TENDER DOCUMENT

FOR
Implementation of
Network Management System for BSNL Broadband Network
Covering BB P2.2, Multiplay, FTTH
Networks

भारत संचार निगम लिमिटेड
(Bharat Sanchar Nigam Limited
(A Govt. of India Enterprise)
BHARAT SANCHAR NIGAM LIMITED  
(A Government of India Enterprise)  
2nd Floor, Bharat Sanchar Bhawan, HC Mathur Lane,  
Janpath, New Delhi- 110001  

From: AGM (MMY)  
To, 2nd Floor, Broadband Section, Bharat Sanchar Bhawan, HCM Lane, Janpath, New Delhi – 110001.

No..........................................................  
Dated: xx/xx/2014  

Sub: - BID document for implementation of BSNL Broadband Network Covering BB P2.2, Multiplay, FTTH Networks.

EOI No. ..........................................................

Please find enclosed the EOI document in respect of above mentioned EOI which contains the following.

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<td>Special (Commercial) Conditions of Contract</td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>17.</td>
<td>Section-10</td>
<td>Draft Agreement with regard to security</td>
<td></td>
</tr>
</tbody>
</table>

If interested, kindly submit your offers by means of online bids only through Electronic Tendering at the portal detailed in ‘Special Instructions to Bidders for E-Tendering’ before 11:30 hours of --/--/2014.

AGM (-----)  
Phone Number - (Off) 011-----------  
FAX 011-----------  
E-Mail: ..........@bsnl.co.in

Regd. Off.: BSNL, Bharat Sanchar Bhawan, Janpath, New Delhi -110 001. Web: www.bsnl.co.in
SECTION-1

NOTICE INVITING TENDER

1. On behalf of Chairman and Managing Director, Bharat Sanchar Nigam Limited, digitally sealed online tenders, on rupee payment basis, are invited in Single Stage Bidding and two stage Opening using two Electronic Envelopes (Techno-commercial bid & Financial bid) for Planning, Engineering, Supply, Installation, Testing, Integration & Commissioning and Annual Maintenance of Network Management System for BSNL Broadband network covering BB P2.2, Multiplay, FTTH Networks.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Details</th>
<th>Estimated Quantity (Nos.)</th>
<th>EMD (Bid Security)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Supply of NMS on turnkey basis</td>
<td>1 Main +1 DR</td>
<td>Rs. _______ Crores</td>
</tr>
</tbody>
</table>

2. Sale of Tender Document:

2.1 As this Tender Document shall be following the e-Tendering Process, the Bidders may download the Detailed NIT along with Performa for Non Disclosure Agreement ("NDA") from the BSNL Web site http://bsnl.co.in following the “Link for E-tenders by BSNL” in the tender section from ----------------- (1800 Hrs) onwards.

2.2 Tender Document shall be available for downloading only after

i. Payment of INR 8,000/- (INR Eight Thousand Only inclusive of taxes), which shall be non-refundable in the form of crossed demand draft, drawn on any scheduled bank in favour of “Accounts Officer (Cash), BSNL Corporate Office, New Delhi; and

ii. Bidder is required to register compulsorily and complete all the required formalities on the E-tender portal https://www.tcil-india-electronic-tender.com. Thereafter, upon payment of INR 8,000/- towards tender document fee to AGM(MMY), 2nd Floor, Bharat Sanchar Bhawan, Janpath, New Delhi-1, the prospective Bidder will be authorized by MM cell, BSNL Corporate Office, New Delhi, to access/download the tender document from the E-tendering portal only.

iii. Submission of Integrity Pact signed by Purchaser and Bidder is mandatory.

3. e-Tendering Process

BSNL has decided to use the e-Tendering Process for inviting Bids for this Tender and thus the physical copy of the Tender would not be sold. The special instructions to Bidders for e-Tendering is provided in Section 4-Part B of this Tender.

4. Eligibility Criteria- In order to qualify as a Bidder, a prospective Bidder shall fulfill the following eligibility criteria:

4.1. The Bidder Company shall be a company registered and incorporated in India under the Indian Companies Act 1956.

4.2. Bidder shall be a company having a minimum turnover of INR 50 Crore during last 2 financial years i.e. FY 2012-13, FY 2013-14. In case of consortium, turnover of only lead bidder shall be counted. Bidder shall provide Audited and
published financial reports for each of the two financial years i.e FY 2012-13, FY 2013-14.

4.3. Bidder shall have the experience of having at least two live Telecom NMS/EMS implementation in Telecom Service Provider Environment, with minimum cumulative 1000 network elements/IT Nodes working satisfactorily as on the date of bid submission.

4.4. In case the Bidder does not have experience as at Para 4.3 above, then the bid can be submitted through a legally bound consortium (as per format in Section 7 (E) of the tender document) with the OEM/ISV of the Network Management System meeting the experience criterion of NMS implementation as at Para 4.3 above.

4.5. In case the bid is submitted as a consortium with OEM/ISV of NMS as above, then the bidder (also referred as “Lead bidder” interchangeably) shall also have the experience of implementing IT/Network Projects (involving servers, networking equipment, software etc) during last four years (after 1st April 2010) of value exceeding INR 50 Crores. Bidder shall submit self certificate countersigned by Charted Accountant along with the list of such works completed successfully and the value of respective projects.

4.6. The bidder shall be ISO 9001:2008 certified company. Valid certification issued to the Bidder Company shall be submitted by the Bidder.

4.7. The Bidder firm shall not be a Licensed Telecom Service Provider to provide Basic Services/ Cellular Telephony Services/ Internet Services/ UASL/ NLD/ ILD Services anywhere in India. Self Certificate by the bidder shall be submitted. (applicable for consortium partner also)

4.8. The Bidder firm shall not have controlling equity stake or vice versa, in and of any Basic Services/ Cellular Telephony Services/ Internet Services/ UASL/ NLD/ILD Services operating companies in India. Self Certificate by the bidder shall be submitted. (applicable for consortium partner also)

4.9. Consortium Partner Company shall also meet the conditions as per 4.7 & 4.8 above. Self certification shall be submitted by the consortium partner.

4.10. Valid PAN No.

4.11. Valid Sales/ Service Tax Registration Certificate No or exemption certificate No.

4.12. The bidders shall submit necessary documentary proof showing that they meet the eligibility criteria along with their tender bid. All documents submitted will also be self attested by the bidder.

4.13. In case a bid is being submitted through a legally bound consortium with OEM, then following are also applicable for consortium bids:

i. The bidder and the OEM of NMS application i.e. Consortium partner shall be jointly and severally responsible for due performance of the contract..

ii. Consortium agreement as per the format at Section 7(E) shall mention the details of scope of works and relationship, including commercial agreement and shall be submitted in the technical bid.

iii. Only bidder will interact with BSNL for all obligations/payment.
iv. The bidder is not permitted to be a consortium member under another bidder for this project.

v. No change in consortium members i.e. addition or dropping of a member shall be permitted after the submission of the bid.

5. **Responsibility and Bid Submission methodology**

5.1. The bidder shall be responsible for the turnkey implementation of the project, which includes the Supply, Installation, Testing, System Integration, Commissioning and Annual Maintenance of the complete equipments and solutions for the project. The bidder shall also be responsible for the warranty and post warranty obligations including Operation and Maintenance of solution provided by them.

5.2. All documents submitted in the Bid shall be in English. In case the certificate viz experience, registration etc. is issued in any other language other than English, the Bidder shall attach an English translation of the same duly attested by the Bidder & the translator to be true copy in addition to the relevant certificate. All documents should be duly attested/ signed by the Bidder.

5.3. The Bidder shall submit an irrevocable undertaking duly signed by it and its consortium partners (if applicable) stating that both of them i.e. the Bidder and its consortium partners shall be liable for due performance of the Contract jointly and severally, failing which both of them shall be liable to be barred from having any business dealing with BSNL for a period of three years.

5.4. Security guidelines issued by Department of Telecom (DoT) from time to time shall be adhered to.

6. BSNL shall open and evaluate the financial bid of technically and commercially responsive bidders for each of the package separately & independently and prepare a list of such bidders arranged in increasing order of their evaluated package prices starting from the lowest (i.e. L1, L2, L3 and so on), for the purpose of ordering against this tender for each package.

7. **Award of Work** - The work shall be awarded to L-1 bidder only.

8. **EMD:**

8.1. The bidder shall furnish the bid EMD of INR 1.6 Crores in one of the following ways.

   i. Demand draft/Banker’s cheque drawn in favour of AO (cash), BSNL CO Payable at Delhi.

   ii. Bank Guarantee from a schedules bank drawn in favour of ‘DGM (MMT), BSNL, Delhi which should be valid for 180 days from the tender opening date.

9. **Online Submission of Tender bid:** Upto 11:30Hrs. of tender closing date (____________________

9.1. In case the date of submission (opening) of bid is declared to be a holiday, the date of submission (opening) of bid will get shifted automatically to next working day at the same scheduled time. Any change in bid opening date due to any other unavoidable reason will be intimated to all the bidders separately.
10. **Online Opening of Tender bids:** At 12:00 Hours of this tender closing date.

11. **Place of opening of Tender bids:** BSNL has adopted e-tendering process which offers a unique facility for ‘Public Online Tender Opening Event (TOE)’.

BSNL’s Tender opening Officers as well as authorized representatives of bidders can attend the Public Online Tender Opening Event (TOE) from the comfort of their offices. **Please refer clause 8 of Section 4 Part B of Tender document for further instructions.**

However, if required authorized representatives of bidders (i.e. Supplier organization) can attend the TOE at the Meeting Room, 2nd Floor, Bharat Sanchar Bhawan, Janpath, New Delhi, where BSNL’s Tender Opening Officers would be conducting Public Online Tender Opening Event (TOE).

12. Tender bids received after due time and date will not be accepted.

13. Incomplete, ambiguous, conditional, unsealed tender bids are liable to be rejected.

14. CMD BSNL reserves the right to accept or reject any or all tender bids without assigning any reason. He is not bound to accept the lowest tender.

15. Tender document can be downloaded from the website [www.bsnl.co.in](http://www.bsnl.co.in) following **Link “Tender Notice”** or from [https://www.tcil-india-electronictender.com](https://www.tcil-india-electronictender.com).

15.1. The bidder shall furnish a digitally signed copy with no addition/ deletion/ corrections in the downloaded tender document being submitted and it is identical to the tender document appearing on Web-site.

15.2. In case of any correction/addition/alteration/omission in the tender document, the tender bid shall be treated as non responsive and shall be rejected summarily.

16. All documents submitted/uploaded in the bid offer should be preferably in English and must be physically signed by bidder. In case the certificate viz experience, registration etc. is issued in any other language other than English, the bidder shall attach an English translation of the same duly attested by the bidder & the translator to be true copy in addition to the relevant certificate.

17. All computer generated documents should be duly attested/signed by the issuing organization.
Section- 2

Tender Information

1. **Type of tender:** Single Stage Bidding, Two stage opening using – Two Electronic Envelopes.

   **Note:** The bids will be evaluated techno-commercially and financial bids of techno-commercially compliant bidders only shall be opened.

2. **Bid Validity Period / Validity of bid Offer for acceptance by BSNL:** - 150 days from the tender opening date.

3. **The tender offer shall contain two e-envelopes viz. techno-commercial and financial envelope which will contain one set of the following documents only :**

   a) **Techno-commercial e-envelope shall contain** Electronic Form-Technical with all relevant bid annexure of following, but not limited to, documents :
      i. EMD
      ii. Receipt/Proof of the tender fee.
      iii. Certificate(s) showing fulfillment of the eligibility criteria(s) stated in Clause 4 of the Detailed NIT.
      iv. Power of Attorney & authorization for executing the power of Attorney in accordance with clause 14.4 of Section 4 Part A
      v. Integrity Pact
      vi. Clause by clause compliance as per clause 11.2 of Section-4A
      vii. Bidder’s Profile & Questionnaire duly filled & signed.
      ix. Undertaking & declaration duly filled & signed
      x. Documents stated in clause 10 of Section-4 Part A.
      xi. Tender document duly signed at the end of each section for having reads it and accepted it (only in case of manual bidding process).
      xii. Tender/ Bid form- Section 9 Part A
      xiii. Electronic Form- Technical duly filled & signed

   **Note 2:** In case the bidder is unable to upload any of the documents listed above, he may submit the same physically. However EMD & cost of tender document will be submitted in original in physical form.

   b) **Financial envelope shall contain:**
      i) Electronic Form- financial along with Price Schedule with all relevant bid annexure
      ii) Bid form – price Schedule (Section 9 part B) duly filled and signed

4. **The following documents are required to be submitted offline (i.e. offline submissions) to DM (MMT), BSNL, C.O. 2nd Floor, Bharat Sanchar Bhawan, Janpath, New Delhi-110001 on or before the date & time of submission of bids in a sealed envelope, failing which the bids shall be rejected.**

   The envelope shall bear the tender number, name of work and the phrase: “Do Not Open Before (due date & time of opening of tender).
   i) EMD – Bid security (original copy) or valid certification from MSME for the tendered item for claiming exemption.
ii) DD/ Banker’s cheque of Tender fee or valid certification from MSME for the tendered item for claiming exemption.

iii) Power of Attorney in accordance with clause 14.3 of section 4 Part A and authorization for executing the power of Attorney.

iii) Pass-phrases for technical & financial bid parts in separate sealed envelopes.

iv) Integrity pact

5. **Consignee** – The details will be provided at the time of APO/PO.
SECTION-3 PART-A
SCOPE OF WORK

1 Scope of Work:

1.1 Scope of the contract is for Planning, Engineering, Supply, Installation, customization, testing & commissioning, training, Operation and maintenance of a countrywide Network Management System (NMS) covering existing Broadband networks in BSNL viz. P2.2, Multiplay & FTTH networks.

1.2 The NMS equipment shall be installed and commissioned at Main NOC (Network Operation Center) site at Bangalore and its DR site at Pune. BSNL envisages setting up of this NOC infrastructure, which is centralized but has decentralized roles and privileges based access to BSNL officials.

1.3 This BB NMS shall be integrated with existing network elements and Element Management Systems (eMSs) in BSNL Broadband network to achieve an objective of single NMS for countrywide network, as per the requirement specified in this tender on turn-key basis.

1.4 The NMS shall also be integrated with any new EMS’s during warranty period of 2 years and AMC period on turnkey basis.

1.5 Comprehensive Annual Maintenance Contract for five (5) years after the expiry of warranty period.

1.6 NMS proposed to be implemented through this contract shall be IPV6 compliant.

2 Currently deployed eMSs of Broadband Network of BSNL

2.1 An indicative list of EMSs of Broadband network is as below:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Service</th>
<th>eMS vendor/OEM</th>
<th>Network elements they are controlling and monitoring</th>
<th>Location of Main</th>
<th>No. of eMSs</th>
<th>Location of DR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Multiplay</td>
<td>UTSTARCOM</td>
<td>BNG,RPR,OCLAN</td>
<td>Bangalore</td>
<td></td>
<td>Pune</td>
</tr>
<tr>
<td>2</td>
<td>Multiplay</td>
<td>UTSTARCOM</td>
<td>DSLAM</td>
<td>Bangalore, Chennai</td>
<td>2</td>
<td>No DR</td>
</tr>
<tr>
<td>3</td>
<td>Multiplay</td>
<td>ZTE</td>
<td>OCLAN</td>
<td>Bangalore</td>
<td>1</td>
<td>No DR</td>
</tr>
<tr>
<td>4</td>
<td>Multiplay</td>
<td>ZTE</td>
<td>DSLAM</td>
<td>Bangalore, Pune</td>
<td>2</td>
<td>No DR</td>
</tr>
<tr>
<td>5</td>
<td>Multiplay</td>
<td>NSN</td>
<td>DSLAM</td>
<td>Bangalore, Kolkata</td>
<td>2</td>
<td>No DR</td>
</tr>
<tr>
<td>6</td>
<td>Project 2.2</td>
<td>Huawei</td>
<td>BRAS</td>
<td>Bangalore</td>
<td>1</td>
<td>Pune</td>
</tr>
<tr>
<td>7</td>
<td>Project 2.2</td>
<td>Huawei</td>
<td>Tier 1 Switches, Tier-2 switches and DSLAMs</td>
<td>Bangalore, Pune, Chennai, Noida</td>
<td>2</td>
<td>No DR</td>
</tr>
<tr>
<td>8</td>
<td>Project 2.2</td>
<td>UTSTARCOM</td>
<td>Tier-2 Switches and DSLAMs</td>
<td>Chennai, Kolkata</td>
<td>2</td>
<td>No DR</td>
</tr>
<tr>
<td>9</td>
<td>FTTH - GPON</td>
<td>M/S Sterlite - N2000</td>
<td>OLT and ONT</td>
<td>Noida</td>
<td>2</td>
<td>Chandigarh</td>
</tr>
</tbody>
</table>
3.1 The NMS shall provide a complete view of the health of the entire Broadband network from a Single NOC. The NMS shall act as a manager of managers and consolidate all fault information various network elements of Broadband services over ADSL & FTTH.

