

NESPAK - DIAMER BASHA CONSULTANTS GROUP (DBCG)

**BIDDING DOCUMENTS
FOR SUPPLY OF
LOT-1 GENERATOR, LOT-2 IT EQUIPMENT
AT DBCG MANAGEMENT OFFICE, LAHORE AND
SITE OFFICE, CHILAS**

JANUARY 2021

**NESPAK - DIAMER BASHA CONSULTANTS GROUP (DBCG)
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**BIDDING DOCUMENTS
FOR SUPPLY OF
LOT-1 GENERATOR, LOT-2 IT EQUIPMENT
AT DBCG MANAGEMENT OFFICE, LAHORE AND SITE OFFICE, CHILAS**

TERMS AND CONDITIONS

1. Introduction

NESPAK led Diامر Basha Consultants Group (DBCG) (the Purchaser) wishes to receive Bids on "Single Stage Two Envelope" bidding procedure for Supply of Lot-1 Generator, Lot-2 IT Equipment at DBCG Management Office, Lahore and Site Office, Chilas.

The prospective Bidders, who have downloaded the Bidding Documents from the Purchaser's website, must regularly visit the website for downloading the addendum, if any.

2. Scope of Supply

The Scope of Supply for each Lot of Items/Goods is described in detail in respective Schedule of Prices as attached hereto.

The Bidders may submit a Bid for single Lot or multiple Lots but the Bids must be for complete Scope of Supply of the respective Lot(s) as per Schedule of Prices. Any Bid covering partial Scope of Supply of the respective Lot will be rejected.

3. Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of its Bid and the Purchaser will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

4. Validity of the Bids

The Bids shall remain valid for a period of ninety (90) days after the date of Bid opening.

5. Documents Comprising the Bid

Bid shall comprise two envelopes submitted simultaneously, one called the Technical Proposal and the other the Financial Proposal, each containing the documents listed here under, both envelopes enclosed together in one outer single envelope.

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a) Technical Proposal

The 'Technical Proposal' shall comprise the following:

- i. Duly filled-in, signed and stamped Letter of Technical Proposal;
- ii. Company Registration Certificate;
- iii. NTN Certificate and extract of Active Taxpayer List;
- iv. GST Certificate;
- v. Successful Delivery Certificate of Items/Goods duly certified by the Purchaser against the Purchase Orders issued during last six months (July 2020 to December 2020);
- vi. Annual turnover which is also termed as income from contracting for supply of Items/Goods specified in respective Lot(s) during the last three (3) years at least Rs. 10 million or the said figure has been achieved in any year during the last three (3) years. The Bidder shall also provide evidence of financial health such as bank account statements, available line of credits, etc., to show the soundness of the Bidder's financial position for supply of Items/Goods;
- vii. An affidavit on stamp paper of Min. Rs. 50 duly attested by the Oath Commissioner certifying that "We have neither been blacklisted nor involved in any litigation/arbitration with any Government or Semi-Government Organization/Department"; and
- viii. These Bidding Documents duly signed and stamped.

b) Financial Proposal

The 'Financial Proposal' shall comprise the following:

- i. Duly filled-in, signed and stamped Letter of Financial Proposal;
- ii. Bid Security amounting to three percent (3%) of the Bid Price in the form of demand draft/pay order/CDR in favour of National Engineering Services Pakistan (Pvt.) Limited (NESPAK); and
(Bid Security of unsuccessful Bidders shall be returned upon award of the respective Lot(s) to the successful Bidder(s); whereas the Bid Security of successful Bidder(s) shall be returned when the Bidder(s) has furnished the required Performance Security.)
- iii. Duly filled-in, signed and stamped Schedules of Prices of respective Lot(s) being quoted by the Bidder(s).

The Bids comprising Technical and Financial Proposals must be complete, in order and comprise documentary evidences for each requirement mentioned in these Bidding Documents.

