SOUTHERN POWER DISTRIBUTION COMPANY OF TELANGANA LIMITED
HYDERABAD

REQUEST FOR PROPOSAL
Implementation of GIS and MDAS and related hardware, in 49 Towns covered under IPDS Phase-II in TS & AP Discoms.

The Chief General Manager/ Projects
Southern Power Distribution Company
of Telangana Limited,

Phones: 040-23431321/1361, 1276, 1287.
Fax: 040-23431006
4th Floor, Corporate office,
Mint Compound, Hyderabad-500063.

Energy Saved is

SOUTHERN POWER DISTRIBUTION COMPANY OF TELANGANA LTD.

Energy Produced

e-Procurement Tender Notice

TSSPDCL intends to take up Implementation of GIS and MDAS works and related hardware, in 49 towns covered under IPDS Phase-II, IT Enablement Project in Telangana and A.P Discoms (TSSPDCL, TSNPDCL, APSPDCL & APEPDCL) by calling Tenders on e-procurement platform. The details are as tabulated below.

Sl. No.	Name of the work	Specification No.	Date & time of downloading tender document	Closing Date & time for submission of bid
1.	Implementation of GIS and MDAS works and related hardware, under IPDS Phase-II, IT Enablement	IPDS Phase-II-IT/ Spec No. 02/ 2017-18,	24.10.2017 from 11:00 hrs to 22.11.2017 Up to 17:00 hrs	23.11.2017 at 12:00 hrs

For further details regarding detailed tender notification, specifications and digital certificate please visit www.eprocurement.telangana.gov.in, www.tender.telangana.gov.in & **www.tssouthernpower.com**.

Phone: 040-2343 1320, 1321, 1276, 1287. 1360, 1026
Fax : 040-2343 1006

CHIEF GENERAL MANAGER/ PROJECTS

SOUTHERN POWER DISTRIBUTION COMPANY OF TELANGANA LTD
Hyderabad

REQUEST FOR PROPOSAL (RFP)

Tender specification No.CGM(Projects)/TSSPDCL/IPDS Phase-II-IT: 02/2017-18

1. TSSPDCL invites bids from eligible bidders for **Implementation of GIS and MDAS works and related hardware, in 49 towns covered under IPDS Phase-II, IT Enablement Project in Telangana and A.P Discoms (TSSPDCL, TSNPDCL, APSPDCL & APEPDCL**), as defined in the bid document. The work is being carried out under IPDS Phase-II, IT Enablement Project.

2. Brief description of "the works" is as follows:

Sub-Project No.	Name of the work	Estimated cost in Rs. Lakh	Completion Period	Bid security (2%) in Rs.Lakh
IPDS Phase-II-IT:02/ 2017-18	**Implementation of GIS and MDAS works and related hardware, in 49 towns covered under IPDS Phase-II, IT Enablement Project, in Telangana and A.P Discoms (TSSPDCL, TSNPDCL, APSPDCL & APEPDCL**)	1800.0	6months	36.0

3. All the interested bidders may visit www.eprocurement.telangana.gov.in, www.tender.telangana.gov.in & **www.tssouthernpower.com** to view and download the tender documents free-of-cost from **24.10.2017, 11:00 Hrs to 22.11.2017 up to 17:00 Hrs**.

4. Those who are interested to submit bids will have to register in the above mentioned site and also have to obtain Digital Certificates. The details and procedure for obtaining digital certificate are mentioned in the website or contact the helpdesk of the site.