3.2 The main objectives of BB NMS shall be:

3.2.1 IT and Telecom service convergence by implementing processes according to eTOM and TAM standards and best practices.

3.2.2 Scalable and Modular unified NMS system to be implemented with a cross domain, cross technology and cross vendor flexibility.

3.2.3 Seamless Interconnection between the NOC OSS main systems and the clients across various geographies across the country.

3.2.4 Fully functional events and alarms management including correlation implementation for all type of events/alarms (cross domain, cross technology, cross vendor).

3.2.5 Seamless bidirectional interconnections between different domains/systems when needed to leverage and enrich the solution (e.g. seamless Trouble Ticket (TT) system integration, southbound and northbound interfaces based on existing standards such as but not limited to MTOSI and OSS/J).

3.2.6 Performance Management (PM) system collecting relevant network key performance indicators (KPIs).

3.3 Here under are the value propositions and business benefits expected by BSNL after implementing such a solution:
3.3.1 Central monitoring of each NOC in terms of Network and System health, Network and System Performance, Service Quality and SLA compliance.

3.3.2 Provision for Data Recovery (DR) center.

3.3.3 Cost optimization by implementing efficient business processes thus improving the management of the resources.

3.3.4 Reduce MTTR, enhancing RCA thus better prioritizing the Operations actions, better assigning the appropriate resources and maximizing some processes automation (TT creation for instance).

3.3.5 Improve Mean Time to Provision (MTTP) by optimizing and automating the order management process, the services provisioning and activation.

3.3.6 Provide Level 1/2 support through Center of Excellence model and escalation process.

4 BSNL’s Responsibility

4.1 Raised flooring, False Ceiling and other building modifications if required.
4.2 Provision of three phase feeder power line
4.3 DG set installation if required for additional power on account of NMS.
4.4 Air-conditioning of the BBNMS
4.5 Requisite furniture for the BBNMS NOC.
4.6 Bandwidth for network connectivity and MPLS ports.
4.7 Availability of North Bound Interfaces on the EMSs wherever available.

5 Dimensioning Details

5.1 System dimensioning for hardware and software will have to be done based on below mentioned parameters.

5.2 The bidder shall collect data appropriate for dimensioning the hardware from the existing processor dwell time/occupancy/ performance and storage requirements of the running systems and guarantee that the hardware sizing would not pose any limitation in realizing the performance sought.

5.3 The following assumptions are to be made while estimating the hardware requirements:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>Alarm Rate (Alarms/second)</td>
<td>300 Peak (100 Average )</td>
</tr>
<tr>
<td>ii.</td>
<td>Number of users (for reports)</td>
<td>1000</td>
</tr>
<tr>
<td>iii.</td>
<td>Concurrent users (for reports)</td>
<td>200</td>
</tr>
<tr>
<td>iv.</td>
<td>Total number of various types of Network elements for which Software licenses are being asked for and hardware is to be dimensioned</td>
<td>75000</td>
</tr>
<tr>
<td>v.</td>
<td>Number of existing NEs to be integrated to (through EMS)</td>
<td>75000</td>
</tr>
</tbody>
</table>
vi. Number of new NEs to be integrated subsequently (through respective EMS) | 50000
---|---
vii. No of SLAS to be monitored | 100
viii. Polling interval | 10 minutes
ix. Fault data storage | 3 months
x. Performance data storage | 12 months
xi. Alarm Suppression | 40%
-xii. Maximum CPU loading for the purpose of sizing of hardware | 70%

5.4 Assumptions for help desk:

| i. | No. of concurrent help desk users | 100 |
| ii. | Number of Tickets per day | 1000 |
| iii. | Retention of history data in system (years) | 1 |

5.5 System Performance/Availability Parameters - NMS NOC

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Item</th>
<th>System availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>UPS</td>
<td>100%</td>
</tr>
<tr>
<td>ii.</td>
<td>Enterprise Reports</td>
<td>99%</td>
</tr>
<tr>
<td>iii.</td>
<td>NMS (Network Management System)</td>
<td>99.5%</td>
</tr>
<tr>
<td>iv.</td>
<td>Network Equipment</td>
<td>99.5%</td>
</tr>
<tr>
<td>v.</td>
<td>PCs</td>
<td>95%</td>
</tr>
<tr>
<td>vi.</td>
<td>Printer</td>
<td>95%</td>
</tr>
<tr>
<td>vii.</td>
<td>Hardware *</td>
<td>98%</td>
</tr>
<tr>
<td>viii.</td>
<td>Storage SAN Solution</td>
<td>99.5%</td>
</tr>
<tr>
<td>ix.</td>
<td>Tape library</td>
<td>97%</td>
</tr>
<tr>
<td>x.</td>
<td>Security Infra</td>
<td>99.5%</td>
</tr>
<tr>
<td>xi.</td>
<td>Other items</td>
<td>95%</td>
</tr>
</tbody>
</table>
## Section-3 Part B
### Schedule of Requirement

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Type OF COMPONENT</th>
<th>Number at MAIN DC</th>
<th>NUMBER AT DR SITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NMS (Fault Management &amp; Performance Management)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Software (75000 NEs)</td>
<td>1Set</td>
<td>1Set</td>
</tr>
<tr>
<td></td>
<td>Hardware</td>
<td>1Set</td>
<td>1Set</td>
</tr>
<tr>
<td>2</td>
<td>Enterprise Reports (Log Analytics)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Software</td>
<td>1Set</td>
<td>1Set</td>
</tr>
<tr>
<td></td>
<td>Hardware</td>
<td>1Set</td>
<td>1Set</td>
</tr>
<tr>
<td>3</td>
<td>HELPDESK</td>
<td></td>
<td></td>
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<tr>
<td>4</td>
<td>FIREWALL</td>
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<td>1 Set (Minimum 2)</td>
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<td>5</td>
<td>NIPS</td>
<td>1 Set (Minimum 2)</td>
<td>1 Set (Minimum 2)</td>
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<td>8</td>
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<td>STORAGE INFRASTRUCTURE</td>
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<td>TAPE LIBRARY</td>
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<td>SAN SWITCHES WITH HIGH AVAILABILITY (1+1)</td>
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<td>STORAGE (Min 30 TB) with licenses</td>
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<td>BACKUP SOLUTION</td>
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<td>9.4.2</td>
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<tr>
<td>10</td>
<td>DISASTER RECOVERY SOLUTION</td>
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<td>11</td>
<td>UPS in (1+1) Configuration along with Battery Set (1 hr backup)</td>
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<tr>
<td>12</td>
<td>INSTALLATION &amp; COMMISSIONING INCLUDING INTEGRATION WITH EXISTING EMSs</td>
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<td>1 SET</td>
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<tr>
<td>13</td>
<td>Operation (4 man-months for two years)</td>
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</tr>
<tr>
<td>14</td>
<td>DOCUMENTATION</td>
<td>2 Sets</td>
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**Note:**
1. Bidder shall furnish the detailed Bill of Material (BOM) for each SOR item mentioned above. The detailed Bill of Material should clearly mention all the components including quantities, constituting the SOR item.
2. The Bidders shall provide along with the techno-commercial Bid, detailed un-priced Bill of Material ("BoM") as per the SOR, for all the items. The itemized prices of detailed BoM shall form part of the financial Bid.

3. BSNL reserve the right to place the order for operational manpower after warranty period of 2 years, at the APO prices.
Section-3 Part C
FUNCTIONAL & TECHNICAL REQUIREMENTS

1. **Overall Requirement:**

1.1 NMS application shall comply to TEC GR TEC/GR/IT/NMS-001/01MAR 2009 with latest amendments & TEC/GR NMS 01-02 MAY 2007 with latest amendments.

1.2 The NMS should provide services like Network Fault Management, Network Performance Management, Event correlation service availability and Helpdesk. The Solution should be based on open standard technologies.

1.3 The proposed solution should monitor the complete infrastructure from the central location for fault management and rectification.

1.4 The proposed solution should provide end-to-end, comprehensive, modular Network Management System with integrated management of IT infrastructure components to maximize the availability of IT services and SLA performance. The solution should be distributed in which management facilities can be added at a later date. This would allow the elements to be changed; added/removed as the network itself may change/expand and allow future deployment of elements of new technology. In summary, the NMS should communicate with the eMS over open standard interfaces.

1.5 The proposed solution must support Network segmentation by supporting IPSEC / GRE Tunnels as well MPLS Layer 3 VPNs (e.g. VRF) & VLANS and Multicast VPN,

1.6 The proposed system should include Web-based network topology visualization tool. The network visualization GUI should use the network topology and event information from the tool (and, if applicable, the event management tool) to generate graphical maps of the network topology around particular devices and send these maps to Web clients on demand.

1.7 The proposed NMS solution must also generate a comprehensive view of a service with real-time visibility into service status and identify the root cause of various infrastructure problems as well as prioritize resources based on impact. The root cause analysis should have multiple root cause algorithms inbuilt for root cause analysis. It should have a strong event correlation engine which can correlate the events on the basis of event pairing, event sequencing and other symptom events that can be filtered into a separate view. The module should suppress events for key network elements that are down for routine maintenance, to assist in root cause determination and help prevent flooding of non-relevant console messages using appropriate rules. Event correlation shall be rules-based and work in conjunction with event management to help identify clearly symptom and cause events.

1.8 Fault monitoring module should be able to notify the responsible technician via e-mail and SMS. If required it should further escalate the event up the chain of responsibility based upon definable rules through a graphical user interface.

1.9 The management agents should be able to collect events from SNMP and non SNMP management data sources, API’s, Databases, Network devices, log files, Element Management Systems and other utilities.

1.10 The proposed system should provide a detailed service dashboard view indicating the health of each of the customers and the health of the services they rely on as well as the SLAs. The proposed Service Dashboard should provide a high level
view for executives and other users of the system. The system must provide a historical reporting facility that will allow for the generation of on-demand and scheduled reports of Business Service related metrics with capabilities for customization of the report presentation.

1.11 The solution must provide an integrated central performance management console. This central console will also provide all required network performance reports (including latency, threshold violations, packet errors, availability, bandwidth utilization, resource utilisation, response time, Jitter, loss ratio, down time, failure frequency, mean time to repair, mean time between failures, error statistics and other customised reports) for the network infrastructure. Raw data shall be available for 2 months and archived for at least 5 years.

1.12 The proposed system should provide Real time network monitoring and Measurement of end-to-end Network performance & availability to define service levels. The solution should identify over and underutilised links and assist in maximizing the utilisation of current resources. The proposed system shall provide easy to read representations of health, utilization, latency and availability.

1.13 The proposed solution should have the capability of generating baseline reports. This would allow the user to compare current traffic volume to the average traffic volume for prior days. In addition this component must support the ability to set thresholds to collect performance statistics. When a threshold is crossed, the system must generate a threshold-crossing alert. Concurrently, threshold crossing alert notifications is to be sent to the fault monitoring module. Historical data needs to be preserved for the user to compare the data at a later date.

1.14 The proposed solution should provide lightweight server agents to ensure availability and performance for target server nodes and deliver scalable, real-time management of critical systems. The solution should be capable of monitoring Windows, Unix/Linux and Databases. It should be able to monitor various operating system and database parameters such as processors, memory, files, processes, file systems, etc. If critical application processes or services fail, administrators should be immediately alerted and processes and services are automatically re-started.

1.15 The proposed tool should be able to provide Log File Monitoring which enables administrator to watch system logs and text log files by specifying messages to watch for. When matching messages gets logged, the proposed tool should notify administrators and enable to take action like sending an email.

1.16 It should provide a flexible discovery engine with built in discovery capabilities. At the same time it should also have the capability to integrate with a variety of technologies like Active Directory. The proposed solution should provide the flexibility such that depending on our operational needs, we can schedule to perform a full discovery once every week, complete a discovery of a network once every day, and so on. The discovery schedule could be set up to repeat at certain intervals or to run once.

2. SOLUTION REQUIREMENT OVERVIEW
2.1 Centralized fault and performance management system shall manage the following components:

i. DSLAM
ii. BRAS (broadband remote access server)
iii. OLT and ONT (Optical Line terminal, Optical NW Terminal)
iv. GPON RPR Switches
v. BNG, RPR, OCLAN
vi. LAN Switches and other components mentioned in the annexure of the RFP/RFI.

2.2 Proposed system should be able to integrate with the existing element management systems deployed under various projects.

2.3 It should have ability to collect fault and performance data from the various eMS and report on central dashboard. It should also have the ability to open help desk tickets based on events and incidents defined.

2.4 Network Management Server shall be equipped with Event Collection and Distribution Management Server.

2.5 The bidder shall ensure that products/modules proposed have the capability to integrate amongst themselves and with other components to deliver an integrated management platform.

2.6 Monitoring intervals shall be configurable on a need basis through a GUI tool, to ensure that key systems are monitored as frequently as necessary. Minimum monitoring interval shall be 5 minute.

2.7 System shall have the intelligence to distinguish between an instantaneous dip in performance and ongoing performance degradation due to a problem. Random incidents causing spikes in performance shall be filtered by configuring number of consecutive monitoring intervals or cycles that the threshold has to reach before the event has to be escalated.
2.8 A BB NMS Management Console must be available for carrying out all the critical management functions.

3. **FUNCTIONAL REQUIREMENTS:**

3.1 Shall deliver comprehensive, integrated management capabilities. These capabilities shall include management of fault, event correlation, root cause analysis, performance monitoring etc.

3.2 Shall have the ability to correlate events across multiple different components of IT network as well as Non-IT network infrastructure (SNMP enabled).

3.3 Shall have integration with other systems such as ticketing tool etc.

3.4 NMS deployment shall be GUI based with comprehensive GUI features.

3.5 NMS database shall be RDBMS

3.6 All components shall have fully authenticated operator access security system with log-ins supporting multiple operator levels and groups.

3.7 Multiple users, administrators, APIs etc shall be able to access EMS concurrently and consistently. Minimum number of concurrent users shall be 50. Both local and remote consoles shall be supported.

3.8 Shall support increase in number of event collection and distribution servers or gateways in a hierarchical manner, to enable NMS to manage increasing workload of events from existing infrastructure and new infrastructure which may be added in future.

3.9 NMS shall operate free from hardware constraints, operating systems, network protocols, applications, database management systems and application servers as required in the project.

3.10 NMS console shall provide multiple event filter browsers to filter by using event attributes such as timestamp, severity etc.

3.11 NMS console shall provide graphical lists that allow the operators to see the summary view of health of a system, database or application at a glance.

3.12 Shall have an open interface to allow any URL-based application to be launched from within the Java UI, using the context of an event.

3.13 Shall discover various devices and their connections, along with topology information and populate the common object repository with this data.

3.14 The NMS shall integrate with security management solution for alert resolution and action.

3.15 NMS Shall have the following management functionality:

   i. Event management
   ii. Fault Management
   iii. Performance Management
   iv. Log Analytics and Enterprise Reports
   v. Service and trouble ticket management

3.16 Deployment Architecture:

   i. The solution must support flexible distributed deployment architecture and must demonstrate a cost-effective means of scaling the solution to cater for large multi-site, operations.

   ii. Reduce overall solution cost while providing a flexible means of evolving the solution to accommodate current and future loads. This requires support for the deployment of distributed servers that effectively distributes the management
traffic load and allows delegating network management functions to remote workstations, using a common interface and integrated applications.

iii. Out of the box integration with a wide range of management solutions and multi-vendor, multi-platform environments.

iv. The solution must provide multi-vendor support across network, systems and databases and be capable of integrated cross-domain management.

3.17 RCA & Event/alert suppression during network outages:

i. The solution must support fault isolation and root-cause analysis using model based relationships to suppress unnecessary alarms. The solution must have the flexibility to determine root cause by modeling, rules or policies.

ii. During a network outage, only the device which has failed is alerted on downstream devices are suppressed.

iii. Port (physical/logical) alert suppression should occur when a device is unavailable.

iv. Alerts suppression from devices or objects that have known or scheduled maintenance time.

v. Only alert once for a single issue.

vi. Must provide the ability to view, export and report on events and alerts historically.

3.18 Scalability, Technology Support and Integration:

i. Must be able to scale to support large carrier class/large enterprise environments. Support for MPLS, QoS, Multicast, is required.

ii. The solution should support various integration methods either for import or export. Integration points including: SNMP, XML, ODBC, syslog, delimited data imports/export, Command Line Interface, published APIs (i.e. CORBA), and automated forwarding of events/alarms.

3.19 High availability

i. The solution must support high availability and distributed architectures.

3.20 Disaster recovery

i. Full disaster recovery must be supported for business continuity.

ii. Disaster recover site will be configured as Active-Passive solution.

