
1.4	1500 RPM. Engine Governing				
1.4	 The engine governor shall be electronic control module, with 24-volt DC electric Actuator. The module shall be enclosed in an environmentally sealed, die-cast aluminum housing which isolates and protects electronic components from 	Complied Engine governor ADEM III model is submitted in technical bid.	Complied Engine governor ECU2-HD model is submitted in technical bid.	Complied Engine governor ADEC (ECU7) is submitted in technical bid.	All bidders complied.
	moisture and dirt contamination. Speed droop shall be adjustable from 0 (isochronous) to 10%, from no load to full rated load. Steady state frequency regulation shall be +/- 5 RPM. Speed shall be sensed by a magnetic pickup off the engine	DUL MAJID SHABBIR enior Engineer (Electrical) F.SPAK (A&P DIV), Karaci	A YAHYAK	HAN TUNION. HEES OCT MAPH. WEES CONTROLLING CENTRE WORK MEDICAL CENTRE WATER MEDICAL CENTRE	
	flywheel ring gear. A provision for remote speed adjustment shall be included. The ECM shall adjust fuel delivery	enior Enginee DIV), Kar	Jinnah Posto	Kar	MAHINDODS A
	 according to exhaust smoke, altitude and cold mode limits. In the event of a DC power loss, the forward acting actuator will move to 	Aud	d Shaikh)	OF. Dr.	REGISTER OF THE ROOM DE AND THE ADDRESS OF THE ADDR
	the minimum fuel position.	relactrical /	Editor Co	by Head	Rea Highly
	Generator	Electric	cni	cybert.	1800
.1	Digital Voltage Regulator			Jim	
	 The digital voltage regulator shall be microprocessor based with fully programmable operating and protection 	Complied DVR CAT model is	Complied Digital Regulator	Complied Digital voltage	All bidders complied.
	characteristics.	submitted in	DIRCI 04 is submitted	regulator D510C is	
	 The regulator shall maintain generator output voltage within +/- 0.5% for any 	technical bid.	in technical bid.	submitted in technical bid.	
	constant load between no load and full load.			^/ 4	
	 The regulator shall be capable of sensing true RMS in three phases of alternator output voltage, or operating in single phase sensing mode. 			AQ WASULLAT	
	 The voltage regulator shall include a VAR/Pf control feature as standard. 		**	Held Marie Berger	

2.2	 The regulator shall provide an adjustable dual slope regulation characteristic in order to optimize voltage and frequency response for site conditions. The voltage regulator shall include standard the capability to provide generator paralleling with reactive droop compensation and reactive differential compensation. Additionally, the controller shall allow system parameter setup and monitoring, and provide fault alarm and shutdown information through the controller. A PC-based user interface shall be available to allow viewing and modifying operating parameters in a windows compatible environment. Motor Starting 	JUL MAJID SHABBIR JUL MAJID SHABBIR Jior Engineer (Electrical) ESPAK (A&P DIV), Karachi ESPAK (A&P DIV)	Dr. YAM Deputy Director Deputy Director Medical Deputy Deputy Deputy Deputy Deputy Director Medical Deputy De	PROF. O	A to the finding in the finding of the finding in the finding in the finding of t
	 Provided locked rotor motor starting capability must not be less than 4282 skVA at 0.4 pf at 30% instantaneous voltage dip as defined per NEMA MG 1. Sustained voltage dip data is not acceptable. 	Complied Abda Rash Executive Showing capability cal more than 4282 skVA at 30% instantaneous voltage drop at PF 0.4.	Shaukn) Complied Engree Showing capability more than 4282 skVA at 30% instantaneous voltage drop at PF 0.4.	Complied But motor starting capability details at 30% voltage dip and PF 0.4 is not submitted in technical bid.	All bidders complied.
2.3	 The alternator provided will be 1500 kVA prime duty with Internal Excitation. The insulation provided will be Class H, The alternator pitch must be 2/3. The Efficiency of generator shall be approximately nearer to 95%. Excitation type must be PMG (Permanent Magnet Generator) 	Complied Project sizing report for Alternator Type SR5/1468 showing rating and efficiency at 415V for continuous rating & 50 deg centigrade is 1500 kVA, 1200 kW & 95.8. PMG Excitation is submitted in technical bid.	Complied Datasheet for Alternator KH04920T showing rating & efficiency at 415V for continuous rating & 40 deg centigrade is 1800 kVA, 1440 kW & 96.5%. PMG Excitation is submitted in technical bid.	Not complied Datasheet for Alternator LSA 52.3 not showing rating & efficiency at 415V for continuous rating. AREP Excitation is submitted in technical bid.	M Africa Engineering and M/s Treaves Pakistan have complied, whereas M/s R.A. Engineering is not complied.
2.4	Controls - Generator Set Mounted				
	Provide a fully solid-state, microprocessor based,	Complied	Complied	Not complied	M/s Allied Engineering and

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generator set control. The control panel shall be designed and built by the Genset Manufacturer. The control shall provide all operating, monitoring, and control functions for the generator set. The control panel shall provide real time digital communications to all engine and regulator controls via SAE J1939.

Environmental

The generator set control shall be tested and certified to the following

environmental conditions:

- 1. -40°C to +70°C Operating Range
- 2. 100% condensing humidity, 30°C to 60°C
- IP22 protection for rear of controller; IP55 when installed in control panel
- 4. Sinusoidal vibration 4.3 G's RMS, 24-1000Hz
- 5. Electromagnetic Capability (89/336/EEC, 91/368/EEC, 93/44/EEC, 93/68/EEC, BS EN 50081-2, 50082-2)
- Shock: withstand 15 G

Functional Requirements

The following functionality shall be integral to the control panel.

- The control shall include a LCD/LED display with text based alarm/event
 - descriptions.
- 2. The control shall include a minimum of 3-line data display.
- Audible horn for alarm and shutdown with horn silence switch Standard ISO labeling.
- 4. Multiple language capability.
- 5. Remote start/stop control.
- Local run/off/auto control integral to system microprocessor

EMCP 4.2 generator controller is submitted in technical bid.

Telys2 (IP55) generator controller is submitted in technical bid. Model for generator controller is not submitted in technical bid, hence cannot evaluate further. M/s Greaves Pakistan have complied, whereas M/s R.A. Engineering is not complied.

ABDUL MAJID SHABBIR
Senior Engineer (Electrical)
NESPAK (A&P DIV), Karachi

Dr. YAHVA KHAM TUMMOH.

Dr. YAHVA KHAM TUMMOH.

Deputy Offector Redical Cer.

Jimrah Postgraffia Karachi

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Abd asheed Shaikh Executive Engineer Electrical / Energy-l Karachi PROF. Dr. in EBS to the Red of control of the Control of the Red of the Red of the Control of th

	Cool down timer				
	8. Speed adjust				
	Emergency stop push button				
	Voltage adjust				
	 Voltage regulator V/Hz slope - 				
	adjustable				
	Password protected system				
	programming				
2.5	Digital Monitoring Capability				
	The controls shall provide the following digital	Complied	Complied	Not complied	Remarks as per clause 2.4
	readouts for the engine and generator. All				590
	readings shall be indicated in either metric or	Remarks as per clause	Remarks as per clause	Remarks as per clause	
	English units.	2.4.	2.4.	2.4.	
	Engine		/		
	Engine oil pressure			.,,0	
	2. Engine oil temperature		1 11	UNDH.	
	3. Engine coolant temperature		O h Jar	och. caute	
	4. Engine RPM	SHABBIN	KINBB	tor cal Ce.	00
	5. Battery volts	DITL MAJID (Electrical	. WHAT MOUS	Medi	100 SE
	6. Engine hours	ABDUL MAID SHABBIR Senior Engineer (Electrical Senior Engineer (DIV), Karac	M Deputaduale	hi	SHIN FOY OF
	7. Engine crank attempt	Senior LARP DIVI	Posta Kar	/ hu .0	Ming Liddo neolegich
	counter	Senior Engineer (Electrical Se	Dr. YAHYA KINGE	ARIC	On Raid Control
	8. Engine successful start		3,	01. 1BB	Sont dissil Cen
	counter			Skot be the the the the	Res World
	9. Service maintenance interval			860 390° 691	digis
	10. Real time clock	1	2025	Hewkillest	
	Generator	1111	Oc.	PROF. Head Della	
	Generator AC volts (Line to	A harry		Ju.	
	Line, Line to Neutral and Average)	Or or of	1		
	2. Generator AC current (Avg				
	and Per Phase)		MIN .ur		
			Marian		
	1 ,	(A	bdur Rasheed Shaikh	(1)	IN X
	4. Generator kW (Total and Per		Executive Engineer	ľ	WIN DAY
	Phase)	1	Electrical / Energy-I	1	SIULIE CONTRACTOR
	5. Generator kVA (Total and		Karachi		MANTEOLGE
	Per Phase)				A de Sandi Karach
	6. Generator kVAR (Total and				A ACC Y STO
	Per Phase)			- N	the indh
	7. Power Factor (Avg and Per			•	
	Phase)			- 8	•
	8. Total kWH				
	9. Total kVARH				

W VA VAR				
ns				
/Shutdown bil pressure utdown coolant temperature utdown of coolant shutdown speed shutdown crank shutdown	Complied Remarks as per clause 2.4.	Complied Remarks as per clause 2.4.	Not complied Remarks as per clause 2.4.	Remarks as per clause 2.4
rator phase sequence rator phase sequence rator over voltage rator under voltage rator over frequency rator under frequency rator reverse power (real	BDUL MAJID SHABBIR Senior Engineer (Electrical NESPAK (A&P DIV), Karac	Dr. VAHVA KHABESCO Dr. VAHVA KHABESCO Deputy Distern Jinnan Posturatuate Mr.	PROF DE TARIOS CHERRIE PORTE	Religion of the long of the land of the la
ive) rator overcurrent lator Alarm/Shutdown of excitation utdown ntaneous over excitation utdown over excitation utdown of sensing of PMG	Exe	Rasheed Shaikh) cutive Engineer crical / Energy-I Karachi		MA SIULLAN.
er shall include the ability to	Complied	Complied	Not complied	Remarks as per clause 2.4
	de the ability to	de the ability to	de the ability to	de the ability to

	signals. The signals may be programmed for either high or low activation using programmable Normally Open or Normally Closed contacts. Programmable Relay Outputs The control shall include the ability to operate programmable relay output signals, integral to the controller. The output relays shall be rated for 2 A @ 30 V DC. Programmable Discrete Outputs The control shall include the ability to operate discrete outputs, integral to the controller, which are capable of sinking up to 300 mA.	2.4.	2.4.	2.4.	
2.8	 40 events are stored in control panel memory Programmable cycle timer that starts and runs the generator for a predetermined time. The timer shall use 7 	Complied Remarks as per clause 2.4. ABDUL MAJID SHABBI Senior Engineer (Electric NESPAK (A&P DIV), Karr	Remarks as per clause 2.4. Remarks as per clause 2.4. Remarks as per clause 2.4. Deputy direction of the postgraduate of th	Not complied Remarks as per clause 2.4. TUNIO. OCN.MENT. OCN.MENT. OCH.MENT. OCH.M	Remarks as per clause 2.4
	user-programmable sequences that are repeated in a 7-day cycle. Each sequence shall have the following programmable set points: a) Day of week b) Time of day to start c) Duration of cycle	Alam Jah	(Abdul Rasher Executive E Electrical / Karad	Energy-l	A SHULLAND A SHULLAND A SHORT
2.9	■ The control shall include Modbus RTU communications as standard via RS-485 half duplex with configurable baud rates	Complied Remarks as per clause	Complied Remarks as per clause	Not complied Remarks as per clause	Remarks as per clause 2.4

	from 2.4 k to 57.6 k.	2.4.	2.4.	2.4.	
3.	Cooling System				
	 The generator set shall be equipped with a rail-mounted, engine-driven radiator with blower fan and all accessories. The cooling system shall be sized to operate at full load conditions and 1220 F (500 C) ambient air entering the room or enclosure (If an enclosure is specified). The generator set supplier is responsible for providing a properly sized cooling system based on the enclosure static pressure restriction. 	Complied 50 C ambient temperature performance data is submitted in technical bid.	Complied Radiator design ambient temperature is at 50 C.	But no documentary evidence submitted in technical bid.	All bidders complied.
3.1	Fuel System				
	galvanized piping will be permitted. Flexible fuel lines shall be minimally rated for 300 degrees F and 100 psi.	BDUL MAJID SHABBIR Benior Engineer (Electrica NESPAK (A&P DIV), Kara	Complied Dr. YAHYA KHAN Deputy Dire Deputy Dire Jinnan Postgraduate Jinnan Postgraduate	Not complied Required primary fuel with evater separator is not offered in technical bid.	M/s Allied Engineering and M/s Greaves Pakistan have complied, whereas M/s R.A. Engineering not complied.
3.2	Exhaust System			6/2	a de de diali
	 A residential grade silencer, companion flanges, and flexible stainless steel exhaust fitting properly sized shall be furnished and installed according to the manufacturer's recommendation. Mounting shall be provided by the contractor as shown on the drawings. The silencer shall be mounted so that its weight is not supported by the engine nor will exhaust system growth due to thermal expansion be imposed on the engine. Exhaust pipe size shall be sufficient to 	Residential grade silencer of 35 db is submitted in technical bid.	Residential grade silencer of 29 db is submitted in technical bid. (Abdul Reheed Sha Executive Engine Electrical / Energy Karachi	er	M/s Allied Engineering and M/s Greaves Pakistan have complied, whereas M/s R.A. Engineering not complied.