Annexure I:

Technical Bid Proposal Format:

S. No.		Unit	Quantity proposed under IPDS					Compliance
	Equipment		**TSSP DCL**	**APSP DCL**	**TSNP DCL**	**APEP DCL**	**Total Quantity**	**Yes/No**
A	**Hardware/ Equipment**							
1	**Switches/Routers**							
2	Layer II Switch	No.	51	42	51	17	161	
3	Router for MPLS/ VPN Network	No.	51	42	51	17	161	
4	Cables, Jacks etc.	lot	51	42	51	17	161	
5	Workstation / Equipment Cords	lot	51	42	51	17	161	
6	2 kVA UPS	No.	51	42	51	17	161	
B	**Hardware for AMR based Data Logging System**							
7	GPRS/CDMA/EDGE/3G Modem	No.	425	897	880	1234	3436	
8	DCU	No.	0	0	0	0	0	
C	**Spot Billing System**							
9	Hand Held Spot Billing Equipment connected with Portable Printer	**No.**	107	85	59	36	287	
D	**Workstation PCs, Printers & Others**							
10	Workstation PC (including UPS, Computer chair, table etc.)	No.	166	86	106	38	396	
11	Dot Matrix Printers	No.	72	44	33	27	176	
12	Network LaserJet (B/W) Printer	No.	19	11	11	4	45	
13	Bar Code Reader	No.	72	33	33	0	138	
14	IP Phone	No.	38	0	22	8	68	
E	**Implementation Cost**							
15	Installation, Testing and Commissioning/ Customization Cost including data migration, project management, integration with existing DC/DR/CCC, training etc.***	No.	19	11	11	8	49	

Annexure V-B:

FINANCIAL BID FORMAT

RFP Bid Document No:CGM/Projects/TSSPDCL/HYD/Implementation of GIS & MDAS /02/2017-18.

Financial Offer for Appointment of Agency for "Agency for Implementation of GIS and MDAS works and related hardware, in 49 Towns covered under IPDS Phase-II in TS & AP Discoms"[To be submitted in duplicate]

To,
The Chief General Manager /Projects,
TSSPDCL, Hyderabad.

SUB: Services for Implementation of GIS and MDAS works and related hardware, in 49 Towns covered under IPDS Phase-II in TS & AP Discoms.
Dear Sir,

We are submitting our financial offer in duplicate as follows:

Financial Proposal for Implementation of MDAS & GIS works and related hardware, in 49 Towns covered under IPDS Phase-II in TS & AP Discoms.

S. No.		Unit	Quantity proposed under IPDS					Unit Price	Amount
	Equipment		**TSSPDCL**	**APSPDCL**	**TSNPDCL**	**APEPDCL**	**Total Quantity**	**Rs.**	**Rs.**
A	**Hardware/ Equipment**								
1	**Switches/Routers**								
2	Layer II Switch	No.	51	42	51	17	161		
3	Router for MPLS/ VPN Network	No.	51	42	51	17	161		
4	Cables, Jacks etc.	lot	51	42	51	17	161		
5	Workstation / Equipment Cords	lot	51	42	51	17	161		
6	2 kVA UPS	No.	51	42	51	17	161		
	Sub Total								
B	**Hardware for AMR based Data Logging System**								
7	GPRS/CDMA/EDGE/3G Modem	No.	425	897	880	1234	3436		
8	DCU	No.	0	0	0	0	0		
	Sub Total								
C	**Spot Billing System**								
9	Hand Held Spot Billing Equipment connected with	**No.**	107	85	59	36	287		

1. TECHNICAL SPECIFICATION OF AMR Modems for Feeder Meters (NONC)

Items	Specifications
GSM/GPRS Modem	Modem shall be a plug and play device which automatically retrieves all the meter data and send to server. These will provide automatic meter reading for various kinds of meters on RS-232/RS485 or connecting through an external optical port cable. Such modems shall have the facility of both of such interfacings. Protocols such as MODBUS/DLMS/COSEM shall be implemented. The communication solution shall be designed to ensure for consistent data availability without interruption. Software shall be designed in a way that data security and authentication in transmission shall be restored.
	Customized to specific utility demands
	Compatible with various standard existing meters directly interfaced.
	Over the air software upgrade
	Over the air configuration using gprs
	Instantaneous Tampering and outage alerts. SMS alerts for power failure and voltage fluctuations Meter communication fail alert
	Automatic GPRS/GSM (No AT commands required) and watchdog for reliable Communication.
	GPRS module with built in controller/ Wireless CPU with flash memory of 8MB and 2MB SRAM
	Automatic TCP or UDP socket connection.
	Remote download of application firmware. and GSM core stack
	Module should be certified for safety standard EN60950-1
	Module should have secured socket layer, secured internet protocol, crypto library and secured data storage
	Automatic pushing of Meter data at regular predefined intervals. (Configurable)
	Compliant with DLMS/COSEM.
	Module QUAD Band 900/1800/850/1900 MHz
	Output Power 900 MHz Class 4 (2 Watt)
	1800 MHz Class 1 (1 Watt)
	Sensitivity : GSM 900: < -100dBm , GSM 1800 : < -100dBm , RX sensitivity 109 dBm
	GPRS Packet Data Multi slot Class 10 or class 12
	Coding scheme MCS1-MCS9 , GSM CSD Data, Max Br 14.4 Kbps.