4. Fault Management – Functional Requirements

4.1 The network monitoring module should support various event correlation & suppression mechanisms such as instance suppression, contained suppression, connected suppression and remote neighbor to perform RCA.

4.2 The network management system should be a bundled solution includes fault, event & log analytics. These all should offer as single product license.

4.3 Network monitoring module should discover network paths on-demand and have ability to create pre-defined network path views.

4.4 Fault monitoring module should provide mobile event viewer that enables the mobile and remote operations staff through enhanced event management content to mobile devices.
4.5 Fault monitoring module should provide Self-Service Dashboard that will allow to integrate event data into business and service views to create dashboards tailored to operations and management needs.

4.6 The Network monitoring tool should provide network discovery, topology visualization, and root cause analysis for Layer 2 and Layer 3 networks, including IP, Ethernet services, and Multi-protocol label switching (MPLS) and IPv6.

4.7 Network management software shall be scalable for a comprehensive, distributed networking solution and have flexibility to manage mission-critical systems for provide rapid problem solution.

4.8 It shall do a Proactive network and systems monitoring. With 24-hour-a-day, 7-day-a-week monitoring, one can identify and solve network resource problems before they occur, reducing down time.

4.9 It shall automatically discover TCP/IP networks, display and build network topologies maps as soon as it is installed. Also shall correlate and manage events and SNMP traps, monitor network health and gather performance data.

4.10 The tool should capture each networks device’s configuration, also the physical and logical connectivity between devices. The tool should model layer 2 and layer 3 network technologies including: Internet Protocol (IP), Ethernet, BGP, OSPF, VPN, VLAN, ATM and frame relay, MPLS, Layer 2 Ethernet VPNs (including virtual private LAN services and virtual private wire services), Protocol Independent Multicast, and Carrier Ethernet.

4.11 The Network monitoring tool should support topology-based event correlation and root-cause analytics in turn, to help network operator’s work more efficiently by focusing time and attention on root cause events.

4.12 Fault monitoring module should provide multiple visualization mechanism to view events such as folder view, tabular view. The visualization mechanism should also support ability to group events along with event summary.

4.13 Fault monitoring module should provide Self-Service Dashboard that will allow to integrate event data into business and service views to create dashboards tailored to operations and management needs.

4.14 Fault monitoring module shall receive all the alarms received from the various event sources, unifies them into a common alarm format, correlates them and provide a common graphical user interface for alarm analysis and acknowledgement.

4.15 Fault monitoring module shall be able to process all fault and event related information in memory and in real time. It shall be capable of processing in excess of 200 events per second during an event storm allowing visibility of all alarms. It should also support an interface to an external database for event/alarm data storage.

4.16 Fault monitoring module shall consolidate and de-duplicate repeated alarms collected from throughout the network and provide a clear, coherent and noise-free list of fault messages.
4.17 Fault monitoring module should be able to collect events from snmp and non-snmp management data sources, api’s, databases, network devices, log files and other utilities. It should allow definition of custom rules for parsing / text manipulation, etc.

4.18 Fault monitoring module shall be able to filter off repeated alarms of the same device. The start-time, end-time, and number of repetition of the alarm shall be indicated.

4.19 The system shall provide facilities that enable to determine the root cause underlying sets of alarms that exhibit certain patterns.

4.20 Fault monitoring module should have the capability to detect event rate anomaly – it should detect when it is receiving an unusually low or unusually high rate of events. The event rate should be compared to normal or baseline – and generate a new event to describe the condition.

4.21 Fault monitoring module should have the capability to detect when it is subjected to a event storm based on user configured thresholds, It should have the capability to take remedial actions such as discarding events of low severity or diverting events based on user configured actions.

4.22 Fault monitoring module shall have a flexible and scalable platform that offers an integrated and open architecture for the network management applications required in this tender. It shall have the capability to support the addition of new network elements.

4.23 Fault monitoring module should have out-of-box capability to perform predictive analysis and generate events that represent predictions for systems that are in danger of an impending threshold violation, and which require attention.

4.24 Fault monitoring module shall be able to collect alarm events from all the managed NEs via their respective element management systems or directly, if element management systems are not available for that equipment type.

4.25 All alarm messages shall be automatically recorded to a database in a form that enables easy and efficient future retrieval, query and analysis.

4.26 Fault monitoring module shall be able to present alarm history of selected NE for a specific period upon request.

4.27 All alarm/event messages shall be automatically time and date-stamped by the fault monitoring module as well as related information (e.g. Alarm receive-time start-time, clear-time, acknowledge-time etc) shall be logged.

4.28 Fault monitoring module should help to prioritize responses to alerts, manage escalation procedures and automate response policies.

4.29 Fault monitoring module should enable operators to define policies for handling incoming events through a graphical user interface.
4.31 Fault Monitoring module should be able to filter out events from device / infrastructure marked under maintenance. It should have a GUI to define maintenance schedule.

4.32 Fault monitoring module shall provide a complete view of the health of the entire distributed environment from a centralized NMS console. It shall be able to provide decentralized management through multiple consoles with centralized escalation, reporting and control if required.

4.33 Fault monitoring module shall capture all the events that are generated across the multi vendor network infrastructure, correlate them and automate suitable actions as defined.

4.34 Fault monitoring module shall trigger automated actions based on incoming events / traps through predefined message-actions definable in event management. It should integrate with proposed trouble ticketing system for auto ticket logging.

4.35 As fault monitoring is one of the most critical components, it should have inbuilt failover/redundancy mechanism right from the processing engine down to collection layer.

4.36 Fault monitoring module shall have easy-to-use graphical rules builder to help build and adapt business rules and automations quickly and easily. Rules shall be created using a GUI, which shall also provide a convenient environment for testing rules before they are put into production.

4.37 The Network Monitoring tool should include Web-based network topology visualization tool. The network visualization GUI should use the network topology and event information from the tool to generate graphical maps of the network topology around particular devices and send these maps to Web clients on demand.

4.38 Network operators should be able to drill down on specific problems in the event list to locate the alarmed device in the network topology view, or show a list of all outstanding alarms on a selected device in the network topology view.

4.39 The Network monitoring tool should have the capability to create custom views of the network. In addition should also have the capability to auto partition the network topology, providing multiple views of the network based on the network's configuration.

4.40 The Network Discovery Solution should provide visibility into network assets through highly accurate and real-time information about network infrastructure to help reduce operational & future capital expenditure.

4.41 Network Discovery Solution should provide ability to automatically discover & model layer 2/3 network devices, interfaces along with physical & logical connectivity:-
- Accurate automated network discovery and connectivity modeling
- Visualization discovered network
- Active network inventory reporting
- Centralized open network data repository
4.42 Network discovery solution should maintain an accurate representation of the network in a standards-based central data repository.

4.43 Network discovery solution should provide powerful state-of-the-art web-based reporting capabilities that allows users to quickly design, save & distribute reports, report templates and ad-hoc queries to view network asset information.

4.44 To reduce all the integration complexities and additional cost of integration adapters, network discovery software should be from the same OEM of asset management software.

4.45 The Network Discovery Solution should be designed to provide network discovery and topology visualization for Layer 2 and Layer 3 networks, including IP, Ethernet services, and Multi-protocol label switching (MPLS) and IPv6.

4.46 The solution provide various types of discovery mechanisms - discovery, rediscovery, full discovery, partial discovery, automatic discovery and scheduled discovery to always maintain accurate network information.

4.47 The solution should support plug and play agent-based discovery which will allow new technologies to be added quickly to help adapt to evolving networks.

4.48 Network Discovery Solution should have in built fail over capability to provide the application based High Availability.

4.49 The Network Discovery Solution should include Web-based network topology visualization tool. The network visualization GUI should use the network topology to generate graphical maps of the network topology around particular devices and send these maps to Web clients on demand. It should also be possible to create network view based on user defined criteria to view/manage network assets better.

4.50 The Network Discovery Solution should extend network inventory reports out-of-the-box and the capability to create custom reports through intuitive drag & drop ability to create reports and/or ad-hoc queries.

5. LOG ANALYTICS: Bidder should provide a data analytics solution:

5.1 Data Analytics solution shall store Historical fault & performance data, customer data, unstructured data such as log files and configuration files to identify issues related to given fault.

5.2 Log analysis should allows to annotate these files with metadata so that searches will more accurate and only relevant results will displayed.

5.3 Log analysis tool should have text analytics feature to provide some structuring of log files using domain-specific rules for information extraction.

5.4 Log analysis system should provide following features.
   a. Locate component error messages from system, configuration, or software logs via rapid indexed search.
   b. Isolate issues across various domains including customer session, performance and system faults.
5.5 "Log analysis software should be able to find root cause of a problem experienced by users such as slowness or a failure, you can search through data such as log files, traces, configuration information, and utilization data".

5.6 Log analysis software should have option for administrator if they have searched for a specific term, the term is highlighted within the individual log records to facilitate faster analytics.

5.7 "Log analysis Software should have feature to view the logs for a specific duration.

5.8 Log analysis system should be able to further refine search results. Using search one should be able to narrow search, by adding additional criteria in the search field. Should have following option to refine the search.
(a) Data Source filtering
(b) Time Filters

5.9 Log analysis system should have option to save search for a keyword or series of keywords, so that one can run it again at a later time.

5.10 Log analysis system should have option of customer app to create and run custom scripts and display the output of those scripts in a dashboard.

5.11 Log analysis system should have link unstructured data with structured data to provide comprehensive diagnostic capabilities.

5.12 Log analysis system should have limit the amount of data that you have to copy and analyze. Also should have capability to apply analytics to log data using data trends.

5.13 Log analysis tool should have capability to access a range of data sources and to define which log agents are used.

5.14 Log analysis should have feature to analyze performance data and learns the normal behavior of a system. It can use data from various sources, and integrate with monitoring products.

5.15 Log analysis system with predictive Insight should have option to create a performance model and uses this model to detect or forecast behavior outside the modeled range, and generate an alarm when this occurs.

5.16 Log analysis system should have capabilities to resolve issues by retrieving relevant articles from support documents, end-user documentation and other sources.

5.17 Log analysis tool should have dashboards to collate multiple charts that are created during problem diagnosis on a single user interface.

5.18 Log analysis tool should have option to create dashboard so that system administrator will be able to view the most critical errors, the highest severity errors, and the total number of errors on a single screen.
6. REPORTING REQUIREMENTS:

6.1 Shall generate graphical and tabular reports using a GUI based reporting tool. Reports shall support features such as drill down, condition and formula features etc. for generating interactive reports for ease of navigation.

6.2 This solution should provide the capability to assess the Network QoS performance trends and identify worst performing cells by viewing the easily scheduled and interactive Active Reports.

6.3 Should display important KPIs from business point of view. Should leverage the existing and dashboard reports; converts them to active reports by adding interactive behavior, and provides end users with an easy-to-consume interface.

6.4 Shall be able to generate event-level, performance-level and service-level reports grouped by specific data fields such as time period, location, customer, service type, device type etc.

6.5 It shall be possible to automatically generate reports based on schedules and send notifications to administrators through web or email.

6.6 Shall display historical event data grouped by time period.

6.7 On-demand and custom reporting:
   i. The solution must support live, or real-time, performance reporting capability for systems, network and database components.

6.8 Performance alerts based on “baselined” normal metrics and exceeding thresholds
   i. The solution should provide the ability to “baseline” performance metrics and determine normal operating values and patterns based on time of day, week etc. The ability to threshold on these values should be available.
   ii. The solution must be able to alert when a metric is above or below a static threshold over a configurable time window

6.9 Custom reporting:
   i. The ability to create custom report pages for specific users that present specific reporting data to suit user need.

6.10 Utilization of asset information
   i. The solution must be able to report on managed asset utilization, both on device and interface levels.

6.11 Capacity projection/ trend analysis capability
   i. Capacity projections must be provided for critical performance indicators.

6.12 Following pre-defined (online and offline) reports shall be available:
   i. File system resource utilization and grade of service over a period of day, days, weeks, months and year.
   ii. CPU and Memory resource utilization and grade of service over a period of day, days, weeks, months and year.
   iii. Grade of service over a period of day, days, weeks, months and year based on high and low thresholds of utilization of memory, CPU and file system utilization over a period of time.
   iv. Summary of service levels to show the overall health of the systems by aggregating volume and grade of service metrics on all systems.
   v. Problem summary for a day to show the systems which generated maximum number of exceptions during the previous day along with details on run queue, CPU utilization, memory utilization, swap utilization, page outs per second and number of processes, exception details and grade of service for these systems.
7. PERFORMANCE MANAGEMENT

7.1 Required Performance Management will be a big data collection, warehousing and analytics solution that helps BSNL maximize return on the existing network infrastructure investments and lower the cost of network operations. It should monitor, store, analyse and display massive amounts of performance information for assuring quality across BSNL’s complex, multi-technology, multi-vendor network infrastructure. It should be designed for high scalability at low cost, the solution should enable proactive capacity planning and problem-solving through flexible dashboards and reports that unify all aspects of monitoring and help optimize operations through an extensible, open architecture.

7.2 The proposed solution should analyse SNMP and non-SNMP data from all Layer 2 and 3 infrastructure technologies, covering the range of service provider technology domains. It should display them in a unified user interface optimized for very high scale visualization, correlation and network problem-solving.

7.3 The architecture should scale linearly to consume hundreds of metrics with a minimal number of collectors. On a centralized system, its database should economically scales to store hundreds of megabytes of historical data for analysis, reporting and auditing.

7.4 For non-SNMP devices, it should have the ability to collect performance parameters through the various eMS.

7.5 Out-of-the-box dashboards focusing on specific operating environments with the ability to customize rich views to encompass data from all critical applications and components

7.6 The solution must have a centralized web console for real-time and historical performance and event monitoring and provide secure access to custom dashboards with role-based permissions

7.7 Performance reports must be available via a centralized web browser and performance data may be accessed via a web services API

7.8 Reporting capabilities should include the flexibility to allow for creation of the reports in different formats, the ability to automate and schedule delivery.

7.9 The solution must support live, or real-time, performance reporting capability for systems, network and database components.

7.10 The solution should provide the ability to “baseline” performance metrics and determine normal operating values and patterns based on time of day, week etc. The ability to threshold on these values should be available.

7.11 The solution must be able to alert when a metric is above or below a static threshold over a configurable time window

7.12 The ability to create custom report pages for specific users that present specific reporting data to suit user need.

7.13 The solution must be able to report on managed asset utilization, both on device and interface levels.

7.14 Capacity projections must be provided for critical performance indicators

7.15 The solution must be able to identify top and bottom resources based on any performance metric.

7.16 The solution must be able to retrieve both SNMP and non-SNMP data and present both types of data in a single dashboard

7.17 The solution must allow administrators to create own custom metrics and certify new devices for monitoring. It should also allow configuration of the device properties via an API.
8. **NMS Console**

8.1 The NMS shall provide web interface for monitoring equipment’s and elements

8.2 The Web console shall perform the following:

   i. Allow authorized users to access real time status on IT systems and services through any java enabled Web browser.

   ii. Allow multiple users to simultaneously view real time events/alarms, maps and tables.

   iii. Deliver graphical maps, tables and event lists to the remote operator via HTML and Java.

   iv. Have flexible management and administrative functions so that users can remotely manage and monitor network alerts and allow both read only and read-write access.

   v. Restrict access of views to certain users and groups to minimize the risk of data distortion.

9. **Help Desk Management System:**

9.1 HELPDESK AND TROUBLE TICKETING: Helpdesk shall be provided to meet the objective of the tender. The Helpdesk system shall integrate with web portal, NMS system:

9.1.1 The Helpdesk is to be setup to address the queries of the customers on services proposed to be offered to the customers through this project.

9.1.2 Bidder shall provide for helpdesk licenses.

9.1.3 Help Desk deployment shall be based on centralised database.

9.1.4 System shall have web interface for CSRs, other administrators which shall support all the helpdesk functionalities including analysis and reporting.

9.1.5 System shall be ITIL compliant. Verifiable proof that the helpdesk is ITIL compliant shall be submitted.

9.1.6 System shall manage the relationships between user problems and network and services events. NMS shall ensure that duplicate events are not submitted to the helpdesk system so that duplicate tickets are not generated.

9.1.7 Proposed service desk tool should provide the ability to define unlimited real-time KPI dashboards that provides insight into multiple levels of service desk operations so that support staff, managers and executives can monitor role-based key performance indicators using an intuitive, graphical display from any Web-based client. It should allow us to include any no. of KPI graphs within the single dashboard depending upon our requirements.

9.1.8 Proposed helpdesk solution should have option to come with ready VM image to deploy on virtualization platforms.

9.1.9 Proposed help desk tool should provide the capability of versioning for workflows. The service desk tool should facilitate us such that we should incrementally grow our workflows keeping the revisions of workflows as our business process changes and become more mature. If a new version of a workflow breaks, it should allow us to revert to a previous working version of workflow.