	ensure that exhaust back-pressure does				
	not exceed the maximum limitations				
	specified by the engine manufacturer.				
3.3	Starting System				
	 Starting Motor A DC electric starting system with positive engagement shall be furnished. The motor voltage shall be as recommended by the engine manufacturer. Jacket Water Heater Jacket water heater shall be provided and shall be sized to insure that Genset will start within the specified time period and ambient conditions. Batteries 	Starting motor, Jacket water heater, dry batteries & battery charger is submitted in technical bid.	Starting motor, Jacket water heater, dry batteries & battery charger is submitted in technical bid.	Not complied Starting motor is submitted, whereas Jacket water heater, dry batteries and battery charger is not submitted in technical bid.	M/s Allied Engineering and M/s Greaves Pakistan have complied, whereas M/s R.A. Engineering not complied.
	Batteries – Maintenance free battery set (Dry Cell) of the heavy-duty diesel starting type shall be provided. Battery voltage shall be compatible with the starting system.	Senior Engineer (Electrica NESPAK (A&P DIV), Kara	Dr. YAHYA KHANA Deputy Direct Jinnan Postgraduate Abdul Jabbar	PROF. Dr. TARI	AMAHMOOD TMR Dology TMR Padiology Entry Padiology Entry Padiology CRadiosurge States States
4.	General		Evecuto	Shaikh)	
4.1	References and Standards		Electrics	Engineer	
	The generator set covered by these specifications	Complied	Complied Ka	Complied	All bidders complied.
	shall be designed, tested, rated, assembled and			7 2244	^
	installed in strict accordance with all applicable				1
	standards below:				Wanter of
	• CSA C22.2 No14				MASIULLE TEN
	• CSA 282				MILITARIA DE LA CESTA LE CHESTA DE LA CONTRACTOR DE LA CO
	• CSA 100				A CCOUNTRICT
	• EN61000-6				With size the nath he
	• EN55011				M. Va. O. 2.

_					
	 FCC Part 15 Subpart B 				
	• ISO8528				
	• ISO3046				
	• IEC61000				
	• UL508				
	• UL2200				
	• UL142				
	• NEMA MG 1-22, 1-33				
	Designed to allow for installed				
	compliance to NFPA 70, NFPA99 and				
	NFPA 110				
4.2	Work Included				
7.4	Fuel System	Complied	Complied	Complied	All hiddors complied
	The CONTRACTOR shall provide a	Complied	Complied	Complied	All bidders complied.
	fuel tank of diesel fuel for the	No deviation	No deviation	NT- J	
	completion of all testing.			No deviation	
	System Test	against clause 4.2	against clause 4.2	against clause 4.2	
	A complete system load test shall be	in technical bid	in technical bid	in technical bid	
	performed after all equipment is	submitted.	submitted.	submitted.	
				.,0	
	installed. Guidelines in the Start-up Section.			UNIPH.	
		K	DIGAN	och.	200
	Requirements, Codes and Regulations The againment supplied and installed.	SHABBIR	LA KINBE	or dical CE.	HMCCP
	The equipment supplied and installed	BOUL MAJID SHABBIR	AHY WOW	Nedi	100' 100' 109'
	shall meet the requirements of above Al	Engineer (Extract	pi Dr. Debruaduarac	m' Vo	KIG DILL SQLO, OUCO, WALL,
	standards. All equipment shall be of new S	enior W (A&P DIV), It	Phosis Ka.	01.0	RIO MIRO DO ROBONO DE LOS PROPERTOS DE LA CONTROL DE LA CO
	The equipment supplied and installed shall meet the requirements of above standards. All equipment shall be of new s and current production by OEM who has 25 years of experience building this type	BDUL MARKET (Electrons) enior Engineer (Electrons) ESPAK (A&P DIV), Karaci	Dr. AHVA WARS	20k. D 80	Parine Radine
	- Jense of english of the type		/	bkg 3406	one laths
	of equipment. Manufacturer shall be	100		Hermile	taring play or local
4.2	ISO9001 certified.	W. Mar	ms 19 5 h	CAppe. 94 by	Dr Wollerson
4.3	Submittals	(Abdul Allered	Shaikh)	Jinno	Sel Jestill
	Engine-generator submittals shall in deaths following in formations		nGemplied	Complied	All bidders complied.
	include the following information:	Electrical / En	ergy-l		
	Factory published specification	No deviation Karachi		No deviation	
	sheet.	against clause 4.3	against clause 4.3	against clause 4.3	
	2. Manufacturer's catalog cut	in technical bid	in technical bid	in technical bid	1
	sheets of all auxiliary components	submitted.	submitted.	submitted.	What a
	such as battery charger,				JASI Officerate
	control panel, enclosure, etc.				O Vountant Co
	Dimensional elevation and				MINA ACCOUNTACING
	layout drawings of the generator				A Printer Add No.
	set and related accessories.				A Bellin

	gas flows, combustion air and ventilation air flows, fuel				
	ventilation air flows, fuel				
	consumption, etc. 7. Generator electrical data				
	including temperature and				
	insulation data, cooling requirements, excitation ratings,				
	voltage regulation, voltage		0 ~/	TUNION.	
	regulator efficiencies		A I DA	N OCN.	
	8. Generator resistances,	BDUL MAID SHABBI	K AND WE WE	A TON MET. 85 TON MET. 18 TON MET. 18 Neglical Centre 18 Neglical Centre 2 chi	
	reactance's and time constants. 9. Generator Locked Rotor Motor	BOUL MAJID SHABDE Senior Engineer (Electrics	Chi Dr. VAHYA Di	le hi	
	starting curves.	Senior Engineer (Electrica NESPAK (A&P DIV), Karr	cpi	Car	00
	10. Manufacturer's documentation	Senior (A&P DIV)	Jinnah .		UMOCPS
	showing maximum expected	MES.			MARD GOON JOSY
	transient voltage and frequency			11/3	RHO Mile Policies Control of the Con
	dips, and recovery time during	_ /		E. O' 1	B the nadiosul Centre
	operation of the generator set at the specified site conditions with			PROT NO	enaloute Relieding
	the specified loads.	Mar		Hearth	Statestile Til 1300cm
	11. OEM's written warranty.	(Abdul Roshand ou		Charlet	DE VOLCESTICA
4.4	System Responsibility	Executive English		3,.	Dect. in
	Generator Set Dealer The control of the life of	Complied ical / Ener	Complied	Complied	All bidders complied.
	The completed engine generator set shall be supplied by the OEM's authorized	Authorized Dealer	Sale Authorization	Authorized Dealer	
	dealer only.	Certificate from	Certificate from	Certificate from	\ \ \ (\)
	,	Manufacturer	manufacturer "Kohler	Manufacturer "MTU"	West .
		"Caterpillar"	SDMO" submitted in	submitted in technical	AASIURICE TOTAL
		submitted in technical	technical bid.	bid.	AAD TOURING
	***	bid.			A Miles Accountacity
4.5	Warranty Prime (ISO 8528-1: PRP) Rated Generator	Complied	Complied	Not complied	A Roof incincaring
	Set Warranty	Compiled	Complied	Not complied	M/. A fried Engineering and M/s Greaves
	The OEM's standard warranty shall			No documentary	Pakistan have complied,
	include complete replacement against			evidence found in	whereas M/s R.A.

46	manufacturing defects and in no event be for a period of less than five (5) years from date of initial start-up of the system including with service contract; shall include consumables, overhauling works, repair or replace original parts, labor, and reasonable travel expense necessary for repairs at the job site. Running hours shall not be a limiting factor for the system warranty by either the manufacturer or servicing Dealer. Submittals received without written warranties as specified will be rejected in their entirety.	ABDUL MAJID SI Senior Engineer (F NESPAK (A&P DI	IABBIR Jectrical) Dr. VAHY Jiman P	technical bid. AKHAN TUNIO AKHAN JOHN JOHN JOHN JOHN JOHN JOHN JOHN JOH	Engineering not complied.
4.6	Parts and Service Qualifications	C II I	C P I	N . C . !! !	26/ 48: 15
	 Service Facility The engine-generator supplier shall maintain 24-hour parts and service capability within 100 miles of the project site. The Dealer shall stock parts as needed to support the generator set package for this specific project. The supplier must carry sufficient inventory to cover no less than 80% parts service within 24 hrs and 95% within 48 hours. Service Personnel The dealer shall maintain qualified factory trained service personnel. 	Affidavit on judicial stamp paper for 24 hour service and 10 years spare parts submitted in technical bid. Abdul sheed Shaik Executive Engineer Electrical / Energy-	Affidavit on judicial stamp paper for 24 hour service and 10 years spare parts submitted in technical bid.	Not Complied No documentary evidence submitted in technical bid. PROF. Dr. in Programme of the programme o	M/s Allied Engineering and M/s Greaves Pakistan have complied, whereas M/s R.A. Engineering not complied.
5	Execution	Karachi		21	
	 Start-Up and Testing Coordinate all start-up and testing activities with the Engineer and Owner. After installation is complete and normal power is available, the manufacturer's local dealer shall perform the following: Perform the load bank test at	No deviation against clause 5 in technical bid.	No deviation against clause 5 in technical bid.	No deviation against clause 5 in technical bid.	All bidders complied.

1.0

standard. Load Bank, Cables and other equipment required for this test to be supplied to the customer. Operation and Maintenance Manuals Provide two (2) sets of operation and maintenance manuals covering the generator, and auxiliary components. Include final as-built wiring interconnect diagrams and recommended preventative maintenance schedules. Training On-Site Training Provide on-site training to instruct the owner's personnel during commissioning in the proper operation and maintenance of the equipment. Review operation and maintenance manuals, parts manuals, and emergency service procedures.	ABDUL MAJID SH Senior Engineer (EM NESPAK (A&P DIV	ABBIR Dr. VALTVA	HAM TUMOH. HAR Social Centre My Director dical Centre My Director dical Centre	TARIQ MALIMOOD COLOR TO THE PROPERTY OF THE PR
Site planning	Complied	Complied	Complied PRO	All bidders complied.
The Contracting firm shall visit the site before submission of tender and ensure that cost of all necessary electrical boards/cables/earthling needed to install and commissioning the complete system is included in the tender cost for the two units 1500 kVA Generating Sets.	No deviation against clause 5 Other terms and conditions in technical bid.	No deviation against clause 5 Other terms and conditions in technical bid.	No deviation against clause 5 Other terms and conditions in technical bid.	Will Basta an
For technical bid each vendor is requested to fill up the above mentioned Performa with the desired information in the last column, on the same MS word format in yes or no form with verifiable references (along with proper pagination, paragraph & line description)	Complied ecuive En	Complied lergy-I	Complied	All bidders complied.
Vendor must also enclose a soft copy on CD/USB in addition to hard copy for technical evaluation committee	Submitted	Submitted	Not submitted	M/s Mes to theering and M. Carber akistan have carbed whereas M/s R.A. Engineering not complied.
Only OEM Dealers in Pakistan or manufacturer are eligible to participate	Complied	Complied	Complied	All bidders complied.
Pricing of optional configuration and post	No optional	No optional	No optional	All bidders have not

Conclusion			Alternator is Europe.	1
	manufacturing and origin is Caterpillar, USA.	manufacturing and origin is Kohler SDMO - France.	manufacturing and origin of Engine is Germany and Alternator is Europe.	
USA/UK/Europe/Japan and equipment approval of their respective quality standards is mandatory.	Country of	Country of	Country of	
Quality Safety Standards: Country of Manufacture and origin should be	Complied	Complied	Complied	All bidders complied.
Required Financial capability as per bidding documents.	Complied	Complied	Not Complied	M/s Allied Engineering ar M/s Greaves Pakistan hav complied, whereas M/s R. Engineering not complied.
The bidder must indicate the number of 1500 kVA Generating Sets installed within Pakistan especially in health sector and letter of satisfaction from the end user.	Sufficient experience	Limited experience	No experience	M/s Allied Engineering ar M/s Greaves Pakistan hav complied, whereas M/s R. Engineering not complied.
Technical evaluation will be based on the standard configuration with accessories of the whole unit.	Complied	Complied	Not complied	M/s Allied Engineering an M/s Greaves Pakistan hav complied, whereas M/s R. Engineering not complied.
warranty terms should be quoted separately.	configuration and post warranty terms mentioned in technical bid.	configuration and post warranty terms mentioned in technical bid	configuration and post warranty terms mentioned in technical bid.	submitted optional configuration and post warranty terms in technicabid.