	SIM 3.0V, STK 3.1
	AR Commands GSM 07.05, GSM 07.07, GSM 07.10, private extensions.
	Antenna SMA connector shall be provided on the body
	RF functionalities: GSM phase II/II+ compliant.
	VA Burden < 3.5 VA during data communication.
	Max. Baud Rate : for GSM Operation -9600 bits/sec.
	GPRS Data transmission features:
	GPRS Class B Multi Slot.
	ROHS compliant
	Multi slot class 10
	Packet channel support : PBCCH
	Coding Schemes : CS1 to CS4 compliant with
	SMS Feature text and PDU, Point (MTMO)
	Cell Broadcast.
	GPRS Baud Rate : 115200 (Min.) and 85.6K uplink
	SIMS shall be housed inside the modems / external accessibility and sealing arrangement
	Built in TCP/IP Stack.
	POWER REQUIREMENT:
	Single as well as three phase supply with operating voltage range 90V AC to 470V AC, 3 VA, 6KV surge protection, +/- variation allowed as per IE Standards. Operational frequency 50Hz +/- variation as per IE Rules.
	MEMORY: 8 MB flash and 2MB RAM
	DIAGNOSTIC LED's : Power, Signal, Network, Meter etc
	Mounting: Wall mounting.
	OPERATING ENVIRONMENT:
	Operating Temperature : - -40 to +85 Deg C
	Humidity 95%
	Enclosure material shall be Engineering plastic / Metal
	Enclosure shall be dust and water resistant with IP55 classification
Communication Mode	Suitable to download/upload data from modems on GSM/GPRS/communication mode.
	The data shall be downloadable to the central server through 2 Mbps MPLS VPN/Leased Line.
Antenna	Magnetic Base 3 dbi gain 5 mtr Co-axial Cable antenna
Cables	Data cable length to connect with meters optical/RS485/RS232 port of 1 mtr length
	Power Cable: 4 core cable of length 1 mtr.
IO Connections	Modem shall have minimum 3 IO pins to read the breaker NO(Normal Open), NC (Normal close) status from the feeder breaker. These pins should have optical isolation and shall operate using 12 V reference voltage

	Modem should read the power outage status from IO pins and send the same information to the server on occurrence and restoration of power outage.

2. TECHNICAL SPECIFICATION OF AMR Modems (Non-NONC)

Items	Specifications
GSM/GPRS Modem	Modem shall be a plug and play device which automatically retrieves all the meter data and send to server. These will provide automatic meter reading for various kinds of meters on RS-232/RS485 or connecting through an external optical port cable. Such modems shall have the facility of both of such interfacings. Protocols such as MODBUS/DLMS/COSEM shall be implemented. The communication solution shall be designed to ensure for consistent data availability without interruption. Software shall be designed in a way that data security and authentication in transmission shall be restored.
	Customized to specific utility demands
	Compatible with various standard existing meters directly interfaced.
	Over the air software upgrade
	Over the air configuration using GPRS communication.
	Instantaneous Tampering and outage alerts. SMS alerts for power failure and voltage fluctuations Meter communication fail alert
	Automatic GPRS/GSM (No ATT commands required) and watchdog for reliable Communication.
	GPRS module with built in controller/ Wireless CPU with flash memory of 8MB and 2MB SRAM
	Automatic TCP or UDP socket connection.
	Remote download of application firmware. and GSM core stack
	Module should be certified for safety standard EN60950-1
	Module should have secured socket layer, secured internet protocol, crypto library and secured data storage
	Automatic pushing of Meter data at regular predefined intervals. (Configurable)
	Compliant with DLMS/COSEM.
	Module QUAD Band 900/1800/850/1900 MHz
	Output Power 900 MHz Class 4 (2 Watt)
	1800 MHz Class 1 (1 Watt)