9.1.10 NMS shall be able to automatically open a ticket for some defined type of events based on rules in the helpdesk system

9.1.11 Trouble ticket shall be tracked in the helpdesk system till the cause of the outage has been detected, repaired and the service restored.

9.1.12 Whenever a problem is reported by a customer a unique trouble ticket ID shall be generated by the system. This shall be intimated to the customer, so that he can track the status on the basis of this ID.
9.1.13 It shall be possible for Customers to submit and check the status of reported problems through web interface.

9.1.14 System shall automatically track, log and escalate user interactions and requests.

9.1.15 CSRs shall be able to view, change the status of the calls, reassign / transfer the trouble tickets to other CSRs or technical specialist through the web interface.

9.1.16 Shall be able to generate various customized Service Level Reports e.g. Open Call Reports, Closed Call Reports, Problem Area / Location specific Reports.

9.1.17 Shall have the capability for accepting queries through various sources including email or web interface etc.

9.1.18 Shall provide case categorization capabilities for the CSR to quickly and consistently categorize incoming requests and problems etc using category, type, urgency level etc.

9.1.19 Duplicate case tracking. Support staff can associate multiple instances to a single problem and tie the resolution of multiple cases to the resolution of one case.

9.1.20 System shall check for tickets status and escalation and notify the management or next level of support staff based on predefined Service Level Agreement (SLA) which shall include criteria like service application, severity and customer etc.

9.1.21 It shall be possible for the queries and escalations to be assigned to CSR groups or CSRs.

9.1.22 It shall have bulletin board to allow CSRs, Managers and Customers to post and review messages about critical issues.

9.1.23 It shall be possible to track the time spent on specific case.

9.1.24 CSR shall be able to define an estimated time for resolution of the problem. When this time expires; indication in this regard shall be made available to the CSR.

9.1.25 CSR shall be able to log events and notes. It shall be possible to note the problem in text format. Every entry in the helpdesk shall be definable as a case or trouble ticket. CSRs shall be able to indicate actions taken to resolve the caller's problems by adding events to these cases with optional notes attached. It shall be possible to view the history of the actions taken to rectify the problem along with the identification of the CSR. It shall be possible to show a portion of this information to the customers for the purpose of informing them the status of problem resolution.

9.1.26 The trouble ticketing system shall be able to apply escalation procedures when predefined time to repair is not met.

9.1.27 Trouble ticketing system shall interface with SLA and Performance management systems to account for the period of network or service un-availability.

9.1.28 Trouble ticketing system shall be able to extract all incidents, resolution progress reports and all affected services via its interface with the inventory system.

9.1.29 Life cycle of the case or trouble ticket shall include phases like opening, suspension, closing and archiving which shall be tracked by the system.

9.1.30 Assignment, routing and escalation of trouble ticket shall be both automated and manual and shall be based on pre-defined rules. Rules shall include the case of escalation when estimated time to repair is not met.

9.1.31 The trouble tickets shall be attached to a work-flow where ever there are multiple steps required for resolution.

9.1.32 System shall support the creation of task whenever necessary.

9.1.33 CSR shall be able to query all tasks or trouble tickets, which are open against him.

9.1.34 System shall support viewing of all open trouble tickets and tasks against a customer when his account is queried.
9.1.35 System shall correlate EMS generated trouble ticket with customer trouble ticket.

9.1.36 In case the outage is self-healing, the event management shall notify the help desk system and clear the trouble tickets automatically.

9.1.37 Trouble ticket management shall include functions like initiate, close, action, query, modify etc.

9.1.38 It shall be possible to include information about the equipment; circuit built up details etc in the trouble ticket automatically after obtaining the same from inventory.

9.1.39 Shall integrate with web-portal to report trouble ticket status.

9.2  **WORKFLOW:**

9.2.1 Shall provide the ability for an administrator to customize its workflow via point-and-click capabilities.

9.2.2 Shall provide the ability for a CSR/administrator to customize his GUI using a point-and-click interface to add and change windows, objects, and fields in windows.

9.2.3 Shall provide the ability to integrate the application with web portal, EMS etc. using XML and Java/C APIs etc.

9.2.4 Workflow shall be able to perform notification via email, SMS, set fields, push fields, SQL query, field’s manipulations and calculation etc.

9.2.5 Shall provide the ability to develop workflow for data record create, update, modify and delete operation.

9.2.6 Shall provide the ability to develop time driven workflow to perform data manipulations.

9.2.7 Shall have the capability to attach documents along with the trouble ticket.

9.2.8 Shall provide security at form, fields, workflow level.

9.2.9 Shall provide approval engine so that any customized applications developed could incorporate the hierarchy, role based, level based ad-hoc approval structure. Shall include notification and escalation capability if approval is not performed.
10. **HIGH LEVEL DEPLOYMENT ARCHITECTURE:**

![Diagram of network management system](image)

11. **Technical Specifications of Various Components:**

11.1 **Servers:**

11.1.1 **DATABASE SERVERS:**

i. Each blade server should be configured with a minimum of four (4) numbers of Intel 8 core processor or higher with 3.0GHz or higher clock speed available in the market. Equivalent hardware as per sizing given by software OEM is also acceptable.

ii. The server should be configured with minimum 8GB/core Memory with DDR4 memory DIMS.

iii. The server should be provided with a minimum of 2 numbers of hot plug 600GB 10K RPM SAS hard disk drives. The server should also support SAN boot.

iv. The Blade server should support Ethernet and fiber channel connectivity OR Converged Network Adapters in lieu of the same.

v. The server should be configured to provide for port and card level redundancy.

vi. It should support remote/virtual KVM capability from an external keyboard, video monitor and mouse to all blades installed in the chassis through the management controllers and should also support virtual media for DVD access.

vii. The server should be provided with hypervisor to enable provisioning multiple virtual machines (VMs) on the server.
viii. The server should be provided with Operating system supported by the application for running database.

ix. These servers /Virtual Machines should be high availability mode like Operating System cluster at the primary DC. The application and database should failover to standby server/VM in the event of outage at primary server/VM

11.1.2 WEB / APPLICATION SERVERS:

i. Each blade server should be configured with a minimum of two (2) numbers of Intel 8 core processor or higher with 3.0GHz or higher clock speed available in latest series.

ii. The server should be configured with minimum 4GB/core Memory with DDR4 memory DIMS.

iii. The server should be provided with a minimum of 2 numbers of hot plug 300GB 10K RPM SAS hard disk drives. The server should also support SAN boot.

iv. The Blade server should support Ethernet and fiber channel connectivity OR Converged Network Adapters in lieu of the same.

v. The server should be configured to provide for port and card level redundancy.

vi. It should support remote/virtual KVM capability from an external keyboard, video monitor and mouse to all blades installed in the chassis through the management controllers and should also support virtual media for DVD access.

vii. The server should be provided with hypervisor to enable provisioning multiple virtual machines (VMs) on the server.

viii. The server should be provided with Operating system supported by the application.

ix. These servers /Virtual Machines should be high availability mode like Operating System cluster at the primary DC. The application and database should failover to standby server/VM in the event of outage at primary server/VM

11.1.3 BLADE CHASSIS:

i. Blade chassis shall be 19” Electronic Industries Alliance Standard Width rack mountable and provide appropriate rack mount kit.

ii. The enclosure should be populated fully with power supplies of the highest capacity & energy efficiency.

iii. The power subsystem should support N + N power redundancy (where N is at least equal to 2) for a fully populated chassis with all servers configured with the highest CPU configuration, maximum memory and IO configuration possible.

iv. Each blade enclosure should have a cooling subsystem consisting of redundant hot pluggable fans or blowers enabled with technologies for improved power consumption and acoustics.

v. The chassis should support redundant modules for LAN and SAN connectivity. Minimum eight 8Gbps Ethernet ports shall be provided on each Ethernet switch. Minimum four 8Gbps FC ports shall be provided on each SAN switch of Blade chassis.
vi. Should include all necessary licenses for management for a fully loaded chassis.

vii. It should also have the capability to enforce policies in the system BIOS settings and configuration, so once administrators define a common policy for a server BIOS, all subsequent deployments use this policy.

viii. Supports a stateless environment where server identity is created by the administrator who defines the server BIOS version, MAC ID, NIC firmware version, WWPN, FC-HBA firmware version, Adapter QoS, Management module firmware version, Server Boot Policies, KVM IP etc.

ix. Firmware upgrade / rollback should be possible for all the components in the infrastructure including the server, chassis management modules, Ethernet switch modules, SAN switch modules, Other IO modules from the same console that is used to manage the individual blades.

x. Role Based Access Control so that the resources can be managed by respective resource administrator. Parent administrators still have control over resources under their respective child resources.

xi. Built in high availability for the management modules and software.

xii. Automated call home capability in the event of critical server failure or thresholds that are crossed which could impact server performance or customer SLA.

xiii. Supports multiple levels of authentication methods including TACACs+, LDAP and RADIUS.

11.1.4 STORAGE:

i. Storage array shall comply to technical specifications mentioned on TEC GR No TEC/GR/I/ESI-001/03/MAR12.

ii. Unified Storage System with no single point of failure architecture. The Storage shall have NAS & SAN (Unified) as an integrated offering and use the functionality based on performance requirements of the various application. All modules of the core NMS application should be hosted on SAN Configuration only. The system must support dual-ported 6Gbps SAS Disk Drives & SATA or NL-SAS Disk Drives.

iii. System to have minimum Two controllers, each controller to have 2 nos. of 64 bit Quad -core CPU or higher.

iv. The storage array shall support the features like De-Duplication to remove redundant data, Data compression for data reduction, Thin-provisioning for efficient use of storage capacities, Secure Multi Tenancy for shared storage infrastructure, Space efficient replicas/clones reduced total storage capacity etc.

v. Storage System to have minimum 8 X 8Gbps FC Ports per controller pair, 8 x 1GigE IP Ports for NAS functionality & 2 x 10 Gig Ports for ISCSI functionality.

vi. System to support 8Gbps FC, 1GigE IP and iSCSI Ports. System shall have the support for 10GigE IP, iSCSI and FCoE as an upgrade in the future.

vii. Storage System shall have minimum 2*6Gbps SAS backend disk ports per controller.
viii. System shall support 600GB & 900GB 15K rpm 6Gbps SAS Disks or higher. System shall also support 2TB 7200 rpm or higher SATA II or 7200 rpm NL-SAS (Nearline SAS) or higher Disk Drives. System shall also support Flash/Solid state Drives.

ix. System shall have the capability to designate hot spares that can be automatically be used to replace a failed drive anywhere in the system. Storage system shall be configured with required Hot-spare shall be 2% over and above the data capacity configured.

x. System shall be configured with FC, CIFS, NFS & iSCSI Protocols. All the licenses shall be provided.

xi. Easy to use GUI based and web enabled administration interface for configuration, storage management. Storage Management software must include both GUI and CLI tools. It must be able to centrally manage the vendor’s same class of arrays over the network. It must support web-based management. It must support event auditing for security. Shall be able to support automated email to vendor support centre for proactive maintenance.

xii. Storage system shall be offered with native space saving capabilities for data storage such as compression and de-duplication.

xiii. Storage management software shall be browser-based/web enabled accessible over IP.

xiv. Storage management software shall be able to perform and monitor local and remote replication operations. Storage management software shall be able to configure and manage tiering.

xv. Storage management software shall provide real time monitoring and historical analysis of storage performance data such as total IOPS, read%, write %, throughput, etc. for analyzing performance of the systems.

11.1.5 SAN SWITCH:

i. The SAN switch should support non-blocking architecture with 64 active ports at 16Gbit/sec full duplex in single domain scalable to 128 ports for the main DC & with 48 active ports at 16Gbit/sec full duplex in single domain scalable to 96 ports for DR.

ii. The switch should be rack mountable and be supplied with proper rack mount kit to mount in a standard 19”rack.

iii. All the ports should provide autosensing 8/16 Gbit/sec capabilities for backward compatibility.

iv. The Switch should be configured with the Zoning and ISL Trunking features or equivalent Trunking features. License should be included in the Configuration.

v. Support for web based management and should also support CLI.

vi. The switch shall be able to support ISL trunking (using 16/8 Gbit/sec SFPs)

vii. The switch should be provided with SFPs for all active ports.

viii. The switch should be provided with fibre cables of appropriate lengths for all active ports as to connect to servers, storage array and tape library drives.

11.1.6 BACKUP SOFTWARE:
i. Shall be available on various OS platforms such as Windows, Linux and UNIX platforms and be capable of supporting backup / restores from various platforms including TRU64 UNIX, HP-UX, IBM AIX, Linux, NetWare. Both Server and Client software shall be capable of running on all these platforms.

ii. Ability to backup data from one server platform and restore it from another server platform to eliminate dependence on a particular OS machine and for disaster recovery purposes.

iii. Software shall have full command line support on above mention operating systems.

iv. The backup software shall be able to encrypt the backed up data using 256-bit AES encryption on the backup client and shall not demand for additional license, any such license if needed shall be quoted for the total number of backup clients asked for.

v. Must support wizard-driven configuration and modifications for backups and devices.

vi. The backup software shall support industry standard Common Device Interface for advanced device reporting and handling.

vii. Shall have cross platform Domain Architecture for User management and shall also have role based User management and access control for multitenant environments.

viii. Must support de-duplicated backup and recovery.

ix. Shall support backups for clustered servers and support industry popular clusters like Sun cluster, Microsoft Cluster, HP service guard, EMC cluster, HACMP i.e. shall have the ability to backup data from clustered servers from the virtual client, backing up data only once and giving consistent backup in case of failover of nodes.

x. Must support backup / recovery of raw SCSI volumes.

xi. The backup software shall support backup and restore of NDMP data to media server attached tape/VTL.

xii. Shall integrate with third party VTL which has data de-duplication capabilities.

xiii. The backup software must provide support for online backup for Databases such as MS SQL, Oracle, Exchange, Lotus, DB2, Informix, Sybase and MySQL with out-of-box agents.

xiv. Must support Hardware and storage array based snapshot backup for off host zero downtime and zero load on the primary backup client.

xv. The backup software shall support data movement directly from the backup client to the disk target without passing through the backup server.

11.1.7 TAPE LIBRARY:

i. Shall comply to clause 2.7 of TEC GR/NO. GR/ESI-01/03/MAR2012 with amendments if any.

ii. Tape library shall be used for storing archived data and aged data as per the policy of BSNL.
iii. The tape library unit shall be configured with fiber based tape drives and shall be quoted with requisite number of drives and slots as per the dimensioning parameters given in this document.

iv. Offered tape library shall support native data capacity of 200TB uncompressed.

v. Tape library shall provide web based remote monitoring capability.

vi. The tape library shall be configured with FC LTO Gen4 or higher tape Drives.

vii. All the hardware supplied should have support life cycle of minimum 7 years from the date of commissioning.

11.1.8 DISASTER RECOVERY SOLUTION:

i. The Bidder(s) shall be responsible for Installation and Setting up of IT infrastructure at the Data Centre and Disaster Recovery Centre including the necessary hardware, software and other networking components.

ii. The system shall support Disaster recovery by replicating the data at remote locations.

iii. The Disaster Recovery (DR) should be implemented using storage based data replication.

iv. In the event of invoking DR, the services should be run from the DR center.

v. The DR solution should be used Asynchronous replication.

vi. The DR solution should be provided with Recovery Point Objective (RPO) of two hour and Recovery Time Objective (RTO) of twelve hours.

vii. DR solution should be with same the computing capacity as the Main DC.

viii. The DR solution would have the Unified Storage Array with same performance as main DC. DR storage array would have the same capacity of the production volume as the main DC with only one Point-in-Time (PIT) copy of the production volume.

11.1.9 Firewall

i) Firewall shall be as per TEC GR no. GR/FWS-01/02 SEP 2006 (or latest TEC GR as available as on date of bid submission). In addition to GR, following features are also required and the same will prevail upon the related Clauses in TEC-GR, in case of any contradiction:

ii) Firewall shall be handling minimum performance criteria as per category “C” of referenced TEC GR with all features enabled without deterioration in performance. However, it shall be overall responsibility of the bidder to demonstrate the capability of supplied Firewall to meet the volumetric of this project at full load at each site; If at any time, during the warranty & AMC period of this project, it is found that the performance is degraded due to undersized Firewall, bidder shall replace it free of cost with suitable high end solution.

iii) Firewall shall be deployed in high availability configuration.

iv) Shall have fully inspected throughput of 2Gbps, concurrent session of 500,000 and New Session per sec of 50000
v) Firewall shall have redundant and hot swappable power supplies. Firewall shall be DC (-48 V nominal, capable to operate in range of -40 V to -57 V) or AC powered (220 V _+ 10% -15%) nominal at 50 ± 2 Hz

11.1.10 NIPS

i) NIPS shall be as per TEC GR no. GR/IPS-01/01 NOV 2006 (or latest TEC GR as available as on date of bid submission). Bidder shall provide clause by clause compliance to TEC GR. In addition to GR, following features are also required and the same will prevail upon the related Clauses in TEC-GR, in case of any contradiction.

ii) Shall be handling minimum performance criteria as per category “B” of referenced.

iii) TEC GR with all features enabled without deterioration in performance. However, it shall be overall responsibility of the bidder to demonstrate the capability of supplied NIPS to meet the volumetric of this project at full load at each site; If at any time, during the warranty & AMC period of this project, it is found that the performance is degraded due to undersized NIPS, bidder shall replace it free of cost with suitable high end solution.

iv) Shall be deployed in inline & stealth mode to protect the traffic of all segments.

v) Shall be deployed in High Availability mode at each site.

vi) Shall have fully inspected throughput of 2Gbps, concurrent session of 500,000 and New Session per sec of 50000

vii) Shall protect minimum 2 number of network segments

viii) Shall support minimum 5000 OEM defined signatures and shall have no limitation for custom defined signatures.