M/s Allied Engineering & Services (Pvt.) Ltd and M/s Greaves Pakistan (Pvt.) Ltd meets the required bid evaluation criteria and technical specifications, hence technically qualified. Whereas M/s R.A Engineering & Services (Pvt.) Ltd. does not meet the bid evaluation and required technical specifications hence not qualified technically.

(Mr. Abdil Maj (Loha beta)

Co-Opted Member & Sector Englisher (Nespak), Karachi Representative the Nespak, Karachi

> (Dr. Yahya Khan Emia) centre Secretary/Member & Deputy Director Jinnah Postgraduate Medical Centre, Jinnal Amachikara

Division)

Representative from Works & Services Department (E/M

(Mr. Abdilla casheed Shaikinger Member & Executive Engineer (Energy-I)

Kasheed Shaikh)

Member

ndh), Karachi

(Prof. Tarig Mahmood)

Chairman & Head of Radiology Cyberknife & Oncology Department Jinnah Postgraduate Medical Centre, Karachi

(Dr. Abdul Abbar Memon) Member & Debuty Director (Dev) Representative from Health Department, Govt. of Sindh, Karachi

TECHNICAL EVALUATION REPORT (As per details provided by the participants / bidders)

(2)

TENDER FOR SUPPLY & INSTALLATION OF 1500 kVA TRANSFORMERS (TWO UNITS) FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI.

Supply & Installation of 1500 kVA Transformers (Two Units) for Surgical Complex Jinnah Postgraduate Medical Centre, Karachi.

Technical Comparative Statement of Tender No.F.1-349/2016-17-(P&D)/JPMC

Opened on 18-05-2017

NO BIDDER PARTICIPATED

Co-Opted Membero (Arachi Representative Aram Nespak), Karachi Representative Aram Nespak, Karachi

(Dr. Abdul Jacobar Memon)
Member & Deputy Director (Dev)
Representative from Health Department,
Govt. of Sindh, Karachi

(Mr. Abdul Rasheed Shaikh) Energy-I Member & Executive Engineer (Energy-I) Representative from Works & Services Department (E/M

Division)

(Dr. Yahya Khan Turiod Centre tary/Member & Depoty Director

Secretary/Member & Depoty Mirector Jinnah Postgraduate Medical Centre, (Prof. Tariq Mahmood)

Chairman & Head of Radiology, Cyberk are & Oncology Department

Jinnah Postgradoate Medical Centre, Karachi

Chermie Robono

Member & I

Accountant G

Mndh), Karachi

TECHNICAL EVALUATION REPORT (As per details provided by the participants / bidders)

(3)

TENDER FOR SUPPLY & INSTALLATION OF 625 kVA UPS FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI.

	Technical Comparative Statement of Tender	No.F.1-349/2016-17-(P&	zD)/JPMC		Opened on 18-05-2017
R #	DESCRIPTION	Greaves Pakistan Ltd	M/s BIOS	M/s NETLINE	Remarks
1	80 kVA THREE PHASE TO THREE PHASE ONLINE UPS WITH BATTERIES	Eaton 93PM UPS	UPS-MAK Level Series	MASTERYS GP – Green Power 2.0	
1.1	Must be true online double conversion IGBT technology	Complied	Complied	Complied	All bidders complied.
1.2	Should be completely digitally controlled	Complied	Complied	Complied	All bidders complied.
1.3	Should have remote communication and monitoring options	Complied	Complied	Complied	All bidders complied.
1.4	Should have emergency power off switch	Complied	Complied	Complied /	All bidders complied.
1.5	Should have auto restarting capabilities	Complied	Complied	Complied	All bidders complied.
1.6	Operating temperature: 15°C - 30°C or better	Complied	Complied	Complied	All bidders complied.
1.7	Storage temperature: 15°C - 40°C or better	Complied	Complied	Complied	An bidders complied.
1.8	Should have advanced battery management for optimum charging and discharging	Complied	Complied	Complied	dders complied.
1.9	Should have 400 real time event logs with detailed parameters or more	Complied	Complied	Complied	a bidders complied.
1.10	Dual input supply (optional)	Complied	Complied	Complied Complied	All bidders complied.
1.11	Should have a small footprint to save space and easy maintenance	Complied	Complied	Compliant	All bidders complied.
1.12	Should be compatible with standby generator	Complied	Complied	Complied	All bidders complied.
1.13	Static Bypass Switch	Complied	Complied	Complied	All bidders complied.
1.14	Manual Operated Bypass Swints with Enclosure	Complied	Complied	Complied	All bidders complied.
2	INPUT Abdit Rasse Engineer			04.	All bidders complied.
2.1	Voltage range: 380VAC ± 15% three place Neutral + Earth or better. Value of three place of thre	Complied	Complied	6, 030	All bidders complied.
2.2	Input frequency range: 50Hz-60Hz (selectable) or better	Complied	Complied CN. MPT.	Complied Charles	All bidders complied.
2.3	Plarmonic distortion: <4% or better WSHA	mplied / Jak	Comprieddica	Complied	All bidders complied.
93,	OUTPUT MAIN (Elect	arachi Dr.	Depireduatehi		All bidders complied.
24.02	Input frequency range: 50Hz-60Hz (selectable) or better Plarmonic distortion: <4% or better OUTPUT REDUL MAIN SERIOR ENGINEE DIV), K	Jinnah	Complied Chinery Kingestor Complied Chinery Kingestor Complied Chinery Complied		

.1	Voltage: 380vac \pm 2%three phase + Neutral or better	Complied	Complied	Complied	All bidders complied.
2	Power factor: 1.0	Complied	Complied	Complied	All bidders complied.
3	Output frequency range: $50Hz \pm 1\%$ synchronous with utility or generator / $50Hz \pm 0.5\%$ battery mode or better	Complied	Complied	Complied	All bidders complied.
4	Normal mode efficiency: 90% or better	Complied	Complied	Complied	All bidders complied.
5	Economy mode efficiency: 95% or better	Complied	Complied	Complied	All bidders complied.
6	Overload operation: at 125% load 10min, at 150% load 1min or better	Complied	Complied	Complied	All bidders complied.
6	Harmonic distortion: <3% (linear load), < 6% (non-linear load) or better	Complied	Complied	Complied	All bidders complied.
8	PROTECTIONS				All bidders complied.
1	IP20 protection class or better	Complied	Complied	Complied	All bidders complied.
2	Input voltage out of tolerance safety	Complied	Complied	Complied	All bidders complied.
3	Input phase failure protection	Complied	Complied	Complied	All bidders complied.
1	Output voltage out of tolerance protection	Complied	Complied	Complied	All bidders complied.
5	Output phase failure protection	Complied	Complied	Complied	All bidders complied.
5	Output overload protection	Complied	Complied	Complied	AN bidders complied.
7	Failure due to overheating protection	Complied	Complied	Complied	halders complied.
3	Output short circuit protection	Complied	Complied	Complied	bidders complied.
	BATTERIES			J. J. P. 10	all bidders complied.
	External 12Volts sealed lead acid maintenance	Complied	Complied	Complied Complied	all bidders complied.
1	free batteries must be from the same manufacturer			HAR BELLEVI	bidders complied. I bidders complied. Il bidders complied. Il bidders complied.
2	Should have variable charger current	Complied	Complied	Complian	All bidders complied.
3	Should have 0ms transfer time to battery	Complied	Complied	Complied **	All bidders complied.
4	Should have 0ms transfer time to bypass	Complied	Complied	Complied	All bidders complied. All bidders complied. All bidders complied.
5	5minutes to 8minutes backup or better	Complied	Complied	Complied	All biddes complied.
6	Battery Cabinet must be Called	Complied	Complied	Complied	All bidders complied.
5		*	•	1	All bidders complied.
.1	Must have autosensing for elsconnection of parallel cable Must have equal current share between parallel units via DSP (Digital Signal Processor)	Complied	Complied	Complied PROF. Dr.	All bidders complied.
.2	Must have equal current share between parallel units via DSP (Digital Signal Processor)	Complied	Complied		
3		Complied	Complied Centre	Complied Cyling	All bidders complied.
1	Must have isolated parallel cards	plied	PComplied Central	Complied	All bidders complied.
5	Complete paralleling kits should be included Ele	Complied Or. YA	Complied asum Astarachi	Complied	All bidders complied.
	CERTIFICATIONS TOUL PROPERTY	h	GIGI Karachi		All bidders complied.
A.	All parallel systems should be able to be controlled from one control panel of a ups Must have isolated parallel cards Complete paralleling kits should be included CERTIFICATIONS Senior British Complete CERTIFICATIONS Senior British Complete CERTIFICATIONS Senior British Complete CERTIFICATIONS Senior British CARREST AND C	Jinnah P	***************************************		

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7.1	ISO 9001, ISO 14001 and ISO 18001	Complied	Complied	Complied	All bidders complied.
7.2	EN 62040-3	Complied	Complied	Complied	All bidders complied.
7.3	EN 62040-2, EN 62040-1 & EN 60950	Complied	Complied	Complied	All bidders complied.
7.4	CE marked	Complied	Complied	Complied	All bidders complied.
8	WARRANTY				All bidders complied.
8.1	5 years for UPS	Complied	Complied	Complied	All bidders complied.
8.2	2 years for Batteries	Complied	Complied	Complied	All bidders complied.
8.3	-	Complied	Complied	Complied	All bidders complied.
	Warranty will start after installation, commissioning and handover of UPS Systems	No deviation against clause 8.3 in technical bid submitted.	No deviation against clause 8.3 in technical bid submitted.	No deviation against clause 8.3 in technical bid submitted.	an omner compact
9	COUNTRY OF MANUFACTURING & ORIGIN				*
9.1	USA/UK/EUROPE/JAPAN	Finland	Germany	Italy Na	All biddy scomplied.
9.2	Bidder will be responsible of complete installation and demonstration	Complied No deviation against	Complied No deviation	Complied No deviation	All bidders complied
		clause 9.2 in technical	against clause 9.2 in	against clause 9.2 in	A RECENT
		bid submitted.	technical bid	technical bid	A BE
			submitted.	submitted.	540 M.
10	60kVA THREE PHASE TO THREE PHASE ONLINE UPS WITH BATTERIES	Eaton 93PM UPS	UPS-MAK Level Series	MASTERYS GP - Green Power 2.0	All bidders complied.
10.1	Must be true online double conversion IGBT technology	Complied	Complied	Complied	All bidders complied.
0.2	Should be completely digitally controlled	Complied	Complied	Complied	All bidders complied.
10.3	Should have remote communication and monitoring options	Complied	Complied	Complied	All bidders and plied.
0.4	Should have emergency power off switch	Complied	Complied	Complied	All bidder good and IIA
0.5	Should have auto restarting capabilities	Complied	Complied	Complied	All bidders complied.
10.6	Operating temperature: 15°C 0°C or better	Complied	Complied	Complied	Atthidder complied
10.7	Storage temperature: 15°C - 400 better	Complied	Complied	Complied 20%	All bidders complied.
10.8	Should have advanced battery was agement for optimum charging and thoraging need Shaik	Complied	Complied	Complied He	
10.9	Should have 400 real time event lugy with gineer	Complied	Complied INIPH.	Complied	All bidders complied.
0.10	Dual input supply (optional) Karachi	Complied	(Kompliete Cal Central	Complied	All bidders complied.
0.11	Should have a small footprint to save space and easy maintenance	bmplied Dr. YAT	Complian	Complied	All bidders complied.
W	Dual input supply (optional) Should have a small footprint to save say Sandrie easy maintenance ABDUL Regimes DIV), Kericki Regimes DIV, Kericki Regimes DIV), Kericki Regimes DIV, Kericki Regimes DIV, Kericki Regimes DIV), Kericki Regimes DIV, Regimes D	Jinnah F	Complied Mon. Complied Control Contro		