	Sensitivity : GSM 900: < -100dBm , GSM 1800 : < -100dBm , RX sensitivity 109 dBm
	GPRS Packet Data Multi slot Class 10 or class 12
	Coding scheme MCS1-MCS9 , GSM CSD Data, Max Br 14.4 Kbps.
	SIM 3.0V, STK 3.1
	AR Commands GSM 07.05, GSM 07.07, GSM 07.10, private extensions.
	Antenna SMA connector shall be provided on the body
	RF functionalities: GSM phase II/II+ compliant.
	VA Burden < 3.5 VA during data communication.
	Max. Baud Rate : for GSM Operation -9600 bits/sec.
	GPRS Data transmission features:
	GPRS Class B Multi Slot.
	ROHS compliant
	Multi slot class 10
	Packet channel support : PBCCH
	Coding Schemes : CS1 to CS4 compliant with
	SMS Feature text and PDU, Point (MTMO)
	Cell Broadcast.
	GPRS Baud Rate : 115200 (Min.) and 85.6K uplink
	SIMs shall be housed inside the modems / external accessibility and sealing arrangement
	Built in TCP/IP Stack.
	POWER REQUIREMENT:
	Single as well as three phase supply with operating voltage range 90V AC to 470V AC, 3 VA, 6KV surge protection, +/- variation allowed as per IE Standards. Operational frequency 50Hz +/- variation as per IE Rules.
	MEMORY: 8 MB flash and 2MB RAM
	DIAGNOSTIC LED's : Power, Signal, Network, Meter, etc.
	Mounting: Wall mounting.
	OPERATING ENVIRONMENT:
	Operating Temperature : - -40 to +85 Deg C
	Humidity 95%
	Enclosure material shall be Engineering plastic / Metal
	Enclosure shall be dust and water resistant with IP55 classification
Communication Mode	Suitable to download/upload data from modems on GSM/GPRS/communication mode.
	The data shall be downloadable to the central server through 2 Mbps MPLS VPN/Leased Line.
Antenna	Magnetic Base 3 dbi gain 5 mtr Co-axial Cable antenna
Cables	Data cable length to connect with meters optical/RS485/RS232 port of 1 mtr length
	Power Cable: 4 core cable of length 1 mtr.

3. Router – 1 No each at utility offices

The Router offered shall deliver high performance IP/MPLS features and shall support Layer 3 MPLS VPN connection. It shall support PPP /Frame Relay transport over MPLS.

The Router shall provide built-in monitoring and diagnostics to detect failure of hardware. The Router shall be provided with LED/LCD indication for monitoring Operational status of each module. The configuration changes on the Router should take effect without rebooting the router or modules. The router offered should have high MTBF & low MTTR.

Memory:	Flash: Default 8MB and maximum 72MB SDRAM: Default 64MB and maximum 320MB
Console Port:	RS 232 I/F for configurations and diagnostic tests
Ports	• Two fixed 1000M high speed Ethernet ports • Two fixed high-speed synchronous ports • One Port ISDN BRI-S/T interface • One AUX
Network Protocol	TCP/IP and support for IPv4 and v6. Shall provide IP address Management via NAT Support as per RFC 1631
Routing Protocols	RIPv2, OSPFv2 (RFC1583 & RFC 1793), OSPF on demand, BGP, BGP4 with CIDR implementation as per RFC 1771. The Implement should be compliant as per RFC1745 that describes BGP4/IDRP IP OSPF interaction. It shall provide Policy routing to enable changes to normal routing based on characteristics of Network traffic. ISIS protocol support.
Bridging & Tunneling Protocols:	Transparent, Spanning Tree Algorithm, Auto Learning L2TP, PPTP capability
WAN Protocols	Frame Relay(LMI & Annex.D & ITU Annex A), PPP (RFC1661), Multi-link PPP (RFC1717), HDLC/LAPB, Frame Relay support shall include Multi-protocol encapsulation over Frame relay