6. Bid Prices, Currency of Bid

The prices in Schedule of Prices shall be quoted by the Bidder entirely in Pak Rupees. The payment shall also be made in Pak Rupees. The Bid Price shall

Sign & Stamp of the Bidder

be quoted inclusive of all prevailing duties and taxes such as income tax, GST, etc.

The terms of payment shall be as under:

- i. Payment shall be made through crossed cheque within thirty (30) days after submission of invoice upon delivery, inspection, installation / commissioning of specific Items/Goods up to the satisfaction of the Purchaser at DBCG Management Office, Lahore and Site Office Chilas, as per unit rates quoted in respective Schedule of Prices.
- ii. No payment shall be made in advance.
- iii. Payment against partial delivery of the respective Lot(s) shall not be made.
- iv. Payment shall be made after deduction of applicable taxes (Income tax, GST etc.) at source, as per Government Rules/Instructions/Notifications.
- v. The prices quoted by the Bidder shall remain firm and fixed during the entire Term of Supply and up to the issuance of 'Certificate of Completion' for respective Lot(s).

7. Bid Submission, Opening and Clarification

The documents comprising Technical Proposal will be sealed in a separate envelope titled as "Technical Proposal". The documents comprising the Financial Proposal will be sealed in another envelope titled as "Financial Proposal". The Bidders shall also submit one (01) copy each of Technical and Financial Proposals. Both Proposals will then be sealed in a third envelope titled as "Bid for supply of Lot-1 Generator, Lot-2 IT Equipment at DBCG Management Office, Lahore and Site Office, Chilas".

The Bid, prepared in accordance with the above provisions must be submitted latest by deadline for submission of Bids mentioned in Invitation to Bid. The Bids submitted through fax or e-mail shall not be considered. The Technical Proposals will be opened on same day in the presence of the Bidder's authorized representatives. Financial Proposals will remain unopened and will be held in the custody of the Purchaser until time of its opening.

After having examined the Technical Proposals for each Lot, the results of responsiveness of Technical Proposals will be communicated by the Purchaser to all Bidders. The Financial Proposals of those Bidders whose Technical Proposals have been held non-responsive will be returned unopened to the respective Bidders. The Bidders, whose Technical Proposals are held substantially responsive, will be invited to attend the meeting for opening of their Financial Proposals.

The Bidder's name, Bid Prices, any discount, the presence or absence of Bid Security and such other details as the Purchaser at its discretion may consider appropriate, will be announced by the Purchaser at the opening of Financial Proposals of respective Lot(s). Any Bid Price or discount which is not read out and recorded at Financial Proposals' opening, will not be taken into account in

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the evaluation of Financial Proposals.

The Purchaser will prepare the record of the Bid opening (Technical & Financial). Representatives of the Bidders who choose to attend shall sign the attendance sheet.

To assist in the examination, evaluation and comparison of Bids the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. The request for clarification and the response shall be in writing and no change in the price or substance of the Bid shall be sought, offered or permitted.

8. Evaluation Criteria

The Purchaser will evaluate the Bids as per the following criteria:

- a) The Purchaser will determine whether each Technical Proposal submitted for the respective Lot(s) is substantially responsive to the requirements of the Bidding Documents. A substantially responsive Technical Proposal is one which substantially conforms to all the terms, conditions and requirements of the Bidding Documents. The Purchaser may reject any Technical Proposal as non-responsive if found not meeting the requirements of the Bidding Documents.
- b) The Purchaser will evaluate and compare the Financial Proposals of the Bidders whose Technical Proposals submitted for the respective Lot(s) are declared substantially responsive to the requirements of the Bidding Documents. Selection will be based on Least Cost Method. Furthermore, any Financial Proposal not accompanied by an acceptable Bid Security shall be rejected by the Purchaser as non-responsive.
- c) Any minor informality or non-conformity or irregularity in a Bid which does not constitute a material deviation may be waived by Purchaser, provided such waiver does not prejudice or affect the relative ranking of any other Bidder.

9. Notification of Award

The Purchaser will award the respective Lot(s) to the Bidder(s) whose Bid has been determined as most advantageous bid being substantially responsive to the Bidding Documents with lowest Bid Price in respective Lot(s).