O

0.12	Should be compatible with standby generator	Complied	Complied	Complied	All bidders complied.
0.13	Static Bypass Switch	Complied	Complied	Complied	All bidders complied.
0.14	Manual Operated Bypass Switch with Enclosure (ABB, Schneider)	Complied	Complied	Complied	All bidders complied.
11	INPUT				All bidders complied.
11.1	Voltage range: 380VAC \pm 15% three phase + Neutral + Earth or better.	Complied	Complied	Complied	All bidders complied.
11.2	Input frequency range: 50Hz-60Hz (selectable) or better	Complied	Complied	Complied	All bidders complied.
11.3	Harmonic distortion: <4% or better	Complied	Complied	Complied	All bidders complied.
12	OUTPUT				All bidders complied.
12.1	Voltage: 380vac \pm 2%three phase + Neutral or better	Complied	Complied	Complied	All bidders complied.
12.2	Power factor: 1.0	Complied	Complied	Complied	All bidders complied.
12.3	Output frequency range: $50Hz \pm 1\%$ synchronous with utility or generator / $50Hz \pm 0.5\%$ battery mode or better	Complied	Complied	Complied	All bidders complied. All bidders complied. bidders complied.
12.4	Normal mode efficiency: 90% or better	Complied	Complied	Complied	bidders complied.
12.5	Economy mode efficiency: 95% or better	Complied	Complied	Complied	s bidders complied.
12.6	Overload operation: at 125% load 10min, at 150% load 1min or better	Complied	Complied	Complied	all bidders complied.
12.7	Harmonic distortion: <3% (linear load), < 6% (non-linear load) or better	Complied	Complied	Complied 11 6 6	All bidders complied. All bidders complied. All bidders complied. All bidders complied.
13	PROTECTIONS			8	All bidders complied.
13.1	IP20 protection class or better	Complied	Complied	Complied	All bidders complied.
13.2	Input voltage out of tolerance safety	Complied	Complied	Complied	All bidders complied.
13.3	Input phase failure protection	Complied	Complied	Complied	All bidders complied.
13.4	Output voltage out of tolerance protection	Complied	Complied	Complied	All bidder complied.
13.5	Output phage ailure protection	Complied	Complied	Complied	All bidders complied.
13.6	Output over ad protection	Complied	Complied	Complied	Alboidders complied.
13.7	Failure due the Theating protection	Complied	Complied	Complied	Multipliders complied. Multipliders complied. Multipliders complied.
13.8	Output short circuit protection	Complied	Complied	Complied 20	Midders complied.
14	BATTERIES Engineer			ORO!	Whidders complied.
14.1	External 12 Volts sealed lead acid maintenance free batteries must be frem the same	Complied	Complied	Complied 480	All bidders complied.
	manufacturer		TUNIPH.	Chpe	Nº .
14.2	Should have variable charger current	Complied	Complifed no	Complied	All bidders complied.
14.3	Should have 0ms transfer time to battery	Complied (/	Complied Control	Complied	All bidders complied.
14.4	Should have 0ms transfer time to bypass SHAD	Complied KAY	Complied	Complied	All bidders complied.
14.5	5minutes to 8minutes backup or ballon Electron	domplied Dr.	Complied	Complied	All bidders complied.
7.0%	Should have variable charger current Should have 0ms transfer time to battery Should have 0ms transfer time to bypass SHARBI 5minutes to 8minutes backup or laterial Research Color Regimes DIV, Karangaran Research Color Regimes DIV, Karangaran Research Color Regimes DIV, Karangaran Regimes DIV,	Jinnah	Complied Complied Post		

14.6	Battery Cabinet must be included	Complied	Complied	Complied	All bidders complied.
15	PARALLEL/REDUNDANT OPERATION				All bidders complied.
15.1	Must have autosensing for disconnection of parallel cable	Complied	Complied	Complied	All bidders complied.
5.2	Must have equal current share between parallel units via DSP (Digital Signal Processor)	Complied	Complied	Complied	All bidders complied.
5.3	All parallel systems should be able to be controlled from one control panel of a ups	Complied	Complied	Complied	All bidders complied.
5.4	Must have isolated parallel cards	Complied	Complied	Complied	All bidders complied.
5.5	Complete paralleling kits should be included Or equivalent	Complied	Complied	Complied	All bidders complied.
16	CERTIFICATIONS				All bidders complied.
5.1	ISO 9001, ISO 14001 and ISO 18001	Complied	Complied	Complied	All bidders complied.
5.2	EN 62040-3	Complied	Complied	Complied	All bidders complied.
.3	EN 62040-2, EN 62040-1 & EN 60950	Complied	Complied	Complied	All bidders complied.
5.4	CE marked	Complied	Complied	Complied	All bidders complied.
7	WARRANTY		•	. \	& bidders complied.
7.1	5 years for UPS	Complied	Complied	Complied .	Albaiders complied.
7.2	2 years for Batteries	Complied	Complied	Complied	bidders complied.
7.3		Complied	Complied	Complied No deviation against classes	bidders complied. U bidders complied.
	Warranty will start after installation,	No deviation against	No deviation	THE CICVICATION AS A STATE OF THE STATE OF T	430
	commissioning and handover of UPS Systems	clause 17.3 in technical	against clause 17.3	against classe (5.3)	
		bid submitted.	in technical bid	in technical bid	
			submitted.	submitted.	
18	COUNTRY OF MANUFACTURING & ORIGIN				All bidders complied.
8.1	USA/UK/EUROPE/JAPAN	Finland	Germany	Italy	All bidders complied.
8.2	Bidder will be responsible of complete installation and demonstration (Abdul Rash Executive Electrical / 50kVA THREE PHASE TO THREE PHASEKara	bid cultitatilitied	No deviation against clause 18.2 in technical bid submitted.	No deviation against clause 18.2 in technical bid submitted.	All bidders complied.
19	50kVA THREE PHASE TO THREE PHASEKara. ONLINE UPS WITH BATTERIES		UPS-MAK Level Series	Green Power 2.0	And hidders complied.
9.1	Must be true online double conversion IGBT technology	Complied	Complied Centre	Complied	All bidders complied.
9.2	Should be completely digitally controlled ABBIN	Complied AH	Complied	Complied	All bidders complied.
98	Should have remote communicationand actrical	Complied Or	Complied	Complied	All bidders complied.
Sor. P	Should be completely digitally controlled ABBIR Should have remote communication and fractical Senior Engineer (Flectrical NESPAK (A&P DIV), Karaci	Jinnah P	203. 1		

	monitoring options				
19.4	Should have emergency power off switch	Complied	Complied	Complied	All bidders complied.
19.5	Should have auto restarting capabilities	Complied	Complied	Complied	All bidders complied.
19.6	Operating temperature: 15°C - 30°C or better	Complied	Complied	Complied	All bidders complied.
19.7	Storage temperature: 15°C - 40°C or better	Complied	Complied	Complied	All bidders complied.
19.8	Should have advanced battery management for optimum charging and discharging	Complied	Complied	Complied	All bidders complied.
19.9	Should have 400 real time event logs with detailed parameters or more	Complied	Complied	Complied	All bidders complied.
9.10	Dual input supply (optional)	Complied	Complied	Complied	All bidders complied.
19.11	Should have a small footprint to save space and easy maintenance	Complied	Complied	Complied	All bidders complied.
19.12	Should be compatible with standby generator	Complied	Complied	Complied	All bidders complied.
19.13	Static Bypass Switch	Complied	Complied	Complied	All bidders complied.
19.14	Manual Operated Bypass Switch with Enclosure (ABB, Schneider)	Complied	Complied	Complied	All sidders complied.
20	INPUT				dders complied.
20.1	Voltage range: 380VAC ± 15% three phase + Neutral + Earth or better.	Complied	Complied	Complied	dders complied.
20.2	Input frequency range: 50Hz-60Hz (selectable) or better	Complied	Complied	Complied	All bidders complied.
20.3	Harmonic distortion: <4% or better	Complied	Complied	Complied	All bidders complied.
21	OUTPUT		•	880	All bidders complied.
21.1	Voltage: 380vac ± 2%three phase + Neutral or better	Complied	Complied	Complied	All bidders complied.
21.2	Power factor: 1.0	Complied	Complied	Complied	All bidders complied.
21.3	Output frequency range: 50Hz ±1% synchronous with utility or generator / 50Hz ±0.5% batter	Complied	Complied	Complied	All bidders complied.
21.4	Normal mode efficiency: 90% or better (Ab	RempliedShaikh)	Complied	Complied	All hidders complied.
21.5	Economy mode efficiency: 95% or better Execu	u Complied meer	Complied	Complied W	All bridgers complied.
21.6	Overload operation: at 125% load 10min, at 150% load 1min or better	Karachi	Complied	Complied ROF. Dr	All bidders complied. All bidders complied.
21.7	Harmonic distortion: <3% (linear load), < 6% (non-linear load) or better	Complied	Complied	Complied Hear	hile CAM bidders complied.
22	PROTECTIONS		1/	Jint	All bidders complied.
22.1	IP20 protection class or better	Complied \	Complied 1844	Complied	All bidders complied.
22.2	Input voltage out of tolerance safety	Complied	Combiled	Complied	All bidders complied.
22.3	Input phase failure protection Output voltage out of tolerancy ABBIR Output voltage out of tolerancy ABBIR ABBIR ABBIR ABBIR	Complied	Complied Complied	Complied	All bidders complied.
22A	White the sent of The sent the State of the	Complied 4PM	COM ARGIE	Complied	All bidders complied.

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22.5	Output phase failure protection	Complied	Complied	Complied	All bidders complied.
22.6	Output overload protection	Complied	Complied	Complied	All bidders complied.
22.7	Failure due to overheating protection	Complied	Complied	Complied	All bidders complied.
22.8	Output short circuit protection	Complied	Complied	Complied	All bidders complied.
23	BATTERIES				All bidders complied.
23.1	Internal/External 12Volts sealed lead acid maintenance free batteries must be from the same manufacturer	Complied	Complied	Complied	All bidders complied.
3.2	Should have variable charger current	Complied	Complied	Complied	All bidders complied.
3.3	Should have 0ms transfer time to battery	Complied	Complied	Complied	All bidders complied.
3.4	Should have 0ms transfer time to bypass	Complied	Complied	Complied	All bidders complied.
3.5	5minutes to 8minutes backup or more	Complied	Complied	Complied	All bidders complied.
3.6	Battery Cabinet must be included	Complied	Complied	Complied	All bidders complied.
24	PARALLEL/REDUNDANT OPERATION	•	•	N /	All bidders complied.
24.1	Must have autosensing for disconnection of parallel cable	Complied	Complied	Complied	All birders complied.
24.2	Must have equal current share between parallel units via DSP (Digital Signal Processor)	Complied	Complied	Complied	All birders complied. All Sidders complied. All sidders complied.
24.3	All parallel systems should be able to be controlled from one control panel of a ups	Complied	Complied	Complied \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	dders complied.
4.4	Must have isolated parallel cards	Complied	Complied	Complied No.	All bidders complied.
4.5	Complete paralleling kits should be included	Complied	Complied	Complied	All bidders complied.
25	CERTIFICATIONS			8	All bidders complied.
5.1	ISO 9001, ISO 14001 and ISO 18001	Complied	Complied	Complied	All bidders complied.
25.2	EN 62040-3	Complied	Complied	Complied	All bidders complied.
25.3	EN 62040-2, EN 62040-1 & EN 60950	Complied	Complied	Complied	All bidders complied.
25.4	CE marked	Complied	Complied	Complied	All bidders complied.
26	WARRANTY	/			All bidders complied.
26.1	5 years for UPS	Complied	Complied	Complied	All bidders complied.
26.2	2 years for Batteries	Complied	Complied	Complied	All bidders complied.
26.3	(Abdul kashee	Complied Shaikh	Complied	Complied	All bidders complied. All bidders complied. All bidders complied.
	Warranty will start after installation, xecutive Er commissioning and handover of UTSSystems, E		No deviation against clause 26.3	No deviation against clause 26.3	TARE TREET OF THE CORRECT CONTROL
		bid submitted.	in technical bid submitted.	against clause 26.3 in technical bid rots submitted.	d Celebration (1997) (1
27	COUNTRY OF MANUFACTURING & ORIGIN	0	TUNIO.	0;	Mar.
7.1	USA/UK/EUROPE/JAPAN	Finland	Germany	Italy	All bidders complied.
7.2	Bidder will be responsible of complete installation and demonstration in SHABBIR	Complied Complied	Complied Cen	Complied	All bidders complied.
Paris C	Bidder will be responsible of complete installation and demonstration ID SHABBIR installation and demonstration ID SHABBIR Senior Engineer (Electrical) Senior Engineer (Electrical) NESPAK (A&P DIV), Karachi	Jiway bost	Germony Complied Cente		