11.1.11 LARGE SCREEN WALL:

i. Shall be rugged and industrial in nature which shall be operated 24x7 basis

ii. Shall have more than 50,000 hours of MTBF of its display cubes

iii. Should be designed for long-term use and performance.

iv. The application shall be able to produce high resolution display such that when the output is projected on Large screen video wall display the readability is not reduced.

v. The system shall be capable of automatic detection of lamp failure and automatic lamp switching after lamp failure detection.

vi. The lamp shall be hot swappable

vii. The individual display cube size shall not be less than 50”

viii. The resolution of display cube shall be full HD res of 1920x1200

ix. The display cube shall be seamlessly stackable

x. Contrast ratio of minimum 3500:1 shall be provided

xi. Audio: Integrated audio shall be provided

xii. Signal input/Output:

    a. Display Port
    b. HDMI (HDCP) x 2
    c. DVI (HDCP)
    d. Component
    e. VGA
    f. S-Video
    g. Composite
xiii. Video wall controllers:
   a. Controllers shall handle multiple inputs not less than 8 and shall display the
      same on video wall and distributed display solution
   b. Shall support minimum of 20 display cubes
   c. Output shall be digital
   d. Shall support networked client display units not less than 20
   e. Shall support unlimited high resolution software application outputs
   f. RGB/DVI sources not less than 20
   g. Shall have easy GUI based management by client and also through
      web/network
   h. arrange the display to show just one image or place multiple video windows
      across the entire display
   i. quickly create and save multiple wall layouts or scenarios for quick recall and
      display
   j. The complete solution i.e. the projection modules, display controller and the
      wall management software shall be from the same manufacturer to
      overcome any compatibility issues.

11.1.12 Workstation of reputed OEM

   i. Intel® Core™ 4th Gen i7 or above
   ii. Processor speed : 2.80 GHz and above
   iii. Cache : 8MB cache
   iv. Cores : 4
   v. Memory: 8 GB 1333 MHz DDR3 SDRAM
   vi. Storage: 1 TB SATA (7200 rpm) partitioned into 4
   vii. Optical drive: DVD R/writer
   viii. Graphics display card with 1GB memory
   ix. Monitor: LED 21” Resolution 1920x1080 with resizable screen paritions, with
       anti glare, 1 VGA port, 1 DVI port, 1 Display port
   x. Ports: 5USB 2.0, 2 USB 3.0, 1 DVI-D, 1 VGA video, 1 RJ-45 10/100/1000Mb
      Ethernet port, 1 audio digital out (SPDIF), 1 audio in, 1 audio out, 1 microphone
      in
   xi. Multimedia Keyboard, optical mouse of Workstation OEM and built in audio
       speakers.
   xii. 3 years warranty
   xiii. Licensed version of Microsoft office suite 2010 with media
   xiv. Licensed version of Microsoft Windows 8 Pro 64 Bit with recovery media

11.1.13 Printers

   i. Technology: Monochrome Laser
   ii. Functionality: Print, copy, Scan and FAX
   iii. Resolution: not less than 1200dpi
   iv. Pages per Minute: not less than 32ppm
   v. First page out: not more than 10sec
   vi. Connectivity, standard:
       a. One 1- Hi-Speed USB 2.0 Device
       b. One Hi-Speed USB 2.0 Host
       c. One Fast Ethernet 10/100Base-TX
       d. One Wireless 802.11b/g/n
   vii. Memory: Not less than 256MB
   viii. Media types: Paper (colored, letterhead, light, plain, preprinted, pre punched, recycled, rough, heavy), bond, cardstock, envelope, labels, transparency, vellum
   ix. Media sizes: A4 and lesser sizes
   x. Access controlled network printing with authentication, audit and accounting
Section 3 Part D
Technical Requirements of UPS

1. UPS system requirements: UPS system consists mainly of the following building blocks:

   1.1 Distribution, Switching, Control & Alarm (DSCA) unit: Provides for Distribution, Switching, Monitoring, Control and alarm of the UPS unit / System.

   1.2 Rectifier: Rectifier unit is used for conversion of AC into regulated DC.

   1.3 Battery Bank: Battery of suitable capacity for providing power to the inverter when Rectifier unit is not working due to any reason.

   1.4 Inverter Unit: Inverter unit shall be capable of providing uninterrupted AC power to the Telecom Equipment.

   1.5 Static Transfer Switch: Static Transfer Switch is for transferring the load, automatically to AC mains (regulated or unregulated). Transfer of load back to UPS shall be auto/ manual but it shall take place, only after the inverter output has stabilized and is within the specified limits.

   1.6 Manual Transfer Switch: Manual transfer switch is for the transfer of load from inverter to Standby power and back to Inverter unit, manually without the interruption of power to the load. The interlocking inverter operation should be prevented from unsynchronized switches.

   1.7 Voltage Regulator: Voltage Regulator (VR) is for providing Standby regulated AC power (as per the purchaser's requirement) to the telecom equipment.

2. UPS System Configurations:

   2.1 UPS systems envisaged in this specification may be:

   a) A Standalone UPS OR

   b) Standalone (1+1) UPS System OR

   c) Modular UPS System.

   2.1.1 Standalone UPS or Standalone (1+1) UPS Systems:

   i. This type of system shall be a single unit of required capacity without redundancy or two similar units in (1+1) configuration with redundancy capable of sharing load with other UPS unit of same rating and make, in synchronous load sharing mode. This type of system shall have the components as inverter unit, rectifier unit and DSCA, Static Transfer Switch, and Manual Transfer Switch, all housed in a single cabinet. The system shall have the battery of the desired rating as per backup requirements. Refer Block Diagram Fig. 1. In case of Standalone (1+1) UPS System, separate AC input shall be made available from the LT Panel for each UPS.

   Note: The stand alone UPS system of given capacity shall be a single unit. Paralleling of smaller capacity UPS systems to achieve the required capacity is not allowed.

   2.1.2 Modular UPS Systems:

   i. In these types of systems, UPS is composed of the pluggable type basic modules and each module has the building block as: One rectifier unit, one inverter unit and a common DSCA unit. The battery shall be as per the desired rating of the UPS. The battery AH capacity will be according to the battery backup requirement. DSCA unit provides for all the control, monitoring, alarm functions and necessary terminations/switches as per the specification. In addition to this, the DSCA shall also have the capability of operating its inverter unit in synchronous mode with the inverter units of other UPS units of same make and rating. Static Transfer Switch and Manual Transfer switch in this concept will be common for the ultimate system capacity (as envisaged by the user) proposed to
be constituted by paralleling of these UPS units. This type of UPS unit shall be capable of sharing load with other UPS units of same rating and make, in synchronous load sharing mode. Refer Block Diagram Fig. 2. The AC input to the rack shall be separate for each rack from LT Panel, if more than one rack is used.

2.2 **Redundancy criteria for Modular UPS System:**

i. The maximum number of UPS modules in a system shall be N, where N is the number of basic UPS units decided as per the load requirement of the user/purchaser, and 1 is redundant unit.

2.3 **UPS System Rating:** Specified ratings of UPS systems are:

<table>
<thead>
<tr>
<th>Type of UPS</th>
<th>Stand alone UPS or Standalone (1+1) UPS Systems</th>
<th>Modular UPS Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input / Output</td>
<td>1Ph/1Ph</td>
<td>3Ph/1Ph</td>
</tr>
<tr>
<td>UPS ratings</td>
<td></td>
<td></td>
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<tr>
<td>1KVA</td>
<td>10KVA</td>
<td>10KVA</td>
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<td>2KVA</td>
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<td>10KVA</td>
<td>60KVA</td>
<td>60KVA</td>
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</tbody>
</table>

**Notes:**
1. The rating of Charger (Rectifier unit) shall be as per back-up and battery ordered capacity. The Static Transfer Switch and Manual Transfer switch shall be rated at 1.1 times of the UPS rating (i.e. 110% of Load). The rating of the battery shall be as per back-up requirement.

2. It is agreed that for more than 60KVA capacity only modular type UPS shall be procured.

2.4 **Technical Requirements of UPS System:**

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Technical Requirements</th>
<th>Single Phase output</th>
<th>Three Phase output</th>
</tr>
</thead>
<tbody>
<tr>
<td>[A]</td>
<td>AC Input Operating Range &amp; Frequency</td>
<td>170V to 270V (Nom.230V) 48 to 52Hz</td>
<td>320V to 480V (Nom. 400V) 48 to 52Hz</td>
</tr>
<tr>
<td>[B]</td>
<td>Charger (FR/FC)</td>
<td>SMPS Technique using Switching Frequencies 10KHz and above.</td>
<td>SMPS Technique using Switching Frequencies 10KHz and above.</td>
</tr>
<tr>
<td>1</td>
<td>Operation</td>
<td>Auto Float-cum-Charge mode.</td>
<td>Auto Float-cum-Charge mode.</td>
</tr>
<tr>
<td>2</td>
<td>Charger Voltage (Float /Charge)</td>
<td>Depending upon the number of Cells used and Cell Voltage (2.25V /2.3V per cell or 13.5V/13.8V per mono-block).</td>
<td>Depending upon the number of Cells used and Cell Voltage (2.25V /2.3V per cell or 13.5V/13.8V per mono-block).</td>
</tr>
<tr>
<td>3</td>
<td>Charger Efficiency</td>
<td>i). At nominal input, output and load between 75% to 100% ii). For other specified Input, output conditions &amp; load</td>
<td>Better than 89%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Better than 85%</td>
</tr>
<tr>
<td>Sl. No</td>
<td>Technical Requirements</td>
<td>Single Phase output</td>
<td>Three Phase output</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------</td>
<td>---------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>4</td>
<td>Peak to Peak Ripple</td>
<td>&lt;1% of DC Bus Voltage</td>
<td>&lt;1% of DC Bus Voltage</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Technical Requirements</th>
<th>Single Phase output</th>
<th>Three Phase output</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Battery</td>
<td>The Battery shall be Sealed Maintenance Free VRLA Battery. In case of 12V (6 cells) mono-block VRLA Battery maximum permissible capacity is <strong>200AH</strong>. For batteries of capacity higher than <strong>200AH</strong>, only 2V cells shall be used. Paralleling of 2V cells of AH capacity up to 1500 AH is not permitted. In case of Mono-block VRLA Battery paralleling of two Banks (maximum) is permitted. Note: 1). Pluggable Moduar Mono-Block types VRLA Batteries are also acceptable. 2). Only TSEC/TEC approved Batteries shall be accepted.</td>
<td>The Battery shall be Sealed Maintenance Free VRLA Battery. In case of 12V (6 cells) mono-block VRLA Battery maximum permissible capacity is <strong>200AH</strong>. For batteries of capacity higher than <strong>200AH</strong>, only 2V cells shall be used. Paralleling of 2V cells of AH capacity up to 1500 AH is not permitted. In case of Mono-block VRLA Battery paralleling of two Banks (maximum) is permitted. Note: 1). Pluggable Moduar Mono-Block types VRLA Batteries are also acceptable. 2). Only TSEC/TEC approved Batteries shall be accepted.</td>
</tr>
<tr>
<td>6</td>
<td>Battery Back up.</td>
<td>Shall be as mentioned in the Ordering Information.</td>
<td>Shall be as mentioned in the Ordering Information.</td>
</tr>
</tbody>
</table>
Details of UPS Configuration and ratings are given in Table - 3 of Specification.  
**Note:** In case of Standalone (1+1) UPS System, separate AC input shall be made available from LT Panel.  

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Technical Requirements</th>
<th>Single Phase output</th>
<th>Three Phase output</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Output Voltage of Inverter</td>
<td>Shall deliver continuous uninterrupted single phase pure sine wave output at 230V/50Hz.</td>
<td>Shall deliver continuous uninterrupted three phase pure sine wave output at 400V/50Hz.</td>
</tr>
<tr>
<td>10</td>
<td>Output Voltage Settable</td>
<td>Shall be settable in steps of 210/220/230/240V</td>
<td>Shall be settable in steps of 380/400/415V</td>
</tr>
</tbody>
</table>
| 11    | Output Voltage Stability | **Output Voltage Stability:**  
± 2% of the Set Voltage for -  
1. Input voltage variation in the range specified.  
2. Load current variations from zero to 100% (full load)  
3. Load power factor Better than 0.8 | **Output Voltage Stability:**  
± 2% of the Set Voltage for -  
1. Input voltage variation in the range specified.  
2. Load current variations from zero to 100% (full load)  
3. Load power factor Better than 0.8 |
| 12    | Output Frequency | The output frequency shall be synchronized to Mains at all times. It shall revert to a frequency of 50Hz± 0.5Hz on battery operation mode /during failure of Mains. | The output frequency shall be synchronized to Mains at all times. It shall revert to a frequency of 50Hz± 0.5Hz on battery operation mode /during failure of Mains. |
| 13    | Load Power Factor | Better than 0.8 | Better than 0.8 |
| 14    | Inverter Efficiency | Not less than 85% | Not less than 85% |
| (i)   | For Load between 75% to 100% and Input DC Voltage of 2.15V/Cell to 2.3V/Cell or 12.9V/mono-block to 13.8V/mono-block and Output voltage of 230V. | Not less than 80% | Not less than 80% |
| (ii)  | For other Input, Output and Load Conditions. | | |
| 15    | Transient Response | The transient overshoot shall not exceed 10% with battery floated under the following conditions, provided it gets restored within regulating range within 100ms:  
1. Switch ON  
2. Step change of input | The transient overshoot shall not exceed 10% with battery floated under the following conditions, provided it gets restored within regulating range within 100ms:  
1. Switch ON  
2. Step change of input |
<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Technical Requirements</th>
<th>Single Phase output</th>
<th>Three Phase output</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Total Harmonic Distortion</td>
<td>The total line harmonic voltage distortion shall not be more than 3% in conformity with CIGREs (International Conference on Large High Voltage Electric Systems) limits.</td>
<td>The total line harmonic voltage distortion shall not be more than 3% in conformity with CIGREs (International Conference on Large High Voltage Electric Systems) limits.</td>
</tr>
<tr>
<td>17</td>
<td>Static Transfer Switch</td>
<td>Static Transfer Switch, capable of handling 110% Load of the rated system capacity shall be provided to transfer the load automatically within 5 ms to AC Commercial / Stand-by Mains through isolation arrangement, in case the inverter fails to take load due to any reason. The transfer of Load back to Inverter shall be automatic in case the inverter has tripped momentarily due to sudden Over Load or transients. The transfer time in this case shall also be within 5 ms. It shall take place, only after the inverter output has stabilized and is within the specified limits. <strong>However transfer of load back to inverter shall be Manual in case the Inverter has developed a Fault.</strong></td>
<td>Static Transfer Switch, capable of handling 110% Load of the rated system capacity shall be provided to transfer the load automatically within 5 ms to AC Commercial / Stand-by Mains through isolation arrangement, in case the inverter fails to take load due to any reason. The transfer of Load back to Inverter shall be automatic in case the inverter has tripped momentarily due to sudden Over Load or transients. The transfer time in this case shall also be within 5 ms. It shall take place, only after the inverter output has stabilized and is within the specified limits. <strong>However transfer of load back to inverter shall be Manual in case the Inverter has developed a Fault.</strong></td>
</tr>
<tr>
<td>18</td>
<td>Manual Transfer Switch</td>
<td>Manual transfer switch, capable of handling 110% Load of the rated system capacity shall be provided to transfer the load to AC Commercial / Stand-by Mains and back to UPS without the interruption of power to the load.</td>
<td>Manual transfer switch, capable of handling 110% Load of the rated system capacity shall be provided to transfer the load to AC Commercial / Stand-by Mains and back to UPS without the interruption of power to the load.</td>
</tr>
<tr>
<td>19</td>
<td>Operating Noise</td>
<td>The fully equipped UPS system at full load shall not contribute noise (weighted) as per the limits mentioned in the Table - 1. The reference ambient noise level is taken as 45dBA. The noise level shall be measured at a distance of 1 metre from the load.</td>
<td>The fully equipped UPS system at full load shall not contribute noise (weighted) as per the limits mentioned in the Table - 1. The reference ambient noise level is taken as 45dBA. The noise level shall be measured at a distance of 1 metre from the load.</td>
</tr>
</tbody>
</table>
### 200KVA and above

*For Modular UPS System:*
- 20 KVA to 60 KVA <70dBA
- Up to 120 KVA <73dBA

Unit and 1.25m above the floor level in the Acoustic Range.

