

**GOVERNMENT OF PAKISTAN
FINANCE DIVISION
IT SECTION**

TENDER NOTICE

Finance Division invites sealed bids from income tax/sales tax registered firms for supply of IT equipment for Up-Gradation of Finance Division's IT Infrastructure for Secure e-Governance as detailed below.

Name of Procuring Agency	Finance Division, Government of Pakistan, Islamabad		
No. of Tender			
Procurement/Installation of IT Equipment	Sr. #	Item	Qty.
	1.	Core Switch (Layer 3)	1
	2.	Network Management System	1
	3.	Branded Standard Scanner	55
	4.	CCTV Monitoring System	1
	5.	Power Surge Protector	2
	6.	Maintenance & Troubleshooting Equipment	1
Method of Procurement	Single Stage- Two Envelope Procedure		
Contact Officer	Mr. Adnan Muazzam, Webmaster, Phone: 051-9208174		
Submission of Bid(s)	SO (Services), Room # 506, Floor 3 rd , Block "Q", Pak. Sectt., Islamabad, Phone: 9208101		
Closing Date & Time for Receipt of Bid(s)	21-01-2019 by 10:00 a.m.		
Opening of Bids	21-01-2019 at 10:30 a.m.		
Earnest Money	Equals to 2% of the total bids.		
Time Period for Performance of Contract	Within 40 days from the date of award of contract		

2. Detail specifications of equipment mentioned above including TORs and quantity can be obtained from the office of undersigned on any working day during office hours before closing date/time (free of cost) or may be downloaded from the website of PPRA (www.ppra.gov.pk) and Ministry of Finance (www.finance.gov.pk).

3. Finance Division reserves right to revise quantity, accept or reject any or all tender(s) in the light of Rule-33 of PPRules-2004.

(Niamatullah Khan)
Section Officer (Services-II)
Room No. 506, Block 'Q', Pak Secretariat,
Finance Division, Islamabad
051-9208101

TENDER DOCUMENT FOR SUPPLY OF IT EQUIPMENT FOR FINANCE DIVISION

(To be printed on letterhead of the bidding firm)

TENDER SUPPLY AND INSTALLATION OF IT EQUIPMENT/ INFRASTRUCTURE

Reference advertisement dated _____ printed in leading newspapers as well as uploaded on website of PPRA and Finance Division inviting sealed bids from authorized dealers for the supply of branded IT equipment along with allied items for up-gradation of IT infrastructure of the Finance Division as per required specifications, terms & conditions and rates quoted therein separately in Technical and Financial Proposals:-

SCOPE OF WORK FOR IT INFRASTRUCTURE

- i) Product Support Services must be within 24 hours hardware replacement under warranty period as described in detailed specifications.
- ii) Professional certification training for one relevant personnel with certificate issued from OEM as specified in detail specifications.
- iii) In case of failure or malfunctioning of hardware equipment/component, a free replacement and installation of the device/part will be the responsibility of the vendor and on exchange bases as Free of Cost (FOC) under warranty.
- iv) Technical Support services should include resolution of complaints related to equipment.
- v) All type of installation and compatibility issues are the responsibility of equipment provider.
- vi) The drivers/applications support CD/media must be provided for hardware equipment.
- vii) Hardware devices having end of life must be communicated to Finance Division. Moreover, nearly end of life hardware devices will not be acceptable.
- viii) Vender will responsible for installation and commissioning of all types of equipment delivered.
- ix) 24 x 7 availability of hotline.

Note: Vendor is solely responsible to provide the support services for the offered product even the support for the same product would have been discontinued by the OEM.



TERMS, CONDITIONS AND INSTRUCTIONS FOR THE BIDDERS

(Please Read Carefully)

Respondent organization is bound to accept all supply orders issued on the offered rates for supply of required quantities of product within prescribed period after receipt of the supply order. A formal agreement will be signed by the qualified bidder with the Finance Division in this regard.

1- Documents Attached

- i. Company profile with list of its recent clients.
- ii. Copy of NTN Certificate of the firm.
- iii. Copy of Active Sales Tax Registration Certificate of the firm.
- iv. Earnest money equals to 2% of quoted price in the shape of Bank Draft/Pay Order bearing No., Date & Rs.
- v. Name & address of schedules Bank for Rs.....
- vi. Compliance sheet for offered product.
- vii. Official Authorized partnership Certificate from sole manufacture along with Product Broachers.
- viii. Proof of Financial capability and experience certificate.
- ix. Proof of after sale Service Centre located in Islamabad / Rawalpindi.