		No deviation against	No deviation	No deviation	
		clause 27.2 in technical	against clause 27.2	against clause 27.2	
		bid submitted.	in technical bid	in technical bid	
			submitted.	submitted.	
28	40 kVA THREE PHASE TO THREE PHASE	Eaton 93PS UPS	UPS-MAK Level	MASTERYS GP -	All bidders complied.
	ONLINE UPS WITH BATTERIES		Series	Green Power 2.0	
28.1	Must be true online double conversion IGBT technology	Complied	Complied	Complied	All bidders complied.
8.2	Should be completely digitally controlled	Complied	Complied	Complied	All bidders complied.
28.3	Should have remote communication and monitoring options	Complied	Complied	Complied	All bidders complied.
28.4	Should have emergency power off switch	Complied	Complied	Complied	All bidders complied.
28.5	Should have auto restarting capabilities	Complied	Complied	Complied	All bidders complied.
28.6	Operating temperature: 15°C - 30°C or better	Complied	Complied	Complied	All bidders complied.
28.7	Storage temperature: 15°C - 40°C or better	Complied	Complied	Complied	All barders complied.
28.8	Should have advanced battery management for optimum charging and discharging	Complied	Complied	Complied	All Meddes complied.
28.9	Should have 400 real time event logs with detailed parameters or more	Complied	Complied	Complied	adders complied.
8.10	Dual input supply (optional)	Complied	Complied	Complied	At bidders complied.
28.11	Should have a small footprint to save space and easy maintenance	Complied	Complied	Complied Nik so	All bidders complied.
8.12	Should be compatible with standby generator	Complied	Complied	Complied &	All bidders complied.
8.13	Static Bypass Switch	Complied	Complied	Complied	All bidders complied.
8.14	Manual Operated Bypass Switch with Enclosure (ABB, Schneider)	Complied	Complied	Complied	All bidders complied.
29	INPUT				All bidders complied.
29.1	Voltage range: 380VAC ± 15% three phase Neutral + Earth or better.	Complied	Complied	Complied	All bidders complied.
29.2	Input frequency range: 50Hz-60Hz (selectable)	Complied Shaikh)	Complied	Complied	All bidders complied.
29.3	Harmonic distortion: <4% or better Electrical	Compliant	Complied	Complied	All bidders complied.
30	OUTDUT	rachi		25.	All bidders complied.
30.1	Voltage: 380vac ± 2%three phase + Neutral or better	Complied	Complied	Complied PR	All bidders complied. All bidders complied.
30.2	Power factor: 1.0	Complied	/Complied _	Complied C	All bidders complied.
30.3	Output frequency range: 50Hz ±1% synchronous with utility or generator / 50Hz ±0.5% battery	Complied	Complied O.	Complied	All bidders complied.
72	mode or better	ALTO ALA	Westor dical Centr		
30.4	Normal mode efficiency: 90% or bets (Additional)	Complied Or.	Complied	Complied	All bidders complied.
	mode or better Normal mode efficiency: 90% or horse (Rectrical) ABDUL MAID Regineer (Rectrical) Senior Engineer (A&P DIV), Karachi Senior A&P DIV), Karachi	Jinnah Post	Complied Complied Complied Complied KHAN DCN MPH. MBRECTOTICAL CENTRE MORECTOTICAL CEN		
	Schark (Ada				

0.5	Economy mode efficiency: 95% or better	Complied	Complied	Complied	All bidders complied.
0.6	Overload operation: at 125% load 10min, at 150% load 1min or better	Complied	Complied	Complied	All bidders complied.
).7	Harmonic distortion: <3% (linear load), < 6% (non-linear load) or better	Complied	Complied	Complied	All bidders complied.
31	PROTECTIONS				All bidders complied.
1.1	IP20 protection class or better	Complied	Complied	Complied	All bidders complied.
1.2	Input voltage out of tolerance safety	Complied	Complied	Complied	All bidders complied.
1.3	Input phase failure protection	Complied	Complied	Complied	All bidders complied.
1.4	Output voltage out of tolerance protection	Complied	Complied	Complied	All bidders complied.
1.5	Output phase failure protection	Complied	Complied	Complied	All bidders complied.
1.6	Output overload protection	Complied	Complied	Complied	All bidders complied.
1.7	Failure due to overheating protection	Complied	Complied	Complied	All bidders complied.
1.8	Output short circuit protection	Complied	Complied	Complied N	Albidders complied.
32	BATTERIES			NVV	Distiers complied.
32.2	Internal/External 12Volts sealed lead acid maintenance free batteries must be from the same manufacturer	Complied	Complied	Complied	Micidders complied.
32.3	Should have variable charger current	Complied	Complied	Complied Mind P	All bidders complied.
2.4	Should have 0ms transfer time to battery	Complied	Complied	Complied Complied Complied Complied	All bidders complied.
2.5	Should have 0ms transfer time to bypass	Complied	Complied	Complied	All bidders complied.
2.6	5minutes to 8minutes backup or more	Complied	Complied	Complied &	All bidders complied.
32.7	Battery Cabinet must be included	Complied	Complied	Complied	All bidders complied.
33	PARALLEL / REDUNDANT OPERATION	1	1	1	All bidders complied.
33.1	Must have autosensing for disconnection of parallel cable	Complied	Complied	Complied	All bidders complied.
33.2	Must have equal current share between parallel units via DSP (Digital Signal Processor)	Complied	Complied	Complied	All bidders complied.
33.3	All parallel systems should be able to be controlled from one control panel of a up:	Complied	Complied	Complied	All bidders complied.
33.4	Must have isolated parallel cards	Complied	Complied	Complied	All bidders complied.
33.5	Complete paralleling kits should be included Rasi	(Confidency)	Complied	Complied	All bidders companed.
34	CERTIFICATIONS Executive	Engineer			All bidders committed
34.1	ISO 9001, ISO 14001 and ISO 18001 Electrical	Changage	Complied	Complied	Midders complied.
34.2	EN 62040-3 Kar	Complied	Complied	Complied PROF.	Midders complied.
34.3	EN 62040-2, EN 62040-1 & EN 60950	Complied	Complied	Complied 48	will bidders complied.
34.4	CE marked	Complied	Complied,	Complied CADE	All bidders complied.
35	WARRANTY 5 years for UPS 2 years for Batteries ABDEL MAID SHABBIR Senior Engineer (Electrical NESPAK (A&P DIV), Karan		Complied.	11/	All bidders complied.
35.1	5 years for UPS	Complied	Complied Complied	Complied	All bidders complied.
	100	1 1 1	Ch alson	Complied	All bidders complied.

35.3		Complied	Complied	Complied	All bidders complied.
	Warranty will start after installation, commissioning and handover of UPS Systems	No deviation against clause 35.3 in technical bid submitted.	No deviation against clause 35.3 in technical bid submitted.	No deviation against clause 35.3 in technical bid submitted.	
36	COUNTRY OF MANUFACTURING & ORIGIN				All bidders complied.
36.1	USA/UK/EUROPE/JAPAN	Finland	Germany	Italy	All bidders complied.
36.1	Bidder will be responsible of complete installation and demonstration	Complied No deviation against clause 36.1 in technical bid submitted.	Complied No deviation against clause 36.1 in technical bid	Complied No deviation against clause 36.1 in technical bid	All bidders complied.
			submitted.	submitted.	
37	30 kVA THREE PHASE TO THREE PHASE ONLINE UPS WITH BATTERIES	Eaton 93PS UPS	UPS-MAK Level Series	MASTERYS GP – Green Power 2.0	All bidders complied.
37.1	Must be true online double conversion IGBT technology	Complied	Complied	Complied	All bidders complied.
7.2	Should be completely digitally controlled	Complied	Complied	Complied	Al Gidders complied.
37.3	Should have remote communication and monitoring options	Complied	Complied	Complied	All bidders complied. All bidders complied. All bidders complied. All bidders complied. All bidders complied.
7.4	Should have emergency power off switch	Complied	Complied	Complied Complied	All bidders complied.
7.5	Should have auto restarting capabilities	Complied	Complied	Complied St. 5	All bidders complied.
7.6	Operating temperature: 15°C - 30°C or better	Complied	Complied	Complied	All bidders complied.
7.7	Storage temperature: 15°C - 40°C or better	Complied	Complied	Complied	All bidders complied.
37.8	Should have advanced battery management for optimum charging and discharging	Complied	Complied	Complied	All bidders complied.
37.9	Should have 400 real time event logs with detailed parameters or more (Abdul ashe	Complied	Complied	Complied	All bidders complied.
7.10	Dual input supply (optional) Executive I	Complied	Complied	Complied	All bidders complied.
7.11	Should have a small footprint to save space and / easy maintenance	E-Umblied	Complied	Complied / W	Att bidders complied.
7.12	Should be compatible with standby generator	Complied	Complied	Complied OF.	All bidders complied.
7.13	Static Bypass Switch	Complied	Compliad	Complied Pr	
7.14	Manual Operated Bypass Switch with Enclosure	Complied	Complied TUNIO	Complied Cyber	Abbidders complied. Abbidders complied.
38	INPUT	0	KHAIS OCH	th.	All bidders complied.
38.1	Voltage range: 380VAC ± 15% three phase + Neutral + Earth or better.	ABBITIED Dr. MA	Deput Medical Control	Complied	All bidders complied.
A	INPUT Voltage range: 380VAC ± 15% three phase + Neutral + Earth or better. ABDUL MAID ST Senior Engineer: Senior Engineer: ABPUL MAID ST Senior Engineer:	Mertificachi Dinna	Complied Compli		

38.2	Input frequency range: 50Hz-60Hz (selectable) or better	Complied	Complied	Complied	All bidders complied.
8.3	Harmonic distortion: <4% or better	Complied	Complied	Complied	All bidders complied.
39	OUTPUT				All bidders complied.
9.1	Voltage: 380vac \pm 2%three phase + Neutral or better	Complied	Complied	Complied	All bidders complied.
9.2	Power factor: 1.0	Complied	Complied	Complied	All bidders complied.
9.3	Output frequency range: 50Hz ±1% synchronous with utility or generator / 50Hz ±0.5% battery mode or better	Complied	Complied	Complied	All bidders complied.
9.4	Normal mode efficiency: 90% or better	Complied	Complied	Complied	All bidders complied.
9.5	Economy mode efficiency: 95% or better	Complied	Complied	Complied	All bidders complied.
9.6	Overload operation: at 125% load 10min, at 150% load 1min or better	Complied	Complied	Complied	All bidders complied.
9.7	Harmonic distortion: <3% (linear load), < 6% (non-linear load) or better	Complied	Complied	Complied	All bidders complied.
10	PROTECTIONS				All bidders complied.
0.1	IP20 protection class or better	Complied	Complied	Complied \	
0.2	Input voltage out of tolerance safety	Complied	Complied	Complied	Alkoidders complied.
0.3	Input phase failure protection	Complied	Complied	Complied	Missilers complied.
0.4	Output voltage out of tolerance protection	Complied	Complied	Complied	Al Adders complied.
0.5	Output phase failure protection	Complied	Complied	Complied	An Adders complied.
0.6	Output overload protection	Complied	Complied	Complied	bidders complied.
0.7	Failure due to overheating protection	Complied	Complied	Complied Complied	All bidders complied.
0.8	Output short circuit protection	Complied	Complied	Complied No. 5	All bidders complied.
11	BATTERIES	•		Mic	All bidders complied.
1.1	Internal/External 12Volts sealed lead acid maintenance free batteries must be from the same manufacturer	Complied	Complied	Complied	All bidders complied.
1.2	Should have variable charger current	Complied	Complied	Complied	All bidders complied.
1.3	Should have 0ms transfer time to battery	Complied	Complied	Complied	All bidders complied.
1.4	Should have 0ms transfer time to bypassutive En		Complied	Complied	All bidders complied.
1.5	5minutes to 8minutes backup or molectrical / E		Complied	Complied	AM Biddorg completed
1.6	A	Complied	Complied	Complied	Ad Sidders complied
42	PARALLEL/REDUNDANT OPERATION		7	Complied PROF. Dr	An bidders complied.
2.1	Must have autosensing for disconnection of parallel cable	Complied	Complied Complete	Complied Photographics Complied	All bidders complied. All bidders complied. All bidders complied. All bidders complied.
2.2	Must have equal current share between parallel	Complied	Complied TUMPH. Complied Complete Complied Complete Complete Complete Complete Complete Complete Complete Complete Complete Compl	Complied Cyber inni	All bidders complied.
2.3	1011	Complied Complete	Complied	Complied	All bidders complied.
T	All parallel systems should be able to HABBIR ABDUL MAID Senior Engineer (Electrical) Senior Engineer (A&P DIV), Karachi	unnah	Complied Centre Complied Centre Complied Centre		