Prior to expiration of the period of Bid validity prescribed by the Purchaser, the Purchaser will notify the successful Bidder(s) in writing ("Letter of Acceptance/Purchase Order") that his Bid has been accepted. This letter shall name the sum which the Purchaser will pay the Supplier(s) (the successful Bidder(s)) in consideration of the execution and completion of the Supply of Items/Goods as prescribed by the respective Lot(s) (hereinafter called the "Contract Price").

Sign & Stamp of the Bidder

Notwithstanding the above, the Purchaser reserves the right to annul the bidding process and reject all Bids, at any time prior to Award as per Rule 33 of Public Procurement Rules 2004.

10. Pre-Purchase Demonstration

The successful Bidder(s) is bound to provide pre-purchase demonstration of Items/Goods as required by the Purchaser.

11. Performance Security

The successful Bidder(s) (the Supplier(s)) under the respective Lot(s) shall furnish to the Purchaser a Performance Security, in the form of Bank Guarantee from Scheduled Bank in Pakistan for the amount equal to 10% of Contract Price within a period of seven (07) days after the receipt of Letter of Acceptance/Purchase Order. The Performance Security shall be valid till the warranty period of specific Items/Goods under the respective Lot(s). Failure of the successful Bidder to comply with the requirement of submission of the Performance Security shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security.

12. Term of Supply

The Supplier shall submit schedule of inspection of Items/Goods under the respective Lot(s) for approval by the Purchaser.

The Supplier shall complete delivery, inspection, installation, testing & commissioning of specific Items/Goods under the respective Lot(s), within four (4) weeks for **Lot No. 1** and within eight (8) weeks for **Lot No. 2** from the date of issuance of Letter of Acceptance.

The Supply of Items/Goods under each Lot shall be monitored by the Purchaser through an authorized personnel and shall be rejected if not found according to the requirements of the Bidding Documents; the Purchaser shall not be responsible for any costs or expenses incurred by the Supplier on this account.

The Purchaser reserves the right to increase or decrease the quantity of each item mentioned in the Schedule of Prices.

In case of late delivery beyond the periods specified above, liquidated damages @ 1% per day of the awarded amount mentioned in the Letter of Acceptance/Purchase Order not exceeding 10% of the Letter of Acceptance/Purchase Order value for late delivered supply shall be imposed upon the Supplier.

In case of any unacceptable reason attributable to the Supplier, the Purchaser will have the right to cancel the Award and forfeit the Supplier's Performance Security.

Sign & Stamp of the Bidder

LETTER OF TECHNICAL PROPOSAL

SUPPLY OF LOT-1 GENERATOR, LOT-2 IT EQUIPMENT AT DBCG MANAGEMENT OFFICE, LAHORE AND SITE OFFICE, CHILAS

To:

NESPAK - DIAMER BASHA CONSULTANTS GROUP (DBCG)
49 – H, Gulberg-III, Lahore

Gentleman,

1. We have examined and have no reservations to the Bidding Documents including Addenda, if any.
2. We hereby offer to supply the Items/Goods stated in the Bidding Documents for Lot Nos. _____ in conformity with these Documents.
3. We undertake, if our Bid is accepted, to supply the Items/Goods comprised in the Letter of Acceptance within the time stated in the Bidding Documents.
4. We agree to abide by this Bid for the period of sixty (60) days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
5. This Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
6. We undertake, if our Bid is accepted, to execute the Performance Security referred to in Bidding Documents for the due performance and execution / completion of the Supply of Items/Goods.
7. We do hereby declare that the Bid is made without any collusion, comparison of figures or arrangement with any other person or persons making a bid for the Supply.
8. We are not under temporary suspension or debarred/blacklisted by any Government/Semi Government/Public Department whether notified or not by PPRA on its website.
9. We are not participating as Bidders, in more than one Bid in this bidding process; and
10. We undertake that all the information and documents submitted with the Bid are genuine, and in case of incorrect information or fake documents we shall be liable for punitive action under the Applicable Law.