2- Opening of Competitive Bids

- i. A method of Single Stage- . The bidders must furnish technical proposals and financial proposals in different envelopes. The envelope clearly be marked as **“Technical proposal”** and **“Financial Proposal”**.
- ii. Earnest money should be enclosed in financial proposal.
- iii. Technical evaluation process examines the strict compliance for the offered product with the required specifications, terms and conditions. Financial proposal of the firm will not be considered and returned un-opened if product not compliant.
- iv. Schedule for Opening of Bids.

List of Items	Date/ Time	Venue
Sr. # 1-6	21-01-2019 at 11:30 a.m.	Room # 506, Floor 5 th , Block “Q”, Finance Division, Islamabad.

3- Rejection of the Bid

- i. Any offer not compliant with the terms & conditions of the tender enquiry is liable to be rejected under provision of PP Rules-2004.
- ii. Any offer will not be entertained if:
 - Firm/bidder is black listed/suspended by any Government department.
 - Firm is not official partner for hardware item from principal except Sr.# 4-7.
 - Offer with shorter price/delivery validity than required in the tender enquiry.
 - Not compliant with the required specifications, terms & conditions.
 - Bid offering less items as defined in LOT.
 - Bid submission after the time and date fixed for its receipt.
 - Received without earnest money.
 - Tender is received by telegram.
 - Tender/offer is un-signed.
 - Offer is ambiguous.
 - Offer is conditional.
 - Finance Division, Islamabad further reserves the right to accept or reject any or all tender(s) without assigning any reason.



4- Performance Guarantee

- i. The qualified bidder/firm will be required to furnish 2% performance guarantee of the total amount of supply order in the shape of CDR/Bank Guarantee and released after satisfactory completion of the warranty/guarantee period. In addition, earnest money can also be retained as a performance guarantee, if vendor desires.
- ii. The Bank Guarantee must be issued by a scheduled bank.
- iii. In case, if supplier/contractor fails to complete the given assignment within specified timeframe, the performance guarantee/security deposit will be forfeited in favour of Finance Division.

5- Warranty/ Guarantee

- i. The successful bidder shall provide warranty/guarantee as specified in detailed specifications against each hardware item.
- ii. All licensed software(s) should have warranties for one year against defects/bugs as well as update patches without any cost to be borne by the purchaser.
- iii. The warranty period will start from the date of supplies received in Finance Division.
- iv. The qualified bidder must warrant the IT Equipment and ensure availability of Technical support services as informed through electronic & non-electronic means. Each and every complaint should be completely responded by the competent resource of the firm and visit on-site within 24 hours of its notification.
- v. If any bidder fails to rectify the problem in the provided equipment during warranty period due to any reason, Finance Division will be authorised to repair or replace the faulty equipment/component thereof and forfeit the Bank Guarantee/retained value.
- vi. The security deposit for warranty and guarantee will be released after expiry of the contract period.

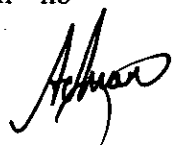
6- Taxes

- i. The rates should be quoted inclusive of all applicable taxes.
- ii. The bidder should provide the Income Tax and Sales Tax Registration Certificates.
- iii. The project authorities will deduct the taxes at source as per prevailing rules/regulations of the Government.
- iv. In case the supplies or part thereof are exempt from levy of any tax, the bidder shall provide an exemption certificate (SRO) to this effect, otherwise taxes will be deducted.

7- Bidding

General

- i. Rate quoted for the offered product comprising hardware, software and license subscription must be bifurcated and in Pak Rupees.
- ii. Installation and commissioning charges of equipment must be included in the quoted rates.
- iii. Tender documents must be filled in, stamped and signed by authorized representative of the firm.
- iv. Any bid with erasing/cutting/crossing etc. must be properly signed by the authorised person signing the tender. Moreover, all pages of the tender must also be properly signed. Offers with any over writing, not authenticated with signatures of authorized person, shall in no circumstances be accepted.



- v. The participated firm must be an official authorized partner from principal for hardware and software except items from Sr. # 4-6.