ABDUL MAJID SHABBUR Senior Engineer (Electrical) NESPAK (A&P DIV), Karachi

0)	Should have 400 real time event standing About Engineer (Electrical) Senior Engineer (A&P DIV), Karachi Senior Engineer (A&P DIV), Karachi	Jinnah Po-	Complied Complied Control Complied Control Con		
9	relection in the state of the s	Compiled Of Or	Mrs. Stachen	Complied	All bluders complied.
0	optimum charging and discharging	Complied	Complied	Complied	All bidders complied.
.8	Should have advanced battery management for	Complied	Kompaned Centre	Complied Cybern Pos	All bidders complied.
.7	Storage temperature: 15°C - 40°C or better	Complied -	Completed	Complied Head Head Head	Wil bidders complied.
.6	Operating temperature: 15°C - 30°C or better	Complied	Complied	Complied ROY Dell	Mil bidders complied.
.5	Should have auto restarting capabilities	Complied	Complied	Complied Di MB	Milders complied.
.4		aComplied	Complied	Complied AN	All bidders complied.
	monitoring options Electric	Compliedeer	Complied	Complied	All widders complied.
5.2	Should have remote communication and	Complied aikh)			All the days complied
5.2	technology Should be completely digitally controlled bdul Re	•	Complied	Complied	All bidders complied.
5.1	Must be true online double conversion IG	Complied	Complied	Complied	All bidders complied.
16	20kVA THREE PHASE TO THREE PHASE ONLINE UPS WITH BATTERIES	Eaton 93PS UPS	UPS-MAK Level Series	MASTERYS GP – Green Power 2.0	All bidders complied.
			submitted.	submitted.	
		bid submitted.	in technical bid	in technical bid	
		clause 45.2 in technical	against clause 45.2	against claus	5
	and delivered the second second	No deviation against	No deviation	No deviation against claused in technical bid submitted.	A COLUMN TO THE PARTY OF THE PA
).4	installation and demonstration	Compiled	Compiled	Compiled	de la cada de la compneta.
5.1	Bidder will be responsible of complete	Complied	Complied	Complied	dders complied.
	ORIGIN USA/UK/EUROPE/JAPAN	Finland	Germany	Italy	No. of the second
15	COUNTRY OF MANUFACTURING &		submitted.	submitted.	All pidds s complied.
		bid submitted.	in technical bid	in technical bid	
	commissioning and handover of UPS Systems	clause 44.3 in technical	against clause 44.3	against clause 44.3	
	Warranty will start after installation,	No deviation against	No deviation	No deviation	
4.3		Complied	Complied	Complied	All bidders complied.
4.2	2 years for Batteries	Complied	Complied	Complied	All bidders complied.
4.1	5 years for UPS	Complied	Complied	Complied	All bidders complied.
14	WARRANTY	C ! !	C 1' 1	C 1: 1	All bidders complied.
3.4	CE marked	Complied	Complied	Complied	All bidders complied.
3.3	EN 62040-2, EN 62040-1 & EN 60950	Complied	Complied	Complied	All bidders complied.
3.2	EN 62040-3	Complied	Complied	Complied	All bidders complied.
3.1	ISO 9001, ISO 14001 and ISO 18001	Complied	Complied	Complied	All bidders complied.
13	CERTIFICATIONS				All bidders complied.
2.5	Complete paralleling kits should be included	Complied	Complied	Complied	All bidders complied.
	Must have isolated parallel cards	Complied	Complied	Complied	All bidders complied.

	detailed parameters or more				
6.10	Dual input supply (optional)	Complied	Complied	Complied	All bidders complied.
6.11	Should have a small footprint to save space and easy maintenance	Complied	Complied	Complied	All bidders complied.
5.12	Should be compatible with standby generator	Complied	Complied	Complied	All bidders complied.
5.13	Static Bypass Switch	Complied	Complied	Complied	All bidders complied.
5.14	Manual Operated Bypass Switch with Enclosure (ABB, Schneider)	Complied	Complied	Complied	All bidders complied.
47	INPUT				All bidders complied.
7.1	Voltage range: 380VAC ± 15% three phase + Neutral + Earth or better.	Complied	Complied	Complied	All bidders complied.
7.2	Input frequency range: 50Hz-60Hz (selectable) or better	Complied	Complied	Complied	All bidders complied.
7.3	Harmonic distortion: <4% or better	Complied	Complied	Complied	All bidders complied.
18	OUTPUT	•			All bidders complied.
8.1	Voltage: 380vac \pm 2%three phase + Neutral or better	Complied	Complied	Complied	All bidders complied.
8.2	Power factor: 1.0	Complied	Complied	Complied	All bidders complied.
8.3	Output frequency range: $50Hz \pm 1\%$ synchronous with utility or generator / $50Hz \pm 0.5\%$ battery mode or better	Complied	Complied	Complied	All bidders complied.
8.4	Normal mode efficiency: 90% or better	Complied	Complied	Complied	All bidders complied.
8.5	Economy mode efficiency: 95% or better	Complied	Complied	Complied O o	All bidders complied.
8.6	Overload operation: at 125% load 10min, at 150% load 1min or better	Complied	Complied	Complied Complied Complied Complied Complete Com	All bidders complied.
8.7	Harmonic distortion: <3% (linear load), < 6% (non-linear load) or better	Complied	Complied	Company	All bidders complied.
49	PROTECTIONS			0	All bidders complied.
9.1	IP20 protection class or better	Complied	Complied	Complied	All bidders complied.
9.2	Input voltage out of tolerance safety	Complied	Complied	Complied	All bidders complied.
9.3	Input phase failure protection (Abdul Rash	econupliedch)	Complied	Complied	All bidders complied.
9.4	Output voltage out of tolerance protectionecutive	Complied	Complied	Complied	All bidders complied.
9.5		(Complied I	Complied	Complied	All binders complied.
9.6	Output overload protection Kar	Complied	Complied	Complied	All bidders complied.
9.7	Failure due to overheating protection	Complied	Complied	Complied	All bidders complied.
9.8	Output short circuit protection	Complied	Complied	Complied Complied	All bidders complied. All bidders complied.
50	BATTERIES		0110	bles.	All bidders complied.
50.1	Internal/External 12Volts sealed lead acid maintenance free batteries must be from the same manufacturer	Complied	Contributed Centre	Complied che	All bidders complied.
	maintenance free batteries must be from the same manufacturer Senior Engineer (Electrical) Senior Engineer (Electrical) NESPAK (A&P DIV), Karachi NESPAK (A&P DIV),	Dr. VAAN	Conneliador. HARSOCNIA Mescor		

50.2	Should have variable charger current	Complied	Complied	Complied	All bidders complied.
50.3	Should have 0ms transfer time to battery	Complied	Complied	Complied	All bidders complied.
50.4	Should have 0ms transfer time to bypass	Complied	Complied	Complied	All bidders complied.
50.5	5minutes to 8minutes backup or more	Complied	Complied	Complied	All bidders complied.
50.6	Battery Cabinet must be included	Complied	Complied	Complied	All bidders complied.
51	PARALLEL/REDUNDANT OPERATION				All bidders complied.
51.1	Must have autosensing for disconnection of parallel cable	Complied	Complied	Complied	All bidders complied.
51.2	Must have equal current share between parallel units via DSP (Digital Signal Processor)	Complied	Complied	Complied	All bidders complied.
51.3	All parallel systems should be able to be controlled from one control panel of a ups	Complied	Complied	Complied	All bidders complied.
51.4	Must have isolated parallel cards	Complied	Complied	Complied	All bidders complied.
51.5	Complete paralleling kits should be included	Complied	Complied	Complied	All bidders complied.
52	CERTIFICATIONS				All bidders complied.
52.1	ISO 9001, ISO 14001 and ISO 18001	Complied	Complied	Complied	All bidders complied.
52.2	EN 62040-3	Complied	Complied	Complied	All histors complied
52.3	EN 62040-2, EN 62040-1 & EN 60950	Complied	Complied	Complied	All sodile's complied.
52.4	CE marked	Complied	Complied	Complied	An Odeers complied.
53	WARRANTY			1//////	ders complied.
53.1	5 years for UPS	Complied	Complied	Complied	ders complied
53.2	2 years for Batteries	Complied	Complied	Complied	Mabidders complied.
53.3		Complied	Complied	Complied Nitro	Solid bidders complied.
	Warranty will start after installation,	No deviation against	No deviation		
	commissioning and handover of UPS Systems	clause 53.3 in technical	against clause 53.3	against clause 53.3	
		bid submitted.	in technical bid	in technical bid	
	(A) Luc	/	submitted.	submitted.	
54	COUNTRY OF MANUFACTURING & ORIGIN				All bidders complied.
54.1	USA/UK/EUROPE/JAPAN (Abdul Ra	slFiodanahaikh)	Germany	Italy	All bidders complied.
54.2	Bidder will be responsible of complete installation and demonstration Electrics	v.Conglied er 1 / Energy-I	Complied	Complied	All bidders complied.
	K	auNo deviation against	No deviation	No deviation /	Oli Keol Os M
		clause 54.2 in technical	against clause 54.2	against clause 54.2	A Ele Din Radio Onco
				1 / 1 / 11/11	JE 291 01, 46, 16
		bid submitted.	in technical bid	in technical bid	BB on contraction
			submitted.	submitted.	MI El Printe Ratiosula Centre
55	15 kVA THREE PHASE TO THREE PHASE ONLINE UPS WITH BATTERIES Must be true online double cost of the BT			in technical bid submitted. MASTERYS CR - Green Power 2.0	All bidders complied. All bidders complied. All bidders complied. All bidders complied.

ABDIL MAJID Senior Engineer (Electrical) Senior Engineer (Electrical)

Dr. Debataradnate W

	technology				
5.2	Should be completely digitally controlled	Complied	Complied	Complied	All bidders complied.
5.3	Should have remote communication and monitoring options	Complied	Complied	Complied	All bidders complied.
5.4	Should have emergency power off switch	Complied	Complied	Complied	All bidders complied.
55.5	Should have auto restarting capabilities	Complied	Complied	Complied	All bidders complied.
55.6	Operating temperature: 15°C - 30°C or better	Complied	Complied	Complied	All bidders complied.
55.7	Storage temperature: 15°C - 40°C or better	Complied	Complied	Complied	All bidders complied.
55.8	Should have advanced battery management for optimum charging and discharging	Complied	Complied	Complied	All bidders complied.
55.9	Should have 400 real time event logs with detailed parameters or more	Complied	Complied	Complied	All bidders complied.
55.10	Dual input supply (optional)	Complied	Complied	Complied	All bidders complied.
55.11	Should have a small footprint to save space and easy maintenance	Complied	Complied	Complied	All bidders complied.
55.12	Should be compatible with standby generator	Complied	Complied	Complied	All bidders complied.
55.13	Static Bypass Switch	Complied	Complied	Complied	All bidders complied.
55.14	Manual Operated Bypass Switch with Enclosure (ABB, Schneider)	Complied	Complied	Complied	All bidders complied.
56	INPUT				A kidners complied.
56.1	Voltage range: 380VAC ± 15% three phase + Neutral + Earth or better.	Complied	Complied	Complied	dders complied.
56.2	Input frequency range: 50Hz-60Hz (selectable) or better	Complied	Complied	Complied Complied	all bidders complied.
56.3	Harmonic distortion: <4% or better	Complied	Complied	Complied	All bidders complied.
57	OUTPUT	1	1	17.00	All bidders complied.
57.1	Voltage: 380vac ± 2%three phase + Neutral or better	Complied	Complied	Complied 6	All bidders complied.
57.2	Power factor: 1.0	Complied	Complied	Complied	All bidders complied.
57.3	with utility or generator / 50Hz ±0.5% battery	Complechilehi	Complied	Complied	All bidders complied.
57.4		Complied	Complied	Complied	All Didders complied.
57.5	Economy mode efficiency: 95% or better	Complied	Complied	Complied	. Mishidesore complied
57.6	Overload operation: at 125% load 10min, at 150% load 1min or better	Complied	Complied	Complied PROF.	All bidders complied.
57.7	Harmonic distortion: <3% (linear load), < 6%	Complied	Complied TUNNET. Becomplied rectional little achi	Complied	all bidders complied.
58	PROTECTIONS IP20 protection class or better AID SHABBIR Senior Engineer (Electrical) NESPAK (A&P DIV), Karachi	1	TUNPH.		All bidders complied.
	The think is a second of the second	Complied	Complish	Complied	All bidders complied.