	based on RFC1490, RFC 1293 for Inverse Arp/IP, DE bit support
Network Management	SNMP, SNMPv2 support with MIB-II. and SNMP v3 with and Security authentication. Implementation control configuration on the Router to ensure SNMP access only to SNMP Manager or the NMS work Station. Asynch. Serial Port. RMON 1 & 2 support using service modules for Events, Alarms, History. Shall support multilevel access. Shall be Manageable from any Open NMS platform. Shall support for telnet,ftp,tftp and web enabled Management Should have debugging facility through console. Authentication support shall be provided via RADIUS (Remote Authentication Dial-IN User Service), AAA support, PAP/CHAP, 3DES/IPsec encryption with hardware based encryption services using VPN module. IP Fire Services via Firewall Module. IDS Services via Service
Optimization feature	Data Compression for both header and payload to be supported for X.25, Frame Relay and Leased/Dial-up WAN Links. Dial restoral on lease link failure Dial on demand or congestion, Load Balancing. Support for S/W downloads and quick boot from onboard Flash. Online software re-configuration to implement changes without rebooting. Should support Network Time Protocol for easy and fast synchronization of all Routers
QOS Support	RSVP (Resource Reservation Protocol as per RFC 2205), IGMP (InterGroup Management Protocol Version 2 as per RFC 2236, Multicast Routing support DVMRP, MOSPF, MBGP etc. Policy routing (It shall be possible to affect the normal routing process for specific mission critical traffic through specified alternate routes in the network. A class based scheduling, Priority Queuing mechanism that shall provide configurable minimum Bandwidth allocation to each class and IP Precedence. Congestion Avoidance – Random Early Detection (RED). Support for Differentiated Services as per RFCs 2474, 2475, 2598 & 2597.

4. 24 Port Layer 2 Stackable Ethernet Switch

Fully Managed 24 Port Layer 2 Stackable Ethernet Switch		
Sl. No.	**Feature**	**Description**
1	Required Make:	
2	Required Model:	
3	Device Type:	Fully managed layer 2 stackable Ethernet switch
4	GbE Ports	Minimum 24 x 10/100/1000BASE-T auto-sensing Gigabit Ethernet switching ports
5	10GbE Ports	Minimum Two (2) x 10G Base-T Ports, Two (2) 10G SR Ports with LC Interface and Two (2) Additional SFP+ Ports that Support 10G SR or 10G LR SFP+ Transceivers.
6	Link Aggregation	Shall support and include the required license for IEEE 802.3ad Link Aggregation Control Protocol (LACP)
7	Stacking	The offered switch shall support stacking up to 8 units or more per stack and shall include the required module(s)/port(s), cable(s) and licenses. Switches should have long distance stacking capability
8	RAM:	Minimum 2GB SDRAM
9	Flash Memory:	Minimum 512MB Flash
10	Packet Buffer	Minimum 4 MB
11	Switching Capacity	Minimum 160Gbps

12	Switching Throughput	Minimum 150 Million pps
13	MAC Address Table Size	Minimum 8000 MAC addresses
14	802.1Q Vlans	4K 802.1Q vlans user configurable - vlans should support port, voice and GVRP or equivalent