8- Bid Evaluation

- i. Bids shall be evaluated in accordance with advertised specifications of equipment, terms & conditions.
- ii. Rates offered by the firms.
- iii. Supply time, and maintenance of warranty period.
- iv. Physical compliance with required specifications and quality conformance for the offered product in demonstration session at any stage.
- v. Active part inspection will be carried-out visiting the site where offered product installed and operational.
- vi. Willingness of the firm to enter into contract agreement with the Finance Division for supply of equipment on the rates tendered by the firm/bidder in its financial bid.

9- Supply of Stores

- i. The items mentioned in the list are required to be delivered at Finance Division within time period mentioned in the tender notice.
- ii. The stores are required by the consignee within stipulated date. However, the tender is required to indicate their own guarantee earliest date by which the items/store should be brand new and in original manufacturers packing.

10- Finance Division's Rights Within Provision Of PP Rules-2004

- i. Finance Division reserves the right to:
 - Award contract to more than one bidder.
 - Accept or reject any or all tenders.
 - Increase the quantity of items or may order partial supplies or cancel any or all items.
 - Purchase full or part of the store or ignore/scrap/cancel the tender.
 - Claim compensation for the loss caused by the delay in the delivery or any other damage pointed out at time of delivery or commissioning or installation or during warranty period.

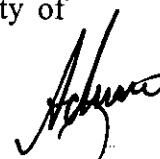
11- Price Reasonability Certificate.

- i. The bidder shall certify that the offered prices are not more than the prices charged from any agency (Government & Private) in Pakistan and in case of any discrepancy the bidder thereby undertakes to refund the excess amount being over-charged.
- ii. The renderers / bidders must certify that:-
 - Item quoted is of latest and current production model.
 - Item quoted is bearing the manufacturing batch/serial/code No. for verification.

12- Payment

The payment for the supplies made by the successful bidder shall be released within 30 days possibly of the receipt of invoice provided that:-

- i. The invoice is complete, accurate and to the entire satisfaction of the procuring agency/client.
- ii. Supplies are delivered/installed according to the instructions of the Division.
- iii. Vendor must produce satisfactory inspection with the invoice issued by the Finance Division that authenticates the quality conformance, quantity of products delivered and amount of work done successfully.



- iv. 2% performance guarantee is provided with the invoice having validity up to the date of Warranty period which is one year from the date of installation & commissioning of the goods at respective site.
- v. The payment against a supply order shall be made on the completion of the delivery of supplies including installation, commissioning, etc. as mentioned in the supply order.
- vi. In any case, no advance payment shall be made.
- vii. All payments shall be made through AGPR (Cross Cheque) in the Pak rupees.

13- Arbitration

Any disputed situation/condition between the bidder and the procuring agency regarding this bid or any other matter ancillary thereto whatsoever, the same shall be referred to the sole arbitrator i.e. Grievance Redressal Committee of Finance Division. The Arbitrator shall give its award within two months from the date on which it enters upon the reference. The provisions of the Arbitration Act, 1940 shall apply to the arbitration proceeding. Reference to arbitration shall be a condition precedent for any other action at law.

14- Penalty

For failure to comply with the supply/work order and the liquidated damages will be levied as under:-

- i. 1% of the cost of that items mentioned in the supply order that remain un-delivered/un-finished for each day of non-supply up to maximum of twenty (20) days exceeding the job completion/delivery period.
- ii. If the material is not supplied even after payment of penalty for 20 consecutive days, Finance Division reserves the right to cancel the contract and get the full or remaining assignment completed from the other competitive bidders on the equivalent price/amount that will be deducted from the securities deposited by the default firm/supplier.

15- Only registered suppliers, who are on Active Taxpayers List (ATL) of FBR, are eligible to supply goods / services to Government departments.

16- The payment to the registered persons may be linked with the active taxpayer status of the suppliers as per FBR database. If any registered supplier is not in ATL his payment should be stopped till he files his mandatory returns and appears on ATL of FBR.

17- Undertaking (on stamp paper of Rs. 15)

We undertake and declare that

- i. The prices quoted including of all taxes, transportation and cost of installation etc. The quantity of above items can be increased/ decreased.
- ii. The offered prices must be valid up to 90 days starting from the date of tender opening.
- iii. All products are covered under warranty issued by manufacturer/principal starting from the date of supply/installation and in case of any defect and malfunctioning we shall be responsible for repair/replacement as per guarantee/warranty.
- iv. The supplier is responsible to arrange replacement/technical support during warranty/guarantee period.
- v. The firm has never been blacklisted, nor involved in any litigation with any ministry/ division/ department.