Sign & Stamp of the Bidder

Dated this _____ day of _____, 2021

Signature _____

in the capacity of _____ duly authorized to sign bid for and on behalf of

(Name of Bidder in Block Capitals)
(Seal)

Address: _____

Witness:

(Signature) _____

Name: _____

Address: _____

CNIC _____

Sign & Stamp of the Bidder

LETTER OF FINANCIAL PROPOSAL

SUPPLY OF LOT-1 GENERATOR, LOT-2 IT EQUIPMENT AT DBCG MANAGEMENT OFFICE, LAHORE AND SITE OFFICE, CHILAS

To:

NESPAK - DIAMER BASHA CONSULTANTS GROUP (DBCG)
49 – H, Gulberg-III, Lahore.

Gentleman,

1. We have examined and have no reservations to the Bidding Documents including Addenda, if any.
2. We hereby offer to supply the Items/Goods stated in the Bidding Documents for Lot Nos. _____ in conformity with these Documents for the Total Bid Price of PKR _____ (Pak Rupees _____).
3. As security for due performance of the undertakings and obligations of this Bid, we submit herewith a Bid Security in the amount of _____ drawn in your favour or made payable to you.
4. We agree to abide by this Bid for the period of sixty (60) days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
5. This Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
6. We understand that you are not bound to accept the lowest or any bid you may receive.
7. We do hereby declare that the Bid is made without any collusion, comparison of figures or arrangement with any other person or persons making a bid for the Supply.
8. We undertake that all the information and documents submitted with the Bid are genuine, and in case of incorrect information or fake documents we shall be liable for punitive action under the Applicable Law.

Sign & Stamp of the Bidder

Dated this _____ day of _____, 2021

Signature _____

in the capacity of _____ duly authorized to sign bid for and on behalf of

(Name of Bidder in Block Capitals)
(Seal)

Address: _____

Witness:

(Signature) _____

Name: _____

Address: _____

CNIC _____

Sign & Stamp of the Bidder

SCHEDULE OF PRICES

Sign & Stamp of the Bidder

**SUPPLY OF LOT-1 GENERATOR, LOT-2 IT EQUIPMENT
AT DBCG MANAGEMENT OFFICE, LAHORE AND SITE OFFICE, CHILAS**

SUMMARY OF SCHEDULE OF PRICES

Sr. No.	Lot No(s)	Total Price (PKR)

Bid Price (PKR): _____

Sign & Stamp of the Bidder

LOT-1 GENERATOR SCOPE OF SUPPLY

TECHNICAL SPECIFICATIONS FOR DIESEL GENERATORS

The scope of work shall cover the design, manufacturing, supply, installation, testing and commissioning of diesel generator units (DG Units) as follows:

- 01 (One) No. 45 kVA rated for Chilas Inn Hotel
- 01 (One) No. 30 kVA rated for Expatriate/Senior Staff Guest House
- 01 (One) No. 50 kVA rated for Office at Karim Dad House
- 01 (One) No. 25 kVA rated standby for Chilas Inn Hotel
- 01 (One) No. 25 kVA rated standby for Office at Karim Dad House and Expatriate/Senior Staff Guest House

The DG sets shall be capable of delivering rated kVA at Prime Power under the specified service conditions (except for standby diesel generators of 25 kVA rating).

The Bidder shall propose generator capacity (kVA) to obtain required prime kVA ratings at the maximum outdoor operating temperature and also provide calculations and reference graphs etc. to confirm that the proposed generators are capable of providing the required prime kVA rating (except for 25 kVA rating standby DG Units).

Each Diesel Generator Unit (DG Unit) shall consist of the following;

- Diesel Generator Set
- Exhaust System
- Outdoor Weather Protective and Sound Attenuating Canopy
- Automatic Transfer Switch (ATS)
- Fuel Oil System
- LV Power Cables and Control Cables
- Earthing Pit and Earthing Conductor

Each DG Unit shall be supplied as a complete pre-integrated and pre-assembled unit. The DG Unit shall be furnished with speed governor, lubricating oil facility, air inhalation, cooling facility, fuel supply facility, exhaust facility, battery starting system, exciter, voltage adjuster, Earthing studs and control panel.