58.2	Input voltage out of tolerance safety	Complied	Complied	Complied	All bidders complied.
58.3	Input phase failure protection	Complied	Complied	Complied	All bidders complied.
58.4	Output voltage out of tolerance protection	Complied	Complied	Complied	All bidders complied.
8.5	Output phase failure protection	Complied	Complied	Complied	All bidders complied.
8.6	Output overload protection	Complied	Complied	Complied	All bidders complied.
8.7	Failure due to overheating protection	Complied	Complied	Complied	All bidders complied.
8.8	Output short circuit protection	Complied	Complied	Complied	All bidders complied.
59	BATTERIES				All bidders complied.
59.1	Internal/External 12Volts sealed lead acid maintenance free batteries must be from the same manufacturer	Complied	Complied	Complied	All bidders complied.
9.2	Should have variable charger current	Complied	Complied	Complied	All bidders complied.
9.3	Should have 0ms transfer time to battery	Complied	Complied	Complied	All bidders complied.
59.4	Should have 0ms transfer time to bypass	Complied	Complied	Complied	All bidders complied.
9.5	5minutes to 8minutes backup or more	Complied	Complied	Complied	All bidders complied.
9.6	Battery Cabinet must be included	Complied	Complied	Complied	All bidders complied.
60	PARALLEL/REDUNDANT OPERATION	•	•	•	All bidders complied.
50.1	Must have autosensing for disconnection of parallel cable	Complied	Complied	Complied	All hidders complied
0.2	Must have equal current share between parallel units via DSP (Digital Signal Processor)	Complied	Complied	Complied	All bidders complied.
0.3	All parallel systems should be able to be controlled from one control panel of a ups	Complied	Complied	\\\\	207. 10
0.4	Must have isolated parallel cards	Complied	Complied	Complied Complied Complied	All bidders complied.
0.5	Complete paralleling kits should be included	Complied	Complied	Complied X.	All bidders complied.
61	CERTIFICATIONS			17.50	All bidders complied.
1.1	ISO 9001, ISO 14001 and ISO 18001	Complied	Complied	Complied Kill	All bidders complied.
1.2	EN 62040-3	Complied	Complied	Complied	All bidders complied.
1.3	EN 62040-2, EN 62040-1 & EN 60950	Complied	Complied	Complied	All bidders complied.
1.4	CE marked	Complied	Complied	Complied	All bidders complied.
62	WARRANTY				All bidderecomplied.
2.1	5 years for UPS (Abdul Rash	Combliedth)	Complied	Complied	All bidders complied.
2.2	2 years for Batteries Executive		Complied	Complied	All bidders complied.
2.3	Warranty will start after installation, Electrical commissioning and handover of UPS SystemsKar	(Complied)	Complied	Complied Or.	All bidders complied.
	The	No deviation against	No deviation	No deviation ADELL	24 June
		clause 62.3 in technical	against clause 62.3	against clause 62010	.114
	-		in technical bid	in technical bid and production	
	MABBIR	/	submitted.	No deviation against clause of the submitted.	
63	ORIGIN ROUL Mineer (Effectrical)	NHA KHA	N TUMPH.		All bidders complied.
Ro	COUNTRY OF MANUFACTINAL SHABBIR ORIGIN ABDUL Manufactrical) Senior Engineer (Effectrical) NESPAK (A&P DIV), Karachi	Dr. YAHYA M	in technical bid submitted.		
	MED	oah Postor Kar	0.		

63.1	USA/UK/EUROPE/JAPAN	Finland	Germany	Italy	All bidders complied.
63.2	Bidder will be responsible of complete installation and demonstration	Complied	Complied	Complied	All bidders complied.
	instanation and demonstration	No deviation against	No deviation	No deviation	
		clause 63.2 in technical	against clause 63.2	against clause 63.2	
		bid submitted.	in technical bid	in technical bid	
			submitted.	submitted.	
64	SYSTEM RESPONSIBILITY (APPLICABLE TO ALL UPS UNITS)				All bidders complied.
64.1	The complete UPS units shall be supplied by the OEM's authorized dealer only.	Complied	Complied	Complied	All bidders complied.
	·	Manufacturer's	Manufacturer's	Manufacturer's	
		authorization letter	authorization letter	authorization letter	
		submitted in technical	submitted in	submitted in	
		bid	technical bid	technical bid	
65	WARRANTY (APPLICABLE TO ALL UPS UNITS)				All bidders complied.
65.1	■ The OEM's standard warranty shall	Complied	Complied	Complied	All bidders complied.
	include complete replacement against				
	manufacturing defects and in no event				
	be for a period of less than five (5) years			Λ /	
	from date of initial start-up of the system			NNY	P2. 7
	including with service contract; shall				ALCO TO TO
	include consumables, overhauling			Ale III	T.G.
	works, repair or replace original parts,			D dent	4
	labor, and reasonable travel expense			Why becelan	
	necessary for repairs at the job site.	a /		HAR STEER AND	
	 Running hours shall not be a limiting 			MO Beach Sh	
	factor for the system warranty by either	WYUM		Mics	
	the manufacturer or servicing Dealer.	W.			
	 Submittals received without written 	(Abdul Rasheed S	haikh)		200
	warranties as specified will be rejected	Executive Engu	neer	/ W	"HIND CPS.
	in their entirety.	Electrical / Ene	rgy-I	.0	Mago Josy Josy
66	PARTS AND SERVICE QUALIFICATION (APPLICABLE TO ALL UPS UNITS)	Karachi		Or TARIS	All bidders complied. All bidders complied.
66.1	Service Facility	Complied	Complied	Complies OF adol	All bidders complied.
	The UPS supplier shall maintain 24-			Pre 103d Ochoto	132
	hour parts and service capability			herhille ostgra	
	within 100 miles of the project site.	1		Chapting badda	
	The Dealer shall stock parts as CHABBLE		TUNIO	Jr.	
	needed to support the Waster Mectrical	hi U U UA	N TUNION. S. DCN, MPH. S. CLOT OL CENTRE		
X.	package for this Blecific partect Thekarac	AHYA KHA	ctor al Centre		
700	within 100 miles of the project site. The Dealer shall stock parts as SHABBIR needed to support the package for this specific package for this specific package.	Dr. VAHYA KHA Dr. Deputy Dist Deputy Dist Deputy Dist Deputy Dist Kara	Medica.		
0	NESPAR	" Postgradii"	ch1		
	1,1-	Jinnah , Ma			

	supplier must carry sufficient				
	inventory to cover no less than 80%				
	parts service within 24 hrs and 95%				
	within 48 hours.				
	 Service Personnel 				
	The dealer shall maintain qualified				
	factory trained service personnel.				
	PARTS AND SERVICE QUALIFICATION				
	(APPLICABLE TO ALL UPS UNITS)				
1	Start-Up and Testing	Complied	Complied	Complied	All I-: J J
	Coordinate all start-up and testing	complica	Complied	Complied	All bidders complied.
	activities with the Engineer and	No deviation against	No desisting	NT T	
	Owner. After installation is complete	No deviation against clause 67.1 in technical	No deviation	No deviation	
	and normal power is available, the		against clause 67.1	against clause 67.1	
	manufacturer's local dealer shall	bid submitted.	in technical bid	in technical bid	
			submitted.	submitted.	
	perform the following:				
- 1	2. Perform the test at full name				
	plate rating as per latest				
	revision of applicable				
	International standard. Load				
	Bank, Cables and other			^/	
	equipment required for this			NNY	a.th
	test to be supplied to the				ILL ST TO
	customer.				of Care
	 Operation and Maintenance 			111 281	A STATE OF THE STA
	Manuals	. /		- AND EEO	Mile City
	Provide two (2) sets of operation and	\III out		a Miller Acc	L3 .
	maintenance manuals covering the	10 119		all the set the indi	
	UPS, and auxiliary components.	(Abdul Rashee	l Shaikhl	Mr. Vas. O. 2	
	Include final as-built wiring	Executive Er		O. C.	
	interconnect diagrams and	Electrical / E			
	recommended preventative	Karach			
	maintenance schedules.	i i i i i i i i i i i i i i i i i i i		/ / .	00
	Training			Lu AHM	kc`
	On-Site Training			ONARO	100,000
	Provide on-site training to instruct			ARICO DIN ROO	M.C. Watch
	the owner's personnel during			PROF. Dr. In Electrical Control	cen''
		1) //		OF. E Warth Radio	
	commissioning in the proper	\bigcirc \backslash \backslash	TINIO	Please and De Ropolliste West	
	operation and maintenance of the	MAHY	DCN.MP	He while storage	
	requipment. Review operation	WHAY WIBB	tor a Centre	PROF. Or INFERS OF ROOM	
	operation and maintenance of the maintenance manuals, parts manuals, and emphasis manual	Dr. YAHYA KHAN MBES Deputy Direction of the Marack	Vedica	PROF. OF INTEREST OF RAIL	
1	manuals, and empBency ngine service at	Dergraciante	hi		
-	(D)	12 hos Mar			

procedures. Other terms and conditions				All bidders complied.
Site planning	Complied	Complied	Complied	All bidders complied.
• The Contracting firm shall visit the site	Complied	Complied	Complied	All bladers compiled.
before submission of tender and ensure	No deviation against	No deviation	No deviation	
that cost of all necessary electrical	clause 67.1 Other	against clause 67.1	DESCRIPTION OF COMMUNICATION OF THE PROPERTY O	
boards/cables/earthing needed to	terms and conditions	Other terms and	against clause 67.1 Other terms and	
install and commissioning the complete	in technical bid	conditions in	conditions in	
system is included in the tender cost for	submitted.	technical bid	technical bid	
the UPS.	submitted.	submitted.	submitted.	
For technical bid each vendor is requested to fill	Complied	Complied	Complied	All bidders complied.
up the above mentioned Performa with the	Compiled	Complete	Complied	An bidders complica.
desired information in the last column, on the				
same MS word format in yes or no form with				
verifiable references (along with proper				
pagination, paragraph & line description)				
Vendor must also enclose a soft copy on	Submitted	Submitted	Submitted	All bidders complied.
CD/USB in addition to hard copy for technical	Submitted	Submitted	Submitted	711 bladers complicat
evaluation committee			/	
Only OEM Dealers in Pakistan or manufacturer	Complied	Complied	Complied \	All bidgers complied.
are eligible to participate	- Compiler	- Compact	\ \ \ \ \	W. Tree ce c
	Remarks as per clause	Remarks as per	Remarks as per	75 Q.C.
	64.1.	clause 64.1	clause 64.1.	A A A
Pricing of optional configuration and post	Not mentioned any	Not mentioned any	Not mentioned at	A. A. Adders not submitted
warranty terms should be quoted separately.	optional configuration	optional	optional optional	notional configuration and po
	in technical bid.	configuration in	configuration	warranty terms in technical bi
		technical bid.	configuration technical bid.	
Technical evaluation will be based on the	Complied	Complied	Complied	
standard configuration with accessories of the				
whole unit.	(Abdyl De a	1.01		
The bidder must indicate the number of UPS	Sufficient Experience	Sufficientkh)	Sufficient	All bidders complied.
Rating installed within Pakistan especially in	Electrical	L'Abelletice III	Experience/	"000°
health sector and letter of satisfaction from the	Kar	Ehergy-I	100	Stor. C.
end user.	17971	acm	/ Walan	3,01003
Required Financial capability as per bidding	Complied	Complied	Complied TARS IN OF INTERNATION	All bidders complied.
documents.			E. Or WEstwell	
Quality Safety Standards:			OKO, Debapolici	
Country of Manufacture and origin should be	Eaton, Firmand	MAK, Germany	Socomecy Trans of advis	All bidders complied.
USA/UK/Europe/Japan and equipment		AN TURMPH.	CApe, Ogh boy	
approval of their respective quality strongers is co	M) (I)	MAK, Germany HAN TUNIPH. MEBS. OCT. AL CENTRE	Complied TALES TO DE INTERNATION OF THE PORT OF THE PO	
USA/UK/Europe/Japan and equipment approval of their respective quality strong the manufactory. ARDUL MARTINE (Electrical Senior Engineer (Electrical Senior Engineer (A&P DIV), Karring Senior Engineer (AP DIV), Engin	chi YAHION	HAN TUNDEN. MBBS DCN.MPH. Director Director duate Medical Centre Karachi		
ATOMOT English OP DIV), Na	Di Debrir	duate		
OT MY AOU	1,105191	Kara		

Conclusion M/s Greaves Pakistan (Pvt.) Ltd., M/s BIOS., and M/s NETLINE(PK) meet the required bid evaluation and technical specifications, hence technically qualified. (Mr. Abdal Rasheed Shaikh d Member & Staffor Talemeer (Nespak), Karachi Representative (Nom Nespak, Karachi o-Opted Memo Member & Executive Engineer (Energy-I) entative from Representative from Works Services Department (E/M al (Sindh), Karachi Division Karachi (Prof. Tario Mahmood) (Dr. Yahya Khan Tunio) (Dr. Abeta Jabbar Memon) Chairman & Head of Radiology, Cyberknife & Oncology Department Jinnah Postgraduate Medical Centre, Karachi Secretary/Member & Deputy Director Member & Deputy Director (Dev) Jinnah Postgraduate Medical Centre, Representative from Health Department, Karadarac Govt. of Sindh, Karachi

BIDDERS ELIGIBILITY / QUALIFICATION REPORT

(1)

TENDER FOR "SUPPLY & INSTALLATION OF 1500 kVA GENERATING SETS (TWO UNITS) FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI FOR THE YEAR 2016-17.