We understand that:-

Finance Division reserves the right to accept or reject our bid and we undertake not to question the decision in this regard.

The earnest money amounting Rs. submitted by us is liable to forfeiture in case our firm fails to abide by the terms and conditions given in the advertisement referred to above

A handwritten signature in black ink, appearing to read 'Adnan', written in a cursive style.

Signature & Stamp
Of Authorized Agent

HARDWARE SPECIFICATIONS

Sr. #	Item	Detailed Specifications
1	Core Switch (Layer3)	<p>Layer 3 stackable and manageable switch</p> <p>Must be compatible with the existing infrastructure</p> <p>General requirements:</p> <ul style="list-style-type: none"> -The switch must have stacking capability with the existing core switch. -Equipment must be covered with official warranty of the manufacturer on the territory of Pakistan for a period of not less than 1 year -The switch must be equipped with 48 or more SFP+ ports -The switch must support 64 or more 10Gbit ports -The switch must support 4 or more 40Gbit ports -The switch must be equipped with out-of-band 10/100BaseT Ethernet port for management: -The switch must support two or more redundant power supplies -The switch must support the simultaneous use of two different power sources: AC and DC -The switch should work using a modular operating system with the ability to restart an individual process without a full reset switch. -To ensure interoperability between network protocols on the switches should be a single version of the operating system. -The switch must be able to mount in 19" Rack. Required rack mount kit must be included. <p>Performance:</p> <ul style="list-style-type: none"> -The switch bandwidth must be not less than 1280 Gbps -The switch should have non-blocking architecture. All ports must operate on highest possible speed simultaneously -The maximum number of stored MAC addresses in the switching table the switch shall be not less than 288000 -The routing table of the switch must store the following number of IPv4 routes 16000 -The switch must support 4096 or more Multicast groups <p>Stacking:</p> <ul style="list-style-type: none"> -The switch must support stacking with other families switches from the same manufacturer and stack bandwidth must be not less than 40Gbps in ring topology through 10 Gigabit Ethernet. Stackable switches must support stacking with other families switches from the same manufacturer and stack bandwidth must be not less than 160Gbps in ring topology through 40 Gigabit Ethernet. -The failure of any switch in the stack should not cause stack outage more than 50ms. -The switch must support the joint failover configuration with another identical switch to connected devices can use the mechanism for combining multiple physical channels (LAG) to two switches with active simultaneous use of all channels; the recovery Time in case of any link failure between switches should not exceed 50ms. -The failover configuration must be supported for two separate switches and two separate stacks of switches. <p>Ethernet L2:</p> <ul style="list-style-type: none"> -The switch must support the IEEE family protocols: 802.3; 802.3, 802.3ae, 802.3ab, 802.3z. -The switch must support 802.1ad (Q-in-Q) and Selective Q-in-Q protocols -The switch must support High Availability Network Protocols with 50ms recovery time in ring topology with RFC 3619 Ethernet Automatic Protection Switching.



- The switch must support ITU-T G.8032 Ethernet Ring Protocol Switching
- The switch must support 802.1w, 802.1s, PVST+ protocols
- The switch must support Link Aggregation Group (LAG). Number of ports in one LAG must be not less than 32
- The switch must support the following mechanisms for traffic balancing in LAG: The combination of the MAC addresses of source and destination;
- The combination of IP addresses of source and destination;
- The combination of IP addresses of source and destination, and numbers of TCP and UDP port numbers;
- The combination of MPLS first, second and backup labels;
- The combination of IPv6 source and destination and numbers of the protocols of the 4th layer of the OSI model."
- The switch must support CDPv2 protocol for automatic device detection and assigning to correct Voice-VLAN number
- The switch must support 802.1AS, 802.1Qav, 802.1Qat, 802.1BA

Routing IPv4/IPv6:

- Then switch must support following IPv4 routing protocols: BGP4, IS-IS, OSPF, RIP v1/v2, PIM, MSDP
- The switch must support Policy-based Routing
- The switch must support BFD for static routing and dynamic routing protocols OSPFv2/OSPFv3, BGP

L2/L3 Multicast:

- Then switch must support Multicast VLAN registration (MVR) protocol
- The switch must support IGMPv1 / v2 / v3 protocols;
- The switch must support protocols: IGMPv1 / v2 / v3 snooping (IGMPv1 / v2 / v3 snooping);
- The switch must support the protocol PIM Snooping;