The DG Unit shall be of internationally reputed make. DG units shall be supplied from original equipment suppliers and locally assembled units are not acceptable.

Standards

The equipment shall conform to the applicable requirements of the latest edition of the following international standards:

Subject	Standard
• Rotating electrical machines	IEC 60034
• Current transformers	IEC 61869
• Electrical relays	IEC 60255
• Low voltage switchgear and control-gear assemblies	IEC 61439
• Degrees of protection provided by enclosures (IP code)	IEC 60529
• Low voltage switchgear and control-gear	IEC 60947
• Reciprocating internal combustion engines performance	ISO 3046
• Reciprocating internal combustion engine driven alternating current generators sets	ISO 8528
• Quality Assurance	ISO 9000
• Diesel Engine Manufacturers Association Standards	DEMA
• National Electric Manufacturers Association	NEMA MG-1
• Letter symbols to be used in electric technology	IEC 60027
• International electro technical vocabulary	IEC 60050

Ratings

The generators shall have the following ratings:

- | | |
|-------------------------------|-----------------------------------|
| • Output | 25 kVA, 30 kVA, 45 kVA and 50 kVA |
| • Voltage | 380 ~ 415V, 3Ø |
| • Frequency | 50 Hz |
| • Power factor | 0.85 lagging |
| • Speed | 1500 rpm |
| • Outdoor Ambient Temperature | 45°C |
| • Neutral grounding | Solidly grounded |

Diesel Engine

The diesel engine shall be of heavy duty solid injection, compression ignition, exhaust gas turbocharged with intercooler, water-cooled closed circuit with radiator, air starting, four stroke, multi-cylinder with exchangeable cylinder liners, forced lubrication with lubrication oil cooler, electronic governor, suitable flywheel for flicker-free operation and exhaust silencer with necessary piping etc. all parts shall be easily accessible for inspection and repairs. The crankshaft speed shall not exceed 1500 rpm.

The lubricating oil system shall be closed circuit, forced feed type with duplex oil filters with an automatic bypass to avoid stoppage of oil circulation. The generator shall be continuous running duty type (S1) as per IEC 60034 – 1.

The generator shall be protected by housing, self-ventilated, drip proof, for tropical climate and equipped with a brushless excitation system with rotating diodes and voltage regulator.

Temperature rise of the windings shall not be more than 90°C for class-F insulation with an ambient temperature of 45°C under rated conditions. The generator shall be designed to withstand speed of 1.2 times the rated speed.

The engine shall be fitted with a mechanically operated device which will shut off the fuel supply to engine when any of the specified alarm conditions occur. The engine shall be efficiently silenced and be complete with primary and terminal silencer arrangements.

The diesel generator shall automatically shut down under following conditions.

- Low Oil Pressure
- High Engine Temperature
- Low Fuel Level
- Over / Under Speed
- Battery Charge Fail

Alternator

The alternator shall be synchronous, four pole and brushless excitation type and shall comply with the relevant requirements of Specification IEC 60034 or an equivalent international standard.

The alternator shall be designed for operation of 10% engine overload at any power factor between unity and rated power factor for a maximum period of one hour in any 12 hour period as permitted by ISO 3046/II.

The alternator shall be rated for IP-23 protection. All winding shall be tropicalized and suitably impregnated to withstand the site ambient conditions.

The alternator shall be complete with all necessary cooling fans, excitation and voltage regulating equipment. The alternator shall be capable of maintaining its continuous maximum rated output when operating within $\pm 5\%$ of rated voltage and at rated power factor.

The alternator shall be brushless rotating field, self-exciting and self-regulating type complete with permanent magnets and fully connected damper windings. The stator winding shall be star-connected and shall be brought out together with the neutral point to terminals located in a sheet steel box mounted on top of the generator to facilitate connection of a power cable of suitable capacity.