The correction factor for Total Noise when the ambient noise level is more than 45dBA shall be as given in the **Table - 2.**

**Note:** Correction Factor shall be added to the limit specified to arrive at the limit when the Ambient Noise is greater than 45dBA.

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Technical Requirements</th>
<th>Single Phase output</th>
<th>Three Phase output</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td><strong>Cooling Arrangement</strong></td>
<td>Natural Convention Cooling or Forced Cooling. Fans can only be used on the front/top and rear of the unit. Use of fans on the sides of the unit or rack is not permitted. Manufacturer shall also ensure that the failure of the fan does not cause any fire hazard. Failure of fan shall draw immediate attention of the maintenance staff. Fan shall be switched off when output of the unit fails due to any reason and shall start automatically on the restoration of their output.</td>
<td>Forced Cooling Fans can only be used on the front/top and rear of the unit. Use of fans on the sides of the unit or rack is not permitted. Manufacturer shall also ensure that the failure of the fan does not cause any fire hazard. Failure of fan shall draw immediate attention of the maintenance staff. Fan shall be switched off when output of the unit fails due to any reason and shall start automatically on the restoration of their output.</td>
</tr>
<tr>
<td>21</td>
<td><strong>Metering</strong></td>
<td>There shall be provision on UPS level to monitor the following: i) AC Input Voltage to UPS ii). AC Output Voltage &amp; Current of UPS iii). Output frequency iv). Output Power of UPS in Watts / K. Watts (above 5 KVA) v). DC Voltage to Inverter vi). Battery Current (charge / discharge). The above arrangement shall be made through a Digital meter with LED/LCD display. The Digital meter’s display/Resolution should be such that it is clearly and unambiguously readable from a distance of 1 metre. The display unit shall be provided at a convenient height for easy readout.</td>
<td>There shall be provision on UPS level to monitor the following: i). AC Input Voltage to UPS ii). AC Output Voltage &amp; Current of UPS iii). Output frequency iv). Output Power of UPS in Watts / K. Watts v). DC Voltage to Inverter vi). Battery Current (charge / discharge). The above arrangement shall be made through a Digital meter LED/LCD display. The Digital meter’s Display/Resolution should be such that it is clearly and unambiguously readable from a distance of 1 metre. The display unit shall be provided at a convenient height for easy readout.</td>
</tr>
<tr>
<td>22</td>
<td><strong>Protections</strong></td>
<td>Adequate Protections shall be provided for:</td>
<td>Adequate Protections shall be provided for:</td>
</tr>
<tr>
<td>Sl. No.</td>
<td>Technical Requirements</td>
<td>Single Phase output</td>
<td>Three Phase output</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------</td>
<td>---------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>23</td>
<td>Over Load</td>
<td>Shall be capable of taking 105% for 1 Hour/ 110% for 30 minutes of its full rated load. In case of excessive over load or short circuit at the output the Inverter shall trip.</td>
<td>Shall be capable of taking 105% for 1 Hour/ 110% for 30 minutes of its full rated load. In case of excessive over load or short circuit at the output the Inverter shall trip.</td>
</tr>
</tbody>
</table>
| 24     | Functional & Alarm Indications | Functional & Alarm Indications shall be provided by means of visual display (LED/LCD):  
**A) Functional Indications:**  
1. Mains available  
2. Charger on (Boost / Float)  
3. Load on Inverter  
4. Load on Standby Power  

**B) Alarm Indications:**  
1) AC Mains Input out of range or AC Mains Fail  
2) Charger (FR/FC) Fail  
3) Inverter Fail  
4) Fan Fail  
5) Battery Low or No Battery (separate for each Battery)  
6) System Over Load  
7) Temp. Sensor Fail/Open  
8) Lightning Protection Stage - 2 Device Fail. (through PFC) | Functional & Alarm Indications shall be provided by means of visual display (LED/LCD):  
**A) Functional Indications:**  
1. Mains available (R/Y/B)  
2. Charger on (Boost / Float)  
3. Load on Inverter  
4. Load on Standby Power  

**B) Alarm Indications:**  
1) AC Mains Input out of range or AC Mains Fail  
2) Charger (FR/FC) Fail  
3) Inverter Fail  
4) Fan Fail  
5) Battery Low or No Battery (separate for each Battery)  
6) System Over Load  
7) Temp. Sensor Fail/Open  
8) Lightning Protection Stage - 2 Device fail (through PFC) |
<p>| 25     | Audio alarm            | Every Alarm condition shall be accompanied with an Audio alarm, with a non locking type Key or push button having audio cut-off facility. | Every Alarm condition shall be accompanied with an Audio alarm, with a non locking type Key or push button having audio cut-off facility. |
| 26     | Operating Temperature &amp; RH | 0 to 50 Deg C &amp; RH 95% Non condensing | 0 to 50 Deg C &amp; RH 95% Non condensing |
| 27     | Elevated Burn-in Test  | The complete UPS system shall be capable of withstanding a Burn-in test of 50°C for 72 Hours during TSEC and 24 Hour during Bulk QA testing. This test may be conducted in a temperature controlled burn in chamber at 50 C+ 2C with free air circulation inside the chamber. | The complete UPS system shall be capable of withstanding a Burn-in test of 50°C for 72 Hours during TSEC and 24 Hour during Bulk QA testing. This test may be conducted in a temperature controlled burn in chamber at 50 C+ 2C with free air circulation inside the chamber. |</p>
<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Technical Requirements</th>
<th>Single Phase output</th>
<th>Three Phase output</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td><strong>Lightning &amp; Surge Protection:</strong>&lt;br&gt;Co-ordinated Stage – 1 &amp; Stage – 2 Protection.</td>
<td>For the protection of Telecom Site against the lightening and high voltage surges Co-ordinated Stage – 1 &amp; Stage – 2 Protection shall be as per GR of Lightening and Surge Protection of Telecom Site (GR No. TEC/GR/FLA/ LSP -001/01/June 2010).&lt;br&gt;&lt;br&gt;Note: This protection will be provided separately at the site at the entry level of the equipment as per the requirement.</td>
<td>For the protection of Telecom Site against the lightening and high voltage surges Co-ordinated Stage – 1 &amp; Stage – 2 Protection shall be as per GR of Lightening and Surge Protection of Telecom Site (GR No. TEC/GR/FLA/ LSP -001/01/June 2010).&lt;br&gt;&lt;br&gt;Note: This protection will be provided separately at the site at the entry level of the equipment as per the requirement.</td>
</tr>
<tr>
<td>29</td>
<td><strong>Stage – 2 Protection</strong></td>
<td>This protection against, low voltage surges of up to 1.5 KV, shall be provided at the UPS system level. This protection shall be equipped with thermal disconnection and potential free contact for arrestor(s) connected between live &amp; neutral and neutral &amp; earth. This protection shall be in compliance of IEC 62305 &amp; 60364-5-53 for the following values of current:</td>
<td>This protection against, low voltage surges of up to 1.5 KV, shall be provided at the UPS system level. This protection shall be equipped with thermal disconnection and potential free contact for arrestor(s) connected between live &amp; neutral and neutral &amp; earth. This protection shall be in compliance of IEC 62305 &amp; 60364-5-53 for the following values of current:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Between</td>
<td>Protection Requirement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R, Y, B &amp; N</td>
<td>≥ In: 10KA, 8/20μS for each phase.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N &amp; PE</td>
<td>≥ In: 20KA, 8/20μS.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Where In: Value of nominal discharge current 8/20μS.</td>
<td>Where In: Value of nominal discharge current 8/20μS.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Note: Voltage rating of MOVs shall be 320V minimum.</td>
<td>Note: Voltage rating of MOVs shall be 320V minimum.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Response time of the Stage II device shall be ≤ 25 nano</td>
<td>Response time of the Stage II device shall be ≤ 25 nano</td>
</tr>
</tbody>
</table>
The Stage - 2 Protection Device shall be CACT approved.

### Dimensions

The depth of rack/unit shall not be more than 1000 mm from front door (when provided) to rear with door fitted. The width shall not be more than 1100 mm (max) and height shall not be more than 2200mm (max).

### Table 1: Operating Noise

<table>
<thead>
<tr>
<th>UPS System</th>
<th>Equipment Noise</th>
<th>Permissible Max Noise (weighted) w.r.t Ambient Noise level of 45dBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 10KVA</td>
<td>&lt;50dBA</td>
<td>5dB</td>
</tr>
<tr>
<td>10KVA to 40KVA</td>
<td>&lt;55dBA</td>
<td>10dB</td>
</tr>
<tr>
<td>40KVA to 100KVA</td>
<td>&lt;60dBA</td>
<td>15dB</td>
</tr>
<tr>
<td>100KVA to 200KVA</td>
<td>&lt;65dBA</td>
<td>20dB</td>
</tr>
<tr>
<td>200KVA and above</td>
<td>&lt;70dBA</td>
<td>25dB</td>
</tr>
<tr>
<td>For Modular UPS System</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i). 20KVA to 60 KVA</td>
<td>&lt;70dBA</td>
<td>25dB</td>
</tr>
<tr>
<td>ii). Up to 320KVA</td>
<td>&lt;73dBA</td>
<td>28dB</td>
</tr>
</tbody>
</table>

### Table 2: Correction Factor (C.F) for Total Noise

<table>
<thead>
<tr>
<th>AMBT. NOISE</th>
<th>C.F</th>
<th>AMBT. NOISE</th>
<th>C.F</th>
<th>AMBT. NOISE</th>
<th>C.F</th>
<th>AMBT. NOISE</th>
<th>C.F</th>
</tr>
</thead>
<tbody>
<tr>
<td>45dBA</td>
<td>0 dB</td>
<td>49dBA</td>
<td>0.86dB</td>
<td>53dBA</td>
<td>2.07dB</td>
<td>57dBA</td>
<td>3.69dB</td>
</tr>
<tr>
<td>46dBA</td>
<td>0.18dB</td>
<td>50dBA</td>
<td>1.12dB</td>
<td>54dBA</td>
<td>2.47dB</td>
<td>58dBA</td>
<td>4.17dB</td>
</tr>
<tr>
<td>47dBA</td>
<td>0.39dB</td>
<td>51dBA</td>
<td>1.41dB</td>
<td>55dBA</td>
<td>2.82dB</td>
<td>59dBA</td>
<td>4.68dB</td>
</tr>
<tr>
<td>48dBA</td>
<td>0.61dB</td>
<td>52dBA</td>
<td>1.73dB</td>
<td>56dBA</td>
<td>3.25dB</td>
<td>60dBA</td>
<td>5.21dB</td>
</tr>
</tbody>
</table>

**Note:** The correction Factor shall be added to the limit specified of 60dBA to arrive at the limit when the ambient is greater than 45dBA.
### Table - 3
(i) STANDALONE UPS or STANDALONE (1+1) UPS SYSTEM Configuration:

<table>
<thead>
<tr>
<th>Category No.</th>
<th>Type of System</th>
<th>Input / Output / System (Ultimate)</th>
<th>Basic Inverter</th>
<th>Basic rectifier</th>
<th>Static Transfer Switch</th>
<th>Manual Transfer Switch</th>
<th>Battery Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>1Ph/1Ph</td>
<td>1 KVA/1KVA</td>
<td>1KVA</td>
<td>*Inverter + battery requirement</td>
<td>1.1 KVA</td>
<td>1.1 KVA</td>
<td>As per back-up</td>
</tr>
<tr>
<td>1b</td>
<td>1Ph/1Ph</td>
<td>2 KVA/2KVA</td>
<td>2KVA</td>
<td>-do-</td>
<td>2.2 KVA</td>
<td>2.2 KVA</td>
<td>As per back-up</td>
</tr>
<tr>
<td>1c</td>
<td>1Ph/1Ph</td>
<td>3 KVA/3KVA</td>
<td>3KVA</td>
<td>-do-</td>
<td>3.3 KVA</td>
<td>3.3 KVA</td>
<td>As per back-up</td>
</tr>
<tr>
<td>2a</td>
<td>1Ph/1Ph</td>
<td>5 KVA/5KVA</td>
<td>5KVA</td>
<td>-do-</td>
<td>5.5 KVA</td>
<td>5.5 KVA</td>
<td>As per back-up</td>
</tr>
<tr>
<td>2b</td>
<td>1Ph/1Ph</td>
<td>6KVA/6KVA</td>
<td>6KVA</td>
<td>-do-</td>
<td>6.6 KVA</td>
<td>6.6 KVA</td>
<td>As per back-up</td>
</tr>
<tr>
<td>2c</td>
<td>1Ph/1Ph</td>
<td>10KVA/10KVA</td>
<td>10KVA</td>
<td>-do-</td>
<td>11KVA/11KVA</td>
<td>11KVA/11KVA</td>
<td>As per back-up</td>
</tr>
<tr>
<td>3a</td>
<td>3Ph/1Ph</td>
<td>10KVA/10KVA</td>
<td>10KVA</td>
<td>-do-</td>
<td>11KVA/11KVA</td>
<td>11KVA/11KVA</td>
<td>As per back-up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15KVA/15KVA</td>
<td>15KVA</td>
<td>-do-</td>
<td>16.5KVA/16.5KVA</td>
<td>16.5KVA/16.5KVA</td>
<td>As per back-up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20KVA/20KVA</td>
<td>20KVA</td>
<td>-do-</td>
<td>22 KVA/22 KVA</td>
<td>22 KVA/22 KVA</td>
<td>As per back-up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30KVA/30KVA</td>
<td>30KVA</td>
<td>-do-</td>
<td>33KVA/33KVA</td>
<td>33KVA/33KVA</td>
<td>As per back-up</td>
</tr>
<tr>
<td>3b</td>
<td>3Ph/3Ph</td>
<td>10KVA/10KVA</td>
<td>10KVA</td>
<td>-do-</td>
<td>11KVA/11KVA</td>
<td>11KVA/11KVA</td>
<td>As per back-up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15KVA/15KVA</td>
<td>15KVA</td>
<td>-do-</td>
<td>16.5KVA/16.5KVA</td>
<td>16.5KVA/16.5KVA</td>
<td>As per back-up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20KVA/20KVA</td>
<td>20KVA</td>
<td>-do-</td>
<td>22 KVA/22 KVA</td>
<td>22 KVA/22 KVA</td>
<td>As per back-up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30KVA/30KVA</td>
<td>30KVA</td>
<td>-do-</td>
<td>33KVA/33KVA</td>
<td>33KVA/33KVA</td>
<td>As per back-up</td>
</tr>
<tr>
<td>3c</td>
<td>3Ph/3Ph -do-</td>
<td>40/60 KVA/20KVA</td>
<td>20KVA</td>
<td>-do-</td>
<td>110%</td>
<td>110%</td>
<td>As per back-up</td>
</tr>
</tbody>
</table>
(ii) MODULAR UPS SYSTEM Configuration:

<table>
<thead>
<tr>
<th>Category No.</th>
<th>Type of System</th>
<th>Input / Output</th>
<th>System Configuration <strong>(N+1)</strong></th>
<th>Basic UPS</th>
<th>Basic Rectifier</th>
<th>Static Transfer Switch</th>
<th>Manual Transfer Switch</th>
<th>Battery Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>Three Phase</td>
<td>40KVA (N+1)</td>
<td>10/16/20KVA</td>
<td>*Inverter + battery requirement</td>
<td>44KVA</td>
<td>44KVA</td>
<td>As per backup</td>
<td></td>
</tr>
<tr>
<td>1b</td>
<td>Three Phase</td>
<td>60KVA (N+1)</td>
<td>10/16/20KVA</td>
<td></td>
<td>66KVA</td>
<td>66KVA</td>
<td>As per backup</td>
<td></td>
</tr>
<tr>
<td>1c</td>
<td>Three Phase</td>
<td>80KVA (N+1)</td>
<td>10/16/20KVA</td>
<td>-do-</td>
<td>88KVA</td>
<td>88KVA</td>
<td>As per backup</td>
<td></td>
</tr>
<tr>
<td>2a</td>
<td>Three Phase</td>
<td>100 KVA (N+1)</td>
<td>16/20/25 KVA</td>
<td>-do-</td>
<td>110 KVA</td>
<td>110 KVA</td>
<td>As per backup</td>
<td></td>
</tr>
<tr>
<td>2b</td>
<td>Three Phase</td>
<td>160KVA (N+1)</td>
<td>16/20/25 KVA</td>
<td>-do-</td>
<td>176KVA</td>
<td>176KVA</td>
<td>As per backup</td>
<td></td>
</tr>
<tr>
<td>2c</td>
<td>Three Phase</td>
<td>200KVA (*N+1)</td>
<td>16/20/25 KVA</td>
<td>-do-</td>
<td>220KVA</td>
<td>220KVA</td>
<td>As per backup</td>
<td></td>
</tr>
<tr>
<td>3a</td>
<td>Three Phase</td>
<td>250 KVA (N+1)</td>
<td>16/20/25 KVA</td>
<td>-do-</td>
<td>275KVA</td>
<td>275KVA</td>
<td>As per backup</td>
<td></td>
</tr>
<tr>
<td>3b</td>
<td>Three Phase</td>
<td>300KVA (N+1)</td>
<td>16/20/25 KVA</td>
<td>-do-</td>
<td>330KVA</td>
<td>330KVA</td>
<td>As per backup</td>
<td></td>
</tr>
</tbody>
</table>

* The rating of rectifier shall be sufficient to take care of 1.1 times the Inverter DC load and battery load as per back-up and rate of charging.