User authorization and QoS:

- Each interface for connecting user devices must support at least 8- x hardware queues.
- Access control lists that are configured on the switch port must operate at line speed available on port.
- The switch must support the IEEE 802.1x protocol.
- The switch should provide dynamic assignment of user access policies L2-L4 on ports
- The switch should support intrusion detection mechanism, prevent the spread of worms and viruses, suppression of attacks such as DoS.
- The switch must have the ability to track user authentication in Microsoft Active Directory and automatically manage access to network resources without the use of certificates connected devices or additional software.
- The switch should support a mechanism to automatically change the configuration (access control lists, QoS rules) when moving virtual machines between switch ports or between switches. For the functioning of this solution should not require an external control system or monitor.
- The switch must be capable of limiting the bandwidth on interfaces for inbound and outbound traffic. Limiting the bandwidth must be in increments of no more than 64 KB / s for 1 Gigabit Ethernet ports.
- The switch must be capable of limiting the bandwidth on interfaces for inbound and outbound traffic. Limiting the bandwidth must be in increments of no more than 1 Mb / s to 10 Gigabit Ethernet ports.

MPLS:

- The switch must support MPLS
- The switch must support BFD for MPLS/LDP
- The switch must support VPLS/H-VPLS.

		<p>Data Center: The switch must support VXLAN (RFC7348)</p> <p>Management:</p> <ul style="list-style-type: none"> -The switch must support standard SNMP versions 2c and 3, Syslog. -The switch must support NTP Server and NTP Client; -The switch must support IEEE 1588v2 Precision Time Protocol -The switch must support sFlow version 5. -The switch must support the scripting language (scripting) that run directly on the switch. The scripting language should support common command language Python. -The switch must support the scripting language (scripting) that run directly on the switch. The scripting language should support common command \$TCL language. -The switch must support the XML language for a simple embedding procedures for the management switch into external systems -The switch must support the change of configuration parameters upon the occurrence of events such as authentication devices, authenticating users, the offensive certain time, the establishment and breakage of connection on a port and all other events, which detects by the operating system of the switch. -The switch must support ITU-T Y.1731 protocol <p>Optical fiber cable: 100 meter</p> <p>SFP Transceiver Modules:</p> <ul style="list-style-type: none"> -42 x 1G SFP LX, -6 x 10/100/1000BASE-T SFP <p>Warranty: At least One (01) year but not less than given by from OEM</p>
2	<p>Network Management System</p>	<p>Centralized Network Management System</p> <ul style="list-style-type: none"> -Must compatible with the existing network infrastructure for 100% compliance and performance. -vendor is solely responsible to resolve all technical and compatibility bottlenecks -Must provide a complete centralized network management solution that meets the requirements provided below. -Must provide single pane of glass console management of the entire infrastructure including 25-wired devices. -Please describe the features that are available for the recommended infrastructure products. Management application must include: <ul style="list-style-type: none"> - Dashboards with drill down ability - Customized reporting for historical and real-time data - Interactive topology maps - Device views - Events logs - Device search functionality -Must provide the capabilities to modify, filter, and create your own flexible views of the network -Must allow for graphing or viewing in table format and multiple OIDs that are user selectable. -Must provide a tool to find the physical location of systems and end users, and where they are connected, quickly and easily. -Must allow scheduled events or tasks that the user can perform behind the scenes or schedule an event for another time in the future. -Must provide a utility to view and select MIB objects from a tree-based representation and include a compiler for new or third-party MIBs. -Must support the ability to define policies once and enforce the policies automatically on the proposed devices.