	TEAN 2010-17.						
S.No.	Particulars	M/s Allied Engineering & Services (Pvt.) Ltd.	M/s Greaves Pakistan (Pvt.) Ltd.	M/s RA Engineering & Services (Pvt.) Ltd.			
1.	Original Tender purchased receipt	Yes	Yes	Yes			
2.	Earnest money submission (Original attach with financial proposal and copy attach with technical proposal).	Yes	Yes	Yes			
3.	Compliance of terms and conditions in original duly signed & Stamped.	Yes	Yes Illine tere	Yes			
4.	Copy of active sales tax registration certificate	Yes	A STATE OF THE PARTY OF THE PAR	Yes			
5.	Copy of income tax certificate	Yes	A Processor	Yes			
6.	Copy of Pakistan Engineering Council Certificate	Yes	Yes	No			
7.	Sole Agent / Authorized Distribution Certificate	Yes	Yes	Yes			
8.	The bidder should have own in-house facility of minor and major ashoverhauling works simultaneously for fuel pump injector calibration.	Engineer	Yes	Yes			
9.	The bidder must indicate the number of 1500 KVA Generating Sets installed within Pakistan especially in health sector	Energy-I Chi Yes	1004,100 Eses	Yes			
10.	Submission of original Catalogue with complete mailing address of the company, telephone / Fax Nos. and Web site for each quoted item.	Yes OF NE Bather of Radiosur	Cares	Yes			
11.	Remarks TUNIO	Ong Inteq Head life to the way	Qualified	Provisionally Qualified			

ABDUL MAJID SHABBIR
Senior Engineer (Electrical)
NESPAK (A&P DIV), Karachi
NESPAK (A&P DIV)

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Dr. YAKHYAK KIJABS OCN MPH.

Deputy Director
Deputy Director
Narachi
Narachi
Narachi

BIDDERS ELIGIBILITY / QUALIFICATION REPORT

(2)

TENDER FOR "SUPPLY & INSTALLATION OF 1500 kVA TRANSFORMERS (TWO UNITS) FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI FOR THE YEAR 2016-17.

S.No.	Particulars	
1.	Original Tender purchased receipt	A LAM I
2.	Earnest money submission (Original attach with financial proposal and copy attach with technical proposal).	ARQuid Silly Conference
3.	Compliance of terms and conditions in original duly signed & Stamped.	ALLIA BERT LEGISTER
4.	Copy of active sales tax registration certificate	Series .
5.	Copy of income tax certificate	No Bidder Participated.
6.	Copy of Pakistan Engineering Council Certificate	Mar
7.	Sole Agent / Authorized Distribution Certificate	(Abdul Asheed Shaikh) Executive Engineer Electrical (Engineer
8.	The bidder should have own in-house facility of minor and major overhauling works simultaneously for fuel pump injector calibration.	Electrical / Energy-I
9.	The bidder must indicate the number of 1500 KVA Generating Sets installed within Pakistan especially in health sector	CALO DIR adicional ind
10.	Submission of original Catalogue with complete mailing address of the company, telephone / Fax Nos. and Web site for each quoted item.	PROF. OF WILLESTON TO STAND TO
11.	Remarks	Chething of day

Dr. Abdul Jabba

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ABDUL MAJED SEABBIR
Senior Engineer (Electrical)
NESPAK (A&P DIV), Karachi
NESPAK (A&P DIV)

Dr. YAHYA KHAN TUNII Dr. YAHYA KHAN TUNII Deputy Director Deputy Director Deputy Director Deputy Director

BIDDERS ELIGIBILITY / QUALIFICATION REPORT

(3)

TENDER FOR "SUPPLY & INSTALLATION OF 625 kVA UPS FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI FOR THE YEAR 2016-17.

S.No.	Particulars	M/s Greaves Pakistan (Pvt.) Ltd.	M/s Bios	M/s Net-Line (PK)
1.	Original Tender purchased receipt	Yes	Yes	Yes
2.	Earnest money submission (Original attach with financial proposal and copy attach with technical proposal).	Yes	Yes	Yes
3.	Compliance of terms and conditions in original duly signed & Stamped.	Yes \\\	G es	Yes
1.	Copy of active sales tax registration certificate	Yes	Yes	Yes
5.	Copy of income tax certificate	Yes Jan Hester	Yes	Yes
ó.	Copy of Pakistan Engineering Council Certificate	Yes	Yes	Yes
7.	Sole Agent / Authorized Distribution Certificate	Yes	Yes	Yes
3.	The bidder should have own in-house facility of minor and major overhauling works simultaneously for fuel pump injector calibration.	Yes	Yes	Abdul Rasheed S Recutive Engineerical / Engineerical / Engineerical
).	The bidder must indicate the number of 1500 KVA Generating Sets installed within Pakistan especially in health sector	Yes	11/40 00 00 00 00 00 00 00 00 00 00 00 00 0	Yes Karachi
.0.	Submission of original Catalogue with complete mailing address of the company, telephone / Fax Nos. and Web site for each quoted item.	Yes Or TARRESON	dis Vest	Yes
11.	Remarks	Qualified day	Qualified	Qualified

Andli Istabili

ABDUL MAJID SHABBIR
Senior Engineer (Electrical)
NESPAK (A&P DIV), Karachi

Dr. YAHYYA KHAN TUNIO MBBS DCN.MPH. MBBS DCN

GOVERNMENT OF SINDH JINNAH POSTGRADUATE MEDICAL CENTRE <u>KARACHI-75510</u>

PROCUREMENT COMMITTEE ATTENDANCE SHEET

Dated the 18th M ay, 2017

SUBIECT:-

OPENING OF TECHNICAL BIDS FOR THE TENDER "SUPPLY & INSTALLATION OF 1500 kVA GENERATING SETS (TWO UNITS), 1500 kVA TRANSFORMERS (TWO UNITS) 625 kVA UPS FOR SURGICAL COMPLEX THROUGH DEVELOPMENT SCHEME "PROVISION OF EQUIPMENT FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI" FOR THE YEAR 2016-17.

S.No.	NAME & DESIGNATION	SIGNATURE
5.110.	Prof. Tariq Mahmood,	
1.	Head of Radiology, Cyberknife & Oncology Dept., JPMC, Karachi.	(a)
	(Chairman)	1
	Dr. Yahya Khan	3111
2.	Deputy Director, JPMC, Karachi	11.0
	(Member/Secretary)	.02
	Dr. Abdul Jabbar Memon	100
3.	Deputy Director (Dev),	
	Representative from Health Department, Govt. of Sindh. Karachi.	14-7
	(Member)	
	Mr. Abdul Rasheed Shaikh	20 /
4.	Executive Engineer (Energy-I)	M// w-
	Representative from Works & Services Department (E/M Division)	
	(Member)	1
	Representative from Accountant General (Sindh)	
5.	(Member)	114
	Representative from Nespak (E/M Division) (Co- Member) ABDUL MAJUD SHAFBE	1 100
6.	(Co-Member) ABDUL MAJID SHAFED	1. (1 ./.)
	WIEFAK	TIAB
		MAM GIEC

BIN

ABDUL MATTO SHABBIA Senior Engineer (Electrical) NESPAK (A&P DIV), Karachi

PROF. Dr. MARIQ MANMOCO
PROF. Dr. MRBS, DMRD, FCPS
MBBS, FCPS
MB

Abda Lagrand Shaikiii Exernila Engager Electrical / Energy-l

MUHAMMAD WASIULLAH

Assistant Accounts Officer

Assistant Accountant General
office of the Accountant
Sindh Karachi

GOVERNMENT OF SINDH JINNAH POSTGRADUATE MEDICAL CENTRE KARACHI-75510

LIST OF FIRMS WHO ATTENDED THE TENDER MEETING

Dated the 18th M ay, 2017

SUBJECT:-

OPENING OF TECHNICAL BIDS FOR THE TENDER "SUPPLY & INSTALLATION OF 1500 kVA GENERATING SETS (TWO UNITS), 1500 kVA TRANSFORMERS (TWO UNITS) 625 kVA UPS FOR SURGICAL COMPLEX THROUGH DEVELOPMENT SCHEME "PROVISION OF EQUIPMENT FOR SURGICAL COMPLEX AT JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI" FOR THE YEAR 2016-17.

	EQUIPMENT FOR SURGICAL CO	OMPLEX AT JINNAH 1.	002
	MEDICAL CENTRE, KARACIII		
		NAME & SIGNATURE	MOBILE NO.
S.No.	I NIAME OF FIRM	- 1.	034-3316720
1.	RA Engr & Services (Gensel)	TAGILEEN ALKHASAL	U342-2329304
2.	RA Engr & Services (Gensels) ALLIED ENGE & SERVICES RVH 210	Nisar Almod	0302-2397861
3.	greates Refistan (")	ALL AHMEN	0324-2038479
4	B105 (UPS)	IRFAN ALI	15300-271682
5.	NET. LINE (PK) (UPS)	Cabril Di color	C (C 300) 3 (50) 67 (1
6	Sycars planting (CP.)		/-
1	7.		
	8.		
	9.		
	10.		
	11.		1200
		1	d) /
	PROF. Dr. TAR B.	ABDUL MAID SHABBIR (Electrical) Serior Engineer (Electrical)	(C) (C)
	ROF. Dr. and Control of	ABDUL MAID SHABBIN Senior Engineer (Electrical) NESPAK (A&P DIV), Karaci	ni.
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	Simial.	Mar	
		(VPdn. Stagnes	d Shaikhi
	MUHAMMAD WASIULLAH MUHAMMAD WASIULLAH Assistant Accountant General Assistant Accountant General	Executive (Email.
	MUHAMMAD WASIULLAN MUHAMMAD WASIULLAN MUHAMMAD WASIULLAN MASISTAN Accounts nt General Office of the Accounts nt General Sindh Karachi	is fosti fem a	Cim
	MUHAMIN Account N		
	Office 2		

GOVERNMENT OF SINDH JINNAH POSTGRADUATE MEDICAL CENTRE KARACHI-75510

LIST OF FIRMS WHO DROP THE TENDER IN THE BOX

Dated the 18th M ay, 2017

Tender No. F.1-349/2016-17-(P&D)/JPMC

(1) Tender for Supply and Installation of 1500 kVA Generating Sets (Two Units) for Surgical Complex at Jinnah Postgraduate Medical Centre Karachi.

S.No.	NAME OF FIRM	NAME & SIGNATURE	MOBILE NO.
1.	ALLIED ENGE + SECNICES(PNA)14	TACKED A KHATRI	0349 - 2324304
2.	Grenves Pakistan	Nisa Ahmod Dig	0327-33778
3.	RA Eng & Services	Feraz Julle	0334-53169
4.			/
5.			
6			

X

Senson SHABBIR
NESPAK (Ader DIV), Karachi

(Abdul Rasheed Shaikh)

Executive Engineer

Electoral Fracegy-l

Agrachi

MUHAMMAD WASIULLAH

Assistant Accounts of the Accountant General

office of the Accountant Sindh Karachi

Sindh Karachi

GOVERNMENT OF SINDH JINNAH POSTGRADUATE MEDICAL CENTRE <u>KARACHI-75510</u>

LIST OF FIRMS WHO DROP THE TENDER IN THE BOX

Dated the 18th May, 2017

Tender No. F.1-349/2016-17-(P&D)/JPMC

(2)

Tender for Supply and Installation of 1500 kVA Transformers (Two Units) for Surgical Complex at Jinnah Postgraduate Medical Centre Karachi.

S.No.	NAME OF FIRM	NAME & SIGNATURE	MOBILE NO.
1.			,
2.			
3.			
4.			
5.			

Dr. YAHYA KHA MANA GENING DENNIS CENING CENING CENING

ABDUL MAJID SHABBIR Senior Engineer (Electrical) NESPAK (A&P DIV), Karachi

[Abdul Rnaheed Shaikh] Executive Engineer Electrical / Energy-I

MUHAMMAD WASIULLAN

MUHAMMAD WASIULLAN

Assistant Accountant General

office of the Accountant

Sindh Karachi

JINNAH POSTGRADUATE MEDICAL CENTRE LIST OF FIRMS WHO DROP THE TENDER IN THE BOX

Dated the 18th M ay, 2017

Tender No. F.1-349/2016-17-(P&D)/JPMC

Tender for Supply and Installation of 625 kVA UPS for Surgical Complex at Jinnah 1. 2. NAME & SIGNATURE 3. NET-CINE MOBILE NO. 4. 5.

PROF. Dr. TATHO MANMOOD

Head Department of Radiology,

Other Debate Dedications of Annalysis rteau Departitizate of Radiosurgery Oncology Cyberknife Robotic Radiosurgery Oncology Jinnah Postgraduale Medical Centre, Karachi