Networking Features		
1	Routing Protocol:	Static routing support for 256 IPv4 routes
2	Status Indicators:	Link activity, Port transmission speed, Port duplex mode, Power, Link OK, System reset button
3	Vlans	Should support Port, Voice, QinQ Protocol, GVRP
4	DHCP and BOOTP relay	Should support DHCP (udp helper)
5	Redundancy Protocols	Should support and include required licenses for STP, RSTP, MSTP, STP Root Guard, BPDU Guard
6	Qos	Flow based Qos service, port based qos service, ACL Qos, MAC based cos assignment, rate limiting and metering, 8 priority queues per port
7	Certification & Compliance	Switch should be NDPP/ EAL3/ PCI/ TAA Compliant Certified and support RoHS & WEEE from Day 1
8	Security	Should support 802.1x and Guest vlans
9		Should support MAC based port security by number of MAC
10		Should support Packet filtering at L2/L4 with flow based classification based on source MAC address, destination MAC address, source IP (IPv4/IPv6) address, destination IP (IPv4/IPv6) address, port, protocol, and VLAN
11		Should support Standard, Extended ACL's
12	OpenFlow Support	Should support Open Flow 1.x 1.3 or higher
13	Configuration	Should support CLI, WEB/GUI based, and SNMP v3/latest based managements, should include all the required licenses/software utilities from day1
14		Should support SFlow or equivalent technologies
15		Should support management vlans and Port naming to each interfaces
16		Should support Link Layer Discovery protocols
17		Should support management function like Ping, Telnet, Tracert for both IPv4 and IPv6
18	Authentication Method:	Secure Shell (SSH), RADIUS, TACACS+
19	Qualification	The OEM should be in the Leaders and Challengers Quadrant of the latest Gartner Magic Quadrant for Wired and Wireless LAN Access Infrastructure
20	Accessories, Installation and Setup	The successful bidder should deliver, install, configure and demonstrate the functionalities of all the above specified features with all the required/necessary accessories and software utilities/licenses.

		And The offered/supplied model shall not be of declared as EOS (End of Sale) by the OEM by the time of supply/delivery.
21	Power Supplies	Shall be offred with Internal Dual (Redundant) Hot Swappable AC power supplies with N+N redundancy from day 1.
22	Voltage Required:	AC 110/240 V (50/60 Hz)
23	Operating:	Temperature : 0 - 45 DegC, Humidity - 10% - 95%
24	Rack Mount Kits	Shall supply the required Rackmount Kit for each Switch to install in an Industry Standard 19 Inch Network Rack
25	Copper Patch Cords	Shall supply minimum 24 no's of Factory Connectarized , Tested and Certified Systimax / AMP / Tyco / Molex / Legrand "Cat 6" RJ-45 to RJ45 Patch Cords with Minimum 2Mtrs length
26	Fiber Patch Cords	Shall supply minimum 2 no's of Factory Connectarized , Tested and Certified Systimax / AMP / Tyco / Molex / Legrand "OM4 Duplex" LC to LC OFC Patch Cords with Minimum 5Mtrs length
27	Extra Accessories	Shall supply/include all the necessary Modules, Cables for creating the Stack of L2 Switches in closed Ring topology that provides resiliency/ redundancy
28	Warranty	Warranty includes 5-Year Parts, 5-Year Labor, 5-Year Onsite support with next business day response from OEM and the vendor has to provide the letter from OEM

5. 2/5 KVA UPS at utility offices –

Capacity	2/5 KVA
Model/Make	BRANDED
Technology	SPWM,IGBT/MOSFET(for more then 72 DC volt IGBT preferred)
Input	Input Voltage 230 V AC, Single phase,3 wire
Input Voltage Range	160 V AC TO 270 V AC
Input Frequency Range	45 TO 55 Hz
Input Over Voltage Protection	280 V AC
Input Under Voltage Protection	155 V AC
Over Voltage Cut Off	Should be offered externally
Output Voltage	230 V AC Single Phase +-1%
Frequency	50 HZ +-1%
Load Power Factor	0.8 Lag to Unity