The following protection shall be provided for the alternator:

- Over Current Protection
- Earth Fault Protection.

Speed Governor

The diesel engine shall be fitted with a speed governor capable of accuracy to Class A2 of ISO 3046/IV. The governor is to be fitted with speed control facilities to enable the engine speed to be adjusted from the local control panel.

Control Panel

The control panel of each DG unit shall contain all necessary equipment for control, protection and operation of the DG unit. Facilities for both manual and automatic start/stop shall be available.

The control panel shall have the following provisions for the control of DG Set:

- Master engine control which for OFF/AUTO/MANUAL/TEST with a facility for starting and stopping of the set.
- Selectable Multifunction meter
- Engine control monitor.
- Alternator voltage monitor.
- Engine hours run counter.
- Voltmeter and Ammeter
- Combined frequency and tachometer
- wattmeter,
- power factor meter
- lubricating oil temperature and pressure,
- cooling water temperature,
- for turbocharge engines, charge air temperature and pressure,
- tank fuel level gauge

Fuel Oil System

The long term fuel oil storage tank shall have a capacity of at least 72 hours of continuous operation. The fuel oil day tank shall have the capacity for at least 12 hours full load running. Both tanks shall have double wall with leakage monitoring equipment and shall be furnished with float switch and fuel level gauge. The cost of long term oil storage tank shall be quoted separately by the Bidder. Long term fuel oil storage tank is not required for standby diesel generators of 25kVA rating.

Lubricating Oil System

The lubricating oil system shall be closed circuit, forced feed type with duplex oil filters with an automatic bypass to avoid stoppage of oil circulation. The generator shall be continuous running duty type (SI) as per IEC-60034-1.

Starting Battery

The battery shall be of the lead acid type, alternatively gel-acid type. Each cell shall have an individual container preferably of clear plastic. The container shall be completely closed and provided with an acid spray preventing ventilation plug. The number of cells shall be selected, to prevent that the battery voltage does exceed 110% of rated voltage during the float charging. Bolted or welded interconnections between the cells shall be provided.

Mounting

The diesel engine & alternator shall be perfectly aligned & assembled on sturdily fabricated adequately machined integral robust skid frame. Skid frame to be dimensioned to accommodate generator/alternator assembly, all accessories,

sound proof canopy. Skid frame shall be of rigid construction suitable for locating on level ground surfaces ranging from compacted earth, crushed rock or a concrete pad. The base frame shall be provided with lifting facility & predrilled foundation holes for installation on anti-vibration mounting (AVM pads).

Four Wheel Portable Trolley for 25kVA Standby Generators

Four wheel portable trolley shall be provided for each 25kVA standby generator. The trolleys shall be heavy duty type robust design to cater the load of DG set. All necessary accessories i.e. spring suspension, turn table, parking brakes screw jack assembly tyres and axle etc. shall be provided.

Automatic Transfer Switch (ATS)

Each automatic transfer shall consist of an inherently double throw power transfer switch mechanism and a microprocessor controller to provide automatic operation. All transfer switches and controllers shall be the products of the same manufacturer. The ATS panel shall be of sheet steel vermin proof with lockable hinged front doors.

The automatic transfer switches and controls shall conform to the following requirements:

- UL 1008 - Standard for Transfer Switch Equipment
- CSA certified to CSA 22.2 No. 178 – 1978 Automatic Transfer Switches
- IEC 60947-6-1 Low-voltage Switchgear and Control gear; Multifunction equipment; Automatic Transfer Switching Equipment
- NFPA 70 - National Electrical Code
- NFPA 110 - Emergency and Standby Power Systems
- IEEE Standard 446 - IEEE Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications
- NEMA Standard ICS10-1993 (formerly ICS2-447) - AC Automatic Transfer Switches

Circuit breakers and auto transfer switch shall be provided rated for full load of the current (+10% overload). The ATS equipment shall be of 3 attempt type and capable of sensing single phase and three phase failure of main supply or any variation in main supply voltage.