** In this configuration N is the desired rating of Basic UPS units for load as decided by purchaser, and 1 is redundant.
**Note:**

1. TSEC approval shall be accorded for ultimate capacity only. The version of the microprocessor software shall be indicated in TSEC along with the model number and category.
2. Tendering authority may choose any of the above categories (ultimate capacity) as per load requirements. Load shall include the equipment load and any other load. While choosing the UPS it may also be ensured that the redundancy requirement has been taken care of.
3. Tendering authority shall give the capacity of the battery to be used and battery back up in hours.
4. Tendering authority shall specify Standalone UPS System or 1+1 configuration UPS System or Modular UPS System while Ordering the System.

**BLOCK DIAGRAM OF STANDALONE(1+1) UPS SYSTEM**
SECTION-4 Part A

GENERAL INSTRUCTIONS TO BIDDERS (GIB)

1. DEFINITIONS:
   a. “The Purchaser” means the CMD, Bharat Sanchar Nigam Ltd. (BSNL), New Delhi
   b. “The Bidder” means the individual or firm who participates in this tender and submits its bid.
   c. “The Supplier” or “The Vendor” means the individual or firm supplying the goods under the contract.
   d. “The Goods” means all the equipment, machinery, and/or other materials which the Supplier is required to supply to the Purchaser under the contract.
   e. “The Advance Purchase Order” or “Letter of Intent” means the intention of Purchaser to place the Purchase Order on the bidder.
   f. “The Purchase Order” means the order placed by the Purchaser on the Supplier signed by the Purchaser including all attachments and appendices thereto and all documents incorporated by reference therein. The purchase order shall be deemed as “Contract” appearing in the document.
   g. “The Contract Price” means the price payable to the Supplier under the purchase order for the full and proper performance of its contractual obligations.
   h. “Validation” is a process of testing the equipment as per the Generic Requirements in the specifications for use in BSNL network. Validation is carried out in simulated field environment and includes stability, reliability and environmental tests.
   i. “Telecom Service Provider” means any Telecom operator in India, who is licensed by the Department of Telecommunications (DOT), Government of India to provide telecom services to the general public or to the other DOT licensed Telecom operators.
   j. “Telecom Service Provider” also refers to any Telecom operator in other countries providing telecom services to general public of that country or to other telecom operators of the same country.
   k. “Successful bidder(s)” means the bidder(s) to whom work in this tender is awarded.

2. ELIGIBILITY CRITERIA:
   Refer to Clause 4 of Detailed NIT (Section 1)

3. COST OF BIDDING
   3.1 The bidder shall bear all costs associated with the preparation and submission of the bid. The Purchaser will, in no case, be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

4. DOCUMENTS REQUIRED
   4.1 The goods required to be supplied; bidding procedures and contract terms and conditions are prescribed in the Bid Documents. The contents of the Bid documents are specified in the covering letter.
   4.2 The Bidder is expected to examine all instructions, forms, terms and specifications in the Bid Documents. Failure to furnish all information required as per the Bid Documents or submission of the bids not substantially responsive to
5. CLARIFICATION OF BID DOCUMENTS

5.1 A prospective bidder, requiring any clarification on the Bid Documents shall notify the Purchaser in writing or by FAX or by Email to the Purchaser's mailing address indicated in the invitation of Bid. The Purchaser shall respond in writing to any request for the clarification of the Bid Documents, which it receives 21 days prior to the date of opening of the Tenders. Copies of the query (without identifying the source) and clarifications by the Purchaser shall be uploaded on ETS portal, as addenda, for all the prospective bidders who have downloaded the official copy of tender documents from ETS portal.

5.2 The format in which the clarifications are to be sent via E-mail (soft copy in Excel format), on e-tender portal and FAX is as under:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Section</th>
<th>Clause</th>
<th>Page no.</th>
<th>Brief Description of the clause</th>
<th>Bidder query</th>
</tr>
</thead>
</table>

5.3 Any clarification issued by BSNL in response to query raised by prospective bidders shall form an integral part of bid documents and it shall amount to an amendment of relevant clauses of the bid documents.

6. AMENDMENT OF BID DOCUMENTS

6.1 At any time, prior to the date of submission of Bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify bid documents by amendments.

6.2 The amendments shall be notified in writing through E-tender portal to all prospective bidders on the address intimated at the time of purchase of the bid document from the purchaser and these amendments will be binding on them.

6.3 In order to afford prospective bidders a reasonable time (min 7 days) to take the amendment into account in preparing their bids, the purchaser may, at its discretion, extend the deadline for the submission of bids suitably.

7. DOCUMENTS COMPRISING THE BID

7.1 The bid prepared by the bidder shall ensure availability of the following components:

   a) Documentary evidence establishing that the bidder is eligible to bid and is qualified to perform the contract if its bid is accepted in accordance with the clause 2 & 10.

   b) Bid Security furnished in accordance with clause 12.

   c) A Clause by Clause compliance as per clause 11.2 (c)

   d) A Bid form and price schedule completed in accordance with clause 8 & 9.

8. BID FORM

8.1 The bidder shall complete the bid form and appropriate Price schedule furnished in the Bid documents, indicating the goods to be supplied, brief description of the goods, quantity and prices as per section-9.

9. BID PRICES

9.1 The bidder shall give the total composite price inclusive of all Levies & Taxes i.e. Sales Tax & Excise, custom duty, packing, forwarding, freight and insurance etc.
but excluding Octroi /Entry Tax which will be paid extra as per actual, wherever applicable. The basic unit price and all other components of the price need to be individually indicated against the goods it proposes to supply under the contract as per the price schedule given in Section 9. Prices of incidental services should also be quoted. The offer shall be firm in Indian Rupees. No Foreign exchange will be made available by the purchaser.

9.2 Prices indicated in the Price Schedule shall be entered in the following manner:

i. The Basic Unit price (Ex-Factory Price) of the goods, Excise duty, custom duty, Sales Tax, Freight, Forwarding, Packing, Insurance and any other Levies/Charges already paid or payable by the supplier shall be quoted separately item wise.

ii. The supplier shall quote as per price schedule given in section 9 for all the items given in schedule of requirement.

9.3 A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected.

9.4 The prices quoted by the bidder shall be in sufficient detail to enable the Purchaser to arrive at the price of equipment/system offered.

9.5 "DISCOUNT, if any, offered by the bidders shall not be considered unless specifically indicated in the price schedule. Bidders desiring to offer discount shall therefore modify their offers suitably while quoting and shall quote clearly net price taking all such factors like Discount, free supply, etc, into account".

9.6 The price approved by BSNL for procurement will be inclusive of Levies and Taxes, packing, forwarding, freight and insurance as mentioned in document.

9.7 The freight by sea for transportation of equipment/Stores from the nearest port in the main land to Andaman & Nicobar Islands will be reimbursed to the supplier at the concessional rates levied by Ministry of Water and Surface Transport on production of proof.

10. DOCUMENTS ESTABLISHING BIDDER’S ELIGIBILITY AND QUALIFICATION

10.1 The bidder shall furnish, as part of the bid documents establishing the bidder's eligibility, the following documents or whichever is required as per terms and conditions of Bid Documents:

a) Additional documents to establish the eligibility and qualification of bidder as specified in Section-I and Section-4 Part B.

b) Power of Attorney as per clause 14.3 (a) and (d) and authorization for executing the power of Attorney as per clause 14.3 (b) or (c).

c) Documentary proof of applicable rate of ED/ CD/ Sales Tax/ VAT /Service Tax.

d) Undertaking duly signed by front bidder and its technology/ consortium partner stating that both of them shall be liable for due performance of the contract jointly and severally.

e) Certificates from all Directors of the bidder stating that none of their near relatives are working in BSNL in accordance with clause 34.

f) Certificate of incorporation.

g) Article or Memorandum of Association or partnership deed or proprietorship deed as the case may be.

h) List of all Directors including their name(s), Director Identification Number(s) (DIN) and address(es) along with contact telephone numbers of office and residence.

i) Registration certificate from State Director of Industries or from Secretariat for Industrial Assistance (SIA), Ministry of Industries, Government of India.
j) Approval from Reserve Bank of India/ SIA in case of foreign collaboration.

10.2 Documentary evidence for financial and technical capability
   a) The bidder shall furnish audited Annual Report and/or a certificate from its bankers to assess its solvency/financial capability.
   b) The bidder shall furnish documentary evidence about technical and production capability necessary to perform the contract.

10.3 In order to enable the Purchaser to assess the proven-ness of the system offered, the bidder shall provide documentary evidence regarding the system being offered by him.

10.4 The offered product has to be type approved. For this purpose, the supplier shall submit a sample type for evaluation. The sample would be evaluated for its ability to meet the technical specifications, manufacturability, reliability, testability, ease of installation, maintainability etc. Necessary documents to substantiate these attributes will have to be submitted at the time of application for approval by the supplier for obtaining type approval. Or in case goods offered have already been type approved/ validated by the Purchaser, documentary evidence to this effect shall be submitted by the bidder.

10.5 A signed undertaking from Authorized Signatory of the bidder that shall certify that all components/ parts/ assembly/ software used in the NMS application shall be original, new components/ parts/ assembly/ software and that no refurbished/ duplicate/ second hand components/ parts/ assembly/ software are being used or shall be used.

10.6 For supply of any software i.e. operating system or any applications software the bidder should submit a Certificate Of Authenticity (COA), signed by Authorized Signatory stating that all Software supplied are authentic and legal copy is/ are being supplied.

10.7 Documentary evidence/ Declaration to the effect that the type of software to be utilized in the system/ equipment i.e. Packaged/ Canned OR Customized shall be furnished by the bidder. In case of Packaged/ Canned, the portion of value which represents consideration paid or payable for transfer of right to use such goods subject to provisions laid down in Central Excise/Custom Notifications”.

11. DOCUMENTS ESTABLISHING GOOD’S CONFORMITY TO BID DOCUMENTS

11.1 Pursuant to clause 7, the bidder shall furnish, as part of his bid, documents establishing the conformity of his bid to the Bid Documents of all goods and services which he proposes to supply under the contract.

11.2 The documentary evidences of the “goods and services” conformity to the Bid Documents, may be, in the form of literature, drawings, data etc. and the bidder shall furnish:
   i. a detailed description of goods with essential technical and performance characteristics;
   ii. a list, giving full particulars including available sources and current prices of all spare parts, special tools, etc., necessary for the proper and continuous functioning of the goods for a period of three years following commencement of use of the goods by the purchaser, and
   iii. a clause-by-clause compliance on the purchaser’s Technical Specifications and Commercial Conditions demonstrating substantial responsiveness to the Technical Specifications (Section-3) and Commercial
Conditions. In case of deviations, a statement of the deviations and
exception to the provision of the Technical Specifications and
Commercial Conditions shall be given by the bidder. A bid without clause-
by-clause compliance of the Technical Specifications (Section-3),
Commercial Conditions (Section-5 Part A) and Special Conditions (Section-
Part B) shall not be considered.

11.3 For the purpose of compliance to be furnished pursuant to the clause 11.2(c)
above, the bidder shall note that the standards for the workmanship, material
and equipment and reference to the brand names or catalogue number,
designated by the Purchaser in its Technical specifications are intended to be
descriptive only and not restrictive.

12. **BID SECURITY/EMD**

12.1 The bidder shall furnish a bid security of amount as specified in detailed NIT
(Section 1).

12.2 The bid security is required to protect the purchaser against the risk of bidder's
conduct, which would warrant the fore feature of bid security pursuant to para
12.7.

12.3 The bid security shall be submitted in the form as specified in clause-7 of detailed
NIT (section-1).

12.4 A bid not secured in accordance with Para 12.1 & 12.2 shall be summarily
rejected by the Purchaser being non-responsive at the bid opening stage.

12.5 The bid security of the unsuccessful bidder will be returned/ discharged as
promptly as possible and within 60 days of acceptance of tender but not later
than 30 days after the expiry of the period of the bid validity prescribed by the
purchaser pursuant to clause 13.

12.6 The successful bidder's bid security will be discharged upon the bidder's
acceptance of the advance purchase order satisfactorily in accordance with clause
27 and furnishing the performance security.

12.7 The bid security may be forfeited:

(a) If the bidder withdraws his bid during the period of bid validity specified by
the bidder in the Bid form or

(b) In the case of successful bidder, if the bidder fails:
   i. to sign the contract in accordance with clause 28 or
   ii. to furnish performance security in accordance with clause 27.

(c) In both the above cases, i.e. 12.7 (a) & (b), the bidder will not be eligible to
   participate in the tender for same item for one year from the date of
   issue of APO. The bidder will not approach the court against the decision of
   BSNL in this regard.

(d) “The front bidder shall submit an irrevocable undertaking duly signed by it
   and its technology/consortium partner stating that both of them i.e. the
   front bidder and its technology/consortium partner shall be liable for due
   performance of the contract jointly and severally, failing which both of
   them shall be liable to be barred from having any business dealing with
   BSNL for a period of 3 years.”

13. **PERIOD OF VALIDITY OF BIDS**

13.1 Bid shall remain valid for period specified in clause 2 of Tender information
(Section -2) from the date of opening of bids prescribed by the purchaser. A bid
valid for a shorter period shall be rejected by the purchaser being non-responsive.
13.2 In exceptional circumstances, the purchaser may request the consent of the bidder for an extension to the period of bid validity. The request and the response thereto shall be made in writing. The bid security provided under clause 12 shall also be suitably extended. The bidder may refuse the request without forfeiting his bid security. A bidder accepting the request and granting extension will not be permitted to modify his bid.

14. FORMAT AND SIGNING OF BID

14.1 The bidder shall submit his bid, online, complying all eligibility conditions, other terms and conditions of tender document to be read along with the clarifications and amendments issued in this respect. All the documents must be authenticated, using Digital Signature, by the authorized person. The letter of authorization shall be indicated by written power-of-attorney accompanying the bid.

Note:- The Purchaser may ask the bidder(s) to supply, besides original bid, additional copy of bids as required by him.

14.2 The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the bidder in which case such corrections shall be signed by the person or persons signing the bid. All pages of the original bid, except for un-amended printed literatures, shall be digitally signed by the person or persons signing the bid.

14.3 Power of Attorney

(a) The power of Attorney should be submitted and executed on the non-judicial stamp paper of appropriate value as prevailing in the concerned states(s) and the same be attested by a Notary public or registered before Sub-registrar of the state(s) concerned.

(b) The power of Attorney be executed by a person who has been authorized by the Board of Directors of the bidder in this regard, on behalf of the Company/ institution/ Body corporate.

(c) In case of the bidder being a firm, the said Power of Attorney should be executed by all the partner(s) in favour of the said Attorney.

(d) Attestation of the specimen signatures of such authorized signatory of the bid by the Company’s/ firm’s bankers shall be furnished. Name, designation, Phone number, mobile number, email address and postal address of the authorized signatory shall be provided.

15. SEALING AND MARKING OF BIDS:

15.1 The bid shall be submitted online using single stage bidding and Two Envelope methodology under each package.

15.2 The first envelope (Techno-commercial bid): This envelope shall contain documents satisfying the bidder’s eligibility / Technical & commercial conditions requirements. Second envelope will be named as financial bid containing price Schedule as per section 9.

15.3 Venue of Tender Opening: Specified in Clause 9 of detail NIT (Section 1)

16. SUBMISSION OF BIDS

16.1 Bids must be submitted online by the bidders as per instructions in Section 4 Part B not later than the specified date & time indicated in the covering letter.