Isolation	Output load be isolated through a transformer of same rating
Output Over Voltage Protection	245 V AC Single Phase
Output Under Voltage Protection	210 V AC Single Phase
Over Load Capacity	125% of rated load for 60 sec
Total Harmonic Distortion	Less than 3%
Short Circuit Protection	Soft shut down should occur without blowing any fuse.
Crest Factor	3 : 1
Isolation	Manual Bypass Switch Should be provided of same rating
Indicators	1) Over Temperature- Required 2) Load On Battery - Required 3) Battery On Charge - Required 4) Battery Low - Required 5) Mains - On Required 6) Dc - On Required 7) Inverter - On Required
	8) Inverter -Tripped • Output Over Voltage • Output Low • Over Load System
Static Switch	Automatic Bi-directional should take care of 100% uninterrupted transfer of load from UPS Transfer Time <4 m sec Overall Efficiency >85 % Inverter Efficiency > 90 %
Metering	Separate/Single Digital Meter • DC Voltage • DC Current • Charge/Discharge • Output Voltage • Output Current • Input Voltage • Digital Three/Three & Half • Frequency Meter(For Both Input And Output
Battery Period Of Backup	Sealed Maintenance Free Lead Acid Battery of >= 12 V each of uniform AH rating
	2 Hr with 100% load
Dc Bus Ripple	<1 %
Battery Recharge Time	From Fully Discharge Condition To 100% Charged Condition<12 Hrs Total Dc Bus Banks SINGLE
Vah Rating Capacity X 1 X 2hrs Inverter Eff Utilization%	FOR 2 KVA- MIN 5926 VAH FOR 3 KVA- MIN 8890 VAH FOR 5 KVA- MIN 14814 VAH

Battery Housing	Closed housing with suitable lockers
Battery Life	Minimum 3 years replacement Guarantee
Auditable Alarm For Following Conditions	• Battery Low • Mains Failure • Inverter Under-Voltage • Inverter Over-Voltage • Over Temperature • Inverter Overload
Environmental	• Operating Temperature < 45 Deg C • Humidity 10-90 % (non-condensing) • Noise Level < 50 db at Full Load from 1 meter. Distance

6. Dot Matrix Printer **(Qty= 220 No.)**

A) Speed **350** CPS or higher
B) No. of Pins 24 Pin, Letter Quality
C) Columns 132 or higher
D) Interfaces Both Serial and Centronics Parallel with printer cable
E) Misc. Dust Cover & requisite drivers

7. Network Laser Jet (B/W) Printer **(Qty= 72 No.)**

A) Type Dry Type Laser Electro Photocopy

B) Resolution 1200 x 1200 (2400 dpi type or higher) , Image Resolution

Enhancement technology

C) Speed 32 PPM or higher for A4 in normal mode, first page out 10 seconds

D) Memory 128 MB or Higher, expandable to 256 MB

E) Processor 400 MHz or better

(Proof: Necessary Purchase order/LOI/Contract/Certification on client letterhead/Performance certificate as proof of services provided for the last 3 financial years needs to be submitted)
The SI should be ISO 9001: 2008/latest or have at least CMM/CMMI level 4 certification. In case of a consortium, this requirement needs to be met by the SI-Lead. (Proof: Copy of certification from authorized certification body)
The SI should have at least 20 personnel on its rolls with a minimum experience of 5 years (either in his/her own or other organization). The roles & responsibilities of the personnel should include system integration of IT applications or software or hardware or network. In case of a consortium, the requirement of at least 20 personnel is distributed as follows: SI-Lead needs to meet the above requirement for at least 15 CVs, and the SI-2nd for at least 5 CVs (Proof: Signed resume of employees need to be submitted. Scanned signatures shall be accepted.)

QR for Partner-I (Network Solution Provider)

The Network Solution Provider should have implemented at least 3 multi-location WAN projects (installation, integration, maintenance & management) during the last three financial years out of which at least two projects should have involved Leased Lines or ISDN or VSAT or RF or DSL or VPN /MPLS or Fibre Optics or a combination of these technologies for a customer having a minimum of 10 WAN locations. (Proof: Necessary Purchase order/LOI/Contract/Certification on client letterhead/Performance certificate as proof of services provided for the last 3 financial years needs to be submitted)
The Network Solution Provider should have been in the Network installation/maintenance services for the last 3 years. (Proof for which to be submitted in the form of Incorporation Certificate along with Memorandum & Articles of Association)
Network Solution Provider should be an ISO 9001: 2008 or latest certified company. (Proof: Copy of certification from authorized certification body)