The transfer switch shall be electrically operated and mechanically held with double throw construction. The electrical operator shall be a momentarily energized, single-solenoid mechanism. Main operators which include overcurrent disconnect devices, linear motors or gears shall not be acceptable. The switch shall be mechanically interlocked to ensure only two possible positions.

The ATS panel shall monitor the local main supply and request the generator to start if this supply fails, or fall outside preset limits. The ATS panel will then control the switching of the load from the local main supply to the generator. On return of the local main supply the ATS panel will monitor it to ensure it is stable and then transfer the load from the generator back to the local supply and request the generator to stop.

The start signal shall prevent dry cranking of the engine by requiring the generator set to reach proper output, and run for the duration of the cool down setting, regardless of whether the normal source restores before the load is transferred. LED indicating lights shall be provided to indicate when the load is connected to the local main source (green) and to indicate when the load is connected to the generator source (red).

Two position selector switch shall be used for control. In the AUTO position all operations are automatic with the panel requesting the generator to start and stop when there is a failure of the main supply. The second position TEST allows the generator to be started. On switching to the TEST position, the load will be removed from the main supply and the generator requested to start, once running the generator will take load. Switching back to AUTO will stop the generator and transfer load back to the main supply.

LV Power Cables and Control Cables

LV power cables shall be provided for the connection of DG units with the associated Distribution Boards. All cables shall be suitable for installation in cable trays, above-ground and below-ground conduits, in outdoor covered concrete cable trenches and direct burial. The cables shall be provided in accordance with the following characteristics.

Description	Requirement
Standards	BS 5467, BS EN/IEC 60502-1, IEC 60228
No. of Cores	Four (04)
Nominal Cross Sectional Area (mm ²)	70, 50 and 35
Conductor	Class 2 stranded copper conductor
Insulation	XLPE (Cross-Linked Polyethylene)
Bedding	PVC (Polyvinyl Chloride)
Armour	SWA (Steel Wire Armour)
Sheath	PVC (Polyvinyl Chloride)

All necessary control cables shall be provided and included in the scope of this Contract

Earthing Pit and Earthing Conductor

For each DG Unit, Earthing pit and earthing conductor shall be provided in accordance with IEEE Std 80 and / or NFPA 70.

Type Tests

Type test reports/certificates of generators need to be submitted with the bid. Type tests shall be carried out at an independent laboratory or witnessed by a representative of such laboratory.

Factory Tests

The complete diesel generator sets shall be subjected to routing tests in accordance with the IEC recommendations, at the manufacturer's Works to verify that its performance is in accordance with the specifications. Certified copies of test reports shall be provided for each unit.

Site Tests

Final functional and operational tests shall be carried out after the erection on site.

Site Test Program shall include the following minimum items:

- Visual Inspection
- Check of cabling
- Adjustment of CB settings
- Start-up of Diesel Engine
- ½ hour no load test run
- Generator on load tests
- Checking temperature of cooling system
- Insulation resistance tests
- Continuity tests
- Rotational tests on all motors
- Tests to prove correct operation of interlocks, starting, tripping and closing circuits, indication, etc.
- Operation of all protective gear circuits by primary and secondary injection,
- Protection gear timing test as may be necessary
- Operation of alarm devices
- Noise measurement test
- Complete ATS shall be tested to ensure proper operation of the individual components and correct overall sequence of operation and to ensure that the operating transfer time, voltage, frequency and time delay settings are in compliance with the specification requirements.

Warranty

Warranty period shall be one year/1000 hours operation whichever occurs first.