		<ul style="list-style-type: none"> -Must be able to deploy policies across the wireless network, with a single click. -Must allow IT administrators to easily define a number of pre-configured network policies, and designate select personnel to activate/deactivate these policies as appropriate -Must provide a detailed inventory of products organized by device type -Must provide the ability to track device attributes such as serial number, asset tag, firmware version, etc. -Must be able to schedule download BootROM and firmware images to single or multiple devices simultaneously -Must be able to generate valuable, in-depth reports for network inventory planning purposes. -Must be able to provide a history of firmware and configuration changes made to a device along with a baseline comparison. -Must record a history of device attributes, and reports any changes made to the device. -Must support the ability to present detailed configuration information including date and time of configuration saves, firmware version, and file size. -Must be able to schedule routine device configuration back-ups. -Should provide a solution that can be installed on a virtual appliance. Please detail the requirements for the virtual appliance. -Should support multiple client/server OS (Windows 64-bit, Linux 64-bit, VMware®, Hyper-V, MS Edge and Internet Explorer, Mozilla Firefox, Google Chrome, ...) <p>Services: Installation, configuration and commissioning of NMS for all existing infrastructure.</p> <p>Warranty: At least One (01) year but not less than given by from OEM</p> <p>Training: Certification for a 1 technical personnel with original certificate issued by the OEM</p>
3	Branded Standard Scanner	<p>Scan Type: ADF</p> <p>Throughput Speeds (Color & B&W & Greyscale): 25-30ppm (300 dpi) Duplex 50 ipm (300dpi) or higher minimum or advanced/higher</p> <p>Operator Control Panel: User friendly, preferably graphical LCD operator control button</p> <p>Imaging Technology: CIS/CCD x 2 or advanced</p> <p>Illumination: Dual LED minimum</p> <p>Maximum document size: : A4 Portrait (210 x 297 mm) or Legal (8.5 x 14 in.) or 8.5 x 34 in. (215.9 x 863.6 mm) (long page scanning: up to 3000 mm legal size or higher</p> <p>Minimum Document Size: A8 Portrait / Landscape (52 x 74 mm)</p> <p>Paper Thickness and Weight: 30-400 g/m² or (9 to 110 lb.) with optional, Plastic Card:(0.76 mm or less, embossed plastic cards with total thickness of 1.24 mm or less)</p> <p>Paper Path: Straight</p> <p>Multi-Feed Detection: Ultrasonic</p> <p>Recommended daily volume: At least 3000-4000 pages per day</p> <p>Document Feeding Capacity: 50-75 sheets (20 lb./80 g/m²) or higher, must handles small documents such as ID cards, business / security / insurance / embossed hard cards</p> <p>Connectivity: USB 2.0 & 3.0 compatible</p> <p>Imaging Features: Auto color detection, Automatic page size detection, De-Skew, Multi-image, Blank page skip, Error diffusion, Dropout color (R, G, B, Saturation), Image emphasis, Advanced DTC, sRGB, Halftone, Smoothing, Split image, Vertical streaks reduction, Digital endorser, Edge correction, Dynamic threshold(iDTC), Fixed Cropping, Multi-Lingual Auto Orientation, Add Border, Remove</p>

		<p>Border, Intelligent Image Edge Fill, Background Color Smoothing, Automatic Brightness/Contrast, Lone Pixel Noise Removal, bar code reading</p> <p>OS Support: Win 7-10 (x86/x64), MAC OS v. 10.7, 10.8, 10.10</p> <p>Smart Touch Functionality: Sends documents to file/ email/ printer/ fax printer & desktop</p> <p>Scan File Format: PDF (image-only, searchable, MRC, PDF/A, encrypted), TIFF (single page, multi-page, compressed: G3, G4, LZW, JPEG), DOC, RTF, WPD, XLS, TXT, JPG, BMP, PNG</p> <p>Scan Input Modes: Scan front-panel function for Save as PDF, Save as JPEG, E-mail as PDF, E-mail as JPEG, Send to Cloud, Everyday Scan and Save as Editable Text (OCR). ICA in Mac OS and third parties applications via TWAIN</p> <p>Warranty: At least one year onsite local warranty (Parts and Labour) but not less than given by OEM</p> <p>Training: for each user</p>
4	CCTV Monitoring System	<p>Camera Type: 5 x IP Camera 2MP (POE), IR Dome or above</p> <p>Controller: NVR Embedded 4K 8MP 2bay, 8 channel</p> <p>Storage: 2 TB</p> <p>Services: Installation & commissioning</p> <p>Warranty: One (01) year</p>
5	Power Surge Protector	<p>Branded 30kW but not more than 50kW</p> <p>Quality & Efficiency Standard: Any German, Australian, US or equivalent or better/ improved</p> <p>Services: Installation & commissioning</p> <p>Warranty: One (01) year</p>
6	Maintenance/ Troubleshooting Equipment	<p>Optical fiber cable tester/fault locator/signal tester</p> <p>RJ-45 Fluke meter and RJ-45 cable tester</p> <p>Volt meter</p> <p>RJ-45 crimping tool, cable cutter and Screwdriver toolkit</p> <p>Stanley 8-Inch Needle Nose Pliers with Cutter</p> <p>Warranty: One (01) year</p>