**LOT-1 GENERATOR
SCHEDULE OF PRICES**

Sr. No.	Description	Quantity	Unit Rate (PKR)	Total Cost (PKR)
Diesel Generator for Chilas Inn Hotel				
1.	Diesel Generator Set of 45 kVA as specified	1 Set		
	LV Cables 50mm ² as specified	15 Meters		
	ATS Panel	1 Set		
	Long Term Fuel Oil Storage Tank as specified	1 Lot		
	Earthing Pit and Earthing Conductor as specified	1 Lot		
Diesel Generator for Expatriate/Senior Staff Guest House				
2.	Diesel Generator Set of 30 kVA as specified	1 Set		
	LV Cables 35mm ² as specified	50 Meters		
	ATS Panel	1 Set		
	Long Term Fuel Oil Storage Tank as specified	1 Lot		
	Earthing Pit and Earthing Conductor as specified	1 Lot		
Diesel Generator for Office at Karim Dad House				
3.	Diesel Generator Set of 50 kVA as specified	1 Set		
	LV Cables 70mm ² as specified	100 Meters		
	ATS Panel	1 Set		
	Long Term Fuel Oil Storage Tank as specified	1 Lot		
	Earthing Pit and Earthing Conductor as specified	1 Lot		
Standby Diesel Generator for Chilas Inn Hotel				
4.	Diesel Generator Set of 25 kVA with portable trolley as specified	1 Set		
	LV Cables 35mm ² as specified	15 Meters		

	Earthing Pit and Earthing Conductor as specified	1 Lot		
Standby Diesel Generator for Karim Dad House & Expatriate/Senior Staff Guest House				
5.	Diesel Generator Set of 25kVA with portable trolley as specified	1 Set		
	LV Cables 35mm ² as specified	50 Meters		
	Earthing Pit and Earthing Conductor as specified	1 Lot		

Total Price Lot-1 = PKR _____

**LOT-2 IT EQUIPMENT
SCOPE OF SUPPLY**

Sr. No.	Description of Items	Quantity Required Approximately	
		Lahore Office	Site Office
1.	New Desktop Computers (Branded)	15	10
2.	New Laptops (Branded)	15	10
3.	UPS 850VA	15	10

**LOT-2 IT EQUIPMENT
SCHEDULE OF PRICES**

Sr. No.	Description	Location	Qty	Specification/Features of Item & Detail of Accessories	Brand & Model No.	Unit Rate (PKR)	GST (PKR)	Total (PKR)
1.	New Desktop Computers (Branded)	Lahore Office	15	HP/Dell/Lenovo/Acer or Equivalent Processor: Core i7 or Latest (Latest Generation) OS Version: Windows 10 Professional RAM : 8GB X 2 = 16GB HDD: 128 SSD with Additional 1TB SATA Graphic Card: 2GB External Ports: USB 3.0, HDMI, RJ45 (LAN), Headphone/Mic combo jack				
		Site Office	10	Network Adopter: Built in 10/100/100 base T-Gigabit Ethernet Card (Microsoft Windows & Linux Supportive) Color: Black Screen 24" Accessories: Branded USB Keyboard, Mouse, TP-Link Wi-Fi Dongle, USB Extension Cable, Mouse Pad Warranty: 3 Years Comprehensive				

Sr. No.	Description	Location	Qty	Specification/Features of Item & Detail of Accessories	Brand & Model No.	Unit Rate (PKR)	GST (PKR)	Total (PKR)
2.	New Laptops (Branded)	Lahore Office	15	HP/Dell/Lenovo/Acer or Equivalent Processor: Core i7 or Latest (Latest Generation) OS Version: Windows 10 Professional RAM: 8GB X 2 = 16GB HDD: 128 GB M2 SATA With Additional 1TB SATA Display: 15.6" Non-Touch with Numeric Pad Key Board				
		Site Office	10	Option Graphic Card: 2GB Dedicated Graphic Card Other Features: Bluetooth, Camera, Card Reader, Ethernet Port, HDMI, USB 3.0 Battery Time: 3 Hours Accessories: 64 GB USB Flash Drive, A4 Tech Wireless Mouse, Hand Carry Case High Quality Warranty: 3 Years Comprehensive				

Sr. No.	Description	Location	Qty	Specification/Features of Item & Detail of Accessories	Brand & Model No.	Unit Rate (PKR)	GST (PKR)	Total (PKR)
3.	UPS	Lahore Office	15	850VA Aurora or Equivalent				
		Site Office	10					

Total Price Lot-2 = PKR _____