16.2 The Purchaser may, at its discretion, extend this deadline for the submission of bids by amending the Bid Documents in accordance with clause 6 in which case all rights and obligations of the purchaser and bidders previously subject to the deadline will thereafter be subjected to the deadline as extended.
16.3 The bidder shall submit his bid offer against a set of bid documents purchased by him for all or some of the systems / equipment / packages as per requirement of the Bid Documents. He may include alternate offer, if permissible, as per the bid. However not more than one independent and complete offer shall be permitted from the bidder.

17. LATE BIDS

17.1 No bid shall be accepted online by the Electronic Tender System® (ETS) after the specified deadline for submission of bids prescribed by the purchaser pursuant to clause 16.

18. MODIFICATION AND WITHDRAWAL OF BIDS

18.1 The bidder may modify, revise or withdraw his bid after submission prior to deadline prescribed for submission of bid.

18.2 The bidder's modification, revision or withdrawal shall have to be online and digitally authenticated as per clause 14.

18.3 Subject to clause 20, no bid shall be allowed for modification subsequent to the deadline for submission of bids.

19. OPENING OF BIDS BY PURCHASER

19.1 The purchaser shall open bids online in the presence of bidders or their authorized representatives who chose to attend, at time specified in Clause 7 of detail NIT(Section-1) on due date. The bidder’s representatives, who are present, shall sign in an attendance register. Authority letter to this effect shall be submitted by the bidders before they are allowed to participate in bid opening (A Format is given in section 7 (c)).

19.2 A maximum of two representatives of any bidder shall be authorized and permitted to attend the bid opening.

19.3 The bidder’s names, Bid prices, modifications, bid withdrawals and such other details as the purchaser, at its discretion, may consider appropriate will be made available online at the time of opening.

19.4 The date fixed for opening of bids, if subsequently declared as holiday by the BSNL, the revised date of schedule will be notified. However, in absence of such notification, the bids will be opened on next working day, time and venue remaining unaltered.

20. CLARIFICATION OF BIDS

20.1 To assist in the examination, evaluation and comparison of bids, the purchaser may, at its discretion ask the bidder for the clarification of its bid. The request for the clarification and the response shall be in writing. However, no post bid clarification at the initiative of the bidder shall be entertained.

20.2 If any of the document required to be submitted along with the technical bid is found wanting, the offer is liable to be rejected at that stage. However, the purchaser at its discretion may call for any clarification regarding the bid document within the stipulated time period. In case of non-compliance to such queries, the bid will be outrightly rejected without entertaining any further correspondence in this regard.

21. Technical and Commercial Evaluation

21.1 In the first stage of evaluation, the Purchaser shall evaluate the Bids to determine whether they are complete, whether required Bid Security/sureties have been furnished, whether the documents have been properly signed including digital signatures and whether the Bids are generally in order.
21.2 Purchaser shall determine the substantive responsiveness of each of the technical and commercial proposals to the requirements of the Tender document. A substantively responsive proposal is one which conforms to all technical specifications and commercial terms and conditions of the Tender document without material deviation/exceptions. The purchaser's determination of proposal's responsiveness shall be based on the contents of the proposal itself without recourse to extrinsic evidence.

21.3 During the evaluation, BSNL at its discretion may call upon the Bidder to give a techno-commercial presentation of its offer, to explain the products offered, its capability to undertake the project and to respond to any question from BSNL.

21.4 A Bid, determined as substantively non-responsive will be rejected by the Purchaser and shall not subsequent to the bid opening be made responsive by the Bidder by correction of the non-conformity.

21.5 The Purchaser may waive any minor infirmity or non-conformity or irregularity in a Bid which doesn't constitute a material deviation, provided such waiver doesn't prejudice the establishment of techno-commercial parity among the Bids or effect the relative ranking of any bidder.

21.6 The financial Bids of only those technical and commercial Bids that are determined as substantively responsive shall be opened. The financial Bids of those technical and commercial Bids that are determined as substantively non-responsive shall be returned to the respective Bidders unopened.

22. Financial Evaluation of Substantively Responsive Bids and Comparison

22.1 The Purchaser shall evaluate and compare the financial Bids which are determined to be substantively responsive as per clause-21.

22.2 The evaluation and comparison of responsive Bids shall be done on the basis of net cost to BSNL on the prices of the Goods offered inclusive of duties and taxes (but excluding CENVAT-able duties & taxes), sales tax, packing, forwarding, freight and insurance charges etc. as indicated in Col. 17 of the price schedule in the Section-9, Part-II of the Tender Document. As stipulated in Clause-9.1, octroi/entry taxes are not to be included in the composite price and hence the same will not be considered for the purpose of evaluation and comparison of responsive Bids. However, Octroi and entry Taxes will be paid extra as per actual wherever applicable on production of proof of payment/ relevant invoices/documents.

22.3 The arithmetic and the tax/duty related errors shall be rectified. If there is a discrepancy between the unit price and total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected by the Purchaser. If there is a discrepancy between words and figures, the amount in words shall prevail. If the Supplier does not accept the correction of the errors, Bid shall be rejected.

22.4 The Bid shall be evaluated as a package quoted by the bidders as per following:

(a) The price of various components forming part of the packages detailed in the SoR at Section-3 shall be evaluated. It shall also include all those items which respective Bidders consider essential for commissioning purposes as "any other item" in the SOR.

(b) The Bidder shall quote the cost of AMC for a period of 5 years for all the elements as a percentage of the quoted equipment cost for each of the 5 years. Minimum AMC % to be quoted is 5%. In case the bidder quotes the AMC % less than 5% in any year then the minimum 5% AMC cost shall be considered for the purpose of the evaluation. However the bidder shall be paid as per the actual AMC quoted by them.
(c) For AMC cost NPV calculations: Cost of AMC for the period mentioned in the price schedule shall be calculated to the Net present value (NPV) at a discounted rate of 12% per annum, for evaluating purpose as per the formula given below:

\[
NPV = \frac{A_1}{(1+r/100)^1} + \frac{A_2}{(1+r/100)^2} + \frac{A_3}{(1+r/100)^3} + \frac{A_4}{(1+r/100)^4} + \frac{A_5}{(1+r/100)^5}
\]

Here \(A_1, A_2, A_3, A_4, A_5\) are the AMC amounts for first, second, third, fourth, fifth years subsequent to the two years of warranty and “\(r\)” is the discounting rate of 12% per annum.

22.5 In order to reach the required level of techno-commercial compliance, the financial Bid of the bidders shall be treated as below, for the purpose of arriving at ranking:

(a) In case any item is not quoted by a Bidder mentioned in the SOR of the tender document (section-3), the bid shall be loaded by the highest price quoted in its own bid. In case the price is not available in its own bid then the bid shall be loaded by the highest price quoted by any of the bidders for that item. The loaded item shall be supplied free of cost by the bidder.

(b) Cases in which the bidder has quoted for less quantity for any of the items than that indicated in the SoR of the tender document (section-3), then the price bid shall be loaded to the extent of the difference in quantity of the item to meet the full requirement of the SoR on a pro-rata basis for the purpose of evaluation. For ordering purposes, the unit price in such cases shall be re-worked for the total quoted price with the revised quantity.

(c) No de-loading of the bid is envisaged, if the quoted quantity in the bid is higher than that requested in the tender for the purpose of evaluation.

(d) Bid shall be loaded w.r.t. AMC cost also for the loaded equipment cost. However, AMC cost shall not be paid for all items supplied free of cost on account of the loading. The same principle shall be applied for the cost towards services.

22.6 Bidder shall submit a detailed unpriced Bill of Material (BoM) in the technical bid. For the corresponding detailed BoM, prices of individual detailed items of BOM shall be submitted in the financial bid.

22.7 For the purpose of tender evaluation to decide the ranking of the bidders, the prices quoted against line item in the SoR in the Price Schedule (Section 9 Part II) shall only be considered. In case, sum of the breakup of prices in the detailed BoM is more than the price quoted against line item as per the SoR in the Price Schedule, the itemized prices in the detailed BoM shall be de-rated. However, in case sum of the breakup of prices in the detailed BoM is less than the price quoted against line item in the SoR in the Price Schedule, the prices against line item in the SoR in the price schedule shall be considered for the purpose of evaluation but while ordering the prices shall be restricted to the prices quoted in the detailed BoM of that SoR line item.

23. CONTACTING THE PURCHASER

23.1 Subject to Clause 20, no bidder shall try to influence the Purchaser on any matter relating to its bid, from the time of the bid opening till the time the contract is awarded.

23.2 Any effort by a bidder to modify his bid or influence the purchaser in the purchaser’s bid evaluation, bid comparison or contract award decision shall result in the rejection of the bid.
24. **PLACEMENT OF Purchase ORDER/Award of work**

24.1 BSNL after evaluation of the financial bids (of technically and commercially responsive bidders) shall prepare separate list of such bidders arranged in increasing order of their evaluated package prices (with NPV) starting from the lowest (i.e. L1, L2, L3 and so on) for the purpose of ordering against this tender. The bidder with the lowest evaluated price (L1) will be considered for awarding the work.

25. **PURCHASER’S RIGHT TO VARY QUANTITIES**

(a) BSNL will have the right to increase or decrease up to 25% of the quantity of goods and services specified in the schedule of requirements without any change in the unit price or other terms and conditions at the time of award of contract or upto 25% of the additional quantity can be ordered within 2(Two) months of the placement of purchase order and supply is obtained within the original scheduled delivery period.

(b) In exceptional situation where the requirement is of an emergent nature and it is necessary to ensure continued supplies from the existing vendors, the purchaser reserves the right to place repeat order up to 50% of the quantities of goods and services contained in the running tender/contract within a period of 12 months from the earliest date of acceptance of APO at the same rate or a rate negotiated (downwardly) with the existing vendors considering the reasonability of rates based on prevailing market conditions and the impact of reduction in duties and taxes etc.

(c) BSNL Board will have full power to accord administrative approval and financial concurrence to procure any equipment/material in any quantity by any means in the exigencies of services and interest of BSNL.

(d) In case of ordering of additional quantity, BSNL reserve the right to decide the locations/ circles/zone for the additional quantity to be placed to successful bidders irrespective of initial zone allotted in Phase-I/Phase-II.

26. **PURCHASER’S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS**

26.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids, at any time prior to award of contract without assigning any reason whatsoever and without thereby incurring any liability to the affected bidder or bidders on the grounds of purchaser’s action.

27. **ISSUE OF ADVANCE PURCHASE ORDER**

27.1 The issue of an Advance Purchase Order shall constitute the intention of the Purchaser to enter into contract with the bidder.

27.2 The bidder shall within 14 days of issue of the advance purchase order, give his acceptance along with performance security in conformity with proforma enclosed in Section 7 (B) provided with the bid document.

28. **SIGNING OF CONTRACT**

28.1 The issue of Purchase order shall constitute the award of contract on the bidder.

28.2 Upon the successful bidder furnishing performance security pursuant to clause 27, the Purchaser shall discharge the bid security in pursuant to clause 12.

29. **ANNULMENT OF AWARD**

29.1 Failure of the successful bidder to comply with the requirement of clause 28 shall constitute sufficient ground for the annulment of the award and the forfeiture of the bid security in which event the Purchaser may make the award to any other bidder at the discretion of the purchaser or call for new bids.
30. QUALITY ASSURANCE REQUIREMENTS

The supplier shall have Quality Management System supported and evidenced by the following:

- A Quality Policy.
- A management representative with authority and responsibility for fulfilling QA requirements and for interfacing with purchaser in the matters of Quality.
- Procedure for controlling design/production engineering, materials, choice of components/vendors, manufacturing and packaging process for supplying quality products.
- System of Inward Good Inspection.
- System to calibrate and maintain required measuring and test equipment.
- System for tracing the cause for non-conformance (traceability) and segregating product which don’t conform to specifications.
- Configuration management and change-control mechanism.
- A quality plan for the product.
- Periodical internal quality audits.
- A ‘Quality Manual’ detailing the above Or infrastructure assessment certificate and Type Approval Certificate issued by “TEC” shall be furnished.

31. While all the conditions specified in the Bid documents are critical and are to be complied, special attention of bidder is invited to the following clauses of the bid documents. Non-compliance of any one of which shall result in outright rejection of the bid.

(i) Clauses 12.1, 12.3 & 13.1 of Section 4: The bids will be rejected at opening stage if Bid security is not submitted as per Clauses 12.1 & 12.3 and bid validity is less than the period prescribed in Clause 13.1 mentioned above.

(ii) Clause 2 & 10 of Section 4: If the eligibility condition as per clause 2 of Section 4 is not met and / or documents prescribed to establish the eligibility as per Clause 10 of section 4 are not provided, the bids will be rejected without further evaluation.

(iii) Clause 11.2 (c) of Section 4 Part A: If clause-by-clause compliance and deviation statements as prescribed are not given, the bid will be rejected at the stage of primary evaluation. In case of no deviations, a statement to that effect must be given.

(iv) Section 5 Part A- Commercial conditions, Section 5 Part B- Special Conditions of Contract, Section 5 part C- AMC & Section 3- Scope of work: Compliance, if given, using ambiguous words like “Noted”, “Understood”, “Noted & Understood” shall not be accepted as complied. Mere “Complied” will also be not sufficient, reference to the enclosed documents showing compliances must be given.

(v) Section 9 Price Schedule: Prices are not filled in as prescribed in price schedule.

(vi) Section 4 Part A clause 9.5 on discount which is reproduced below: “Discount, if any, offered by the bidder shall not be considered unless specifically indicated in the price schedule. Bidders desiring to offer discount shall therefore modify their offer suitably while quoting and shall quote clearly net price taking all such factors like Discount, free supply etc. into account”.

(vii) Before outright rejection of the Bid by Bid-opening team for non-compliance of any of the provisions mentioned in clause 31(i) of Section 4 Part A and clause 10.1(vii), 12.1 & 12.3 of Section- 4 Part A and clause 4 of section 1, though, the bidder company is given opportunity to explain their position, however if the person representing the bidder company is not satisfied with the decision of the Bid opening team, he / they can submit the representation to the Bid opening team immediately but in no case after closing of the tender process with full justification quoting specifically the violation of tender condition if any.

The in-charge of Bid opening team will mention the number of bids with the name of the company found unsuitable for further processing on the date of tender opening and number of representations received in Bid opening Minutes and if Bid opening team is satisfied with the argument of the bidder/company mentioned in their representation and feel that there is prima-facie fact for consideration, the in-charge of the bid opening team will submit the case for review to competent authority CGM in circles and Director concerned in corporate office as early as possible preferably on next working day and decision to this effect should be communicated to the bidder company within a week positively. Bids found liable for rejection and kept preserved on the date of tender opening will be returned to the bidders after issue of P.O. against the instant tender.

If the reviewing officer finds it fit to open the bid of the petitioner, this should be done by giving three (working) days notice to all the participating bidders to give opportunity to desirous participants to be present on the occasion.

32. Purchaser reserves the right to disqualify the supplier for a suitable period who habitually failed to supply the equipment in time. Further, the suppliers whose equipment do not perform satisfactory in the field in accordance with the specifications may also be disqualified for a suitable period (not less than one year and not more than two years) as decided by the purchaser.

33. Purchaser reserves the right to bar the bidder from participating in future tenders/EOI/RFPs of BSNL for a period of two years in case he fails to honor his bid without sufficient grounds.

34. Near Relationship Certificate:

34.1 The bidder should give a certificate that none of his/her near relative is working in the units as defined below where he is going to apply for the tender. In case of proprietorship firm, certificate will be given by the proprietor. For partnership firm, certificate will be given by all the partners. In case of Limited Company, certificate will be given by all the Directors of the company excluding Government of India/Financial institution nominees and independent non-Official part time Directors appointed by Govt. of India or the Governor of the state and full time Directors of PSUs both state and central. Due to any breach of these conditions by the company or firm or any other person the tender will be cancelled and Bid Security will be forfeited at any stage whenever it is noticed and BSNL will not pay any damage to the company or firm or the concerned person.

34.2 The company or firm or the person will also be debarred for further participation in the concerned unit.

34.3 The near relatives for this purpose are defined as:-

(a) Members of a Hindu undivided family.
(b) They are husband and wife.
(c) The one is related to the other in the manner as father, mother, son(s) & Son's wife (daughter in law), Daughter(s) and daughter's husband (son in
law), brother(s) and brother’s wife, sister(s) and sister’s husband (brother in law).

34.4 Please refer to the Performa enclosed in 6 Part (B).

35. **VERIFICATION OF DOCUMENTS AND CERTIFICATES**

“The bidder will verify the genuineness and correctness of all documents and certificates, including experience/performance certificates, issued either by the bidder or any other firm / associate before submitting them in the bid. The onus of proving genuineness of the submitted documents would rest with the bidder.

As per requirement of the tender’s conditions, if any document / paper / certificate submitted by the participant bidder is found to be false / fabricated / tempered / manipulated at any stage during bid evaluation or award of contract, then the bid security (EMBG) of the bidder would be forfeited and the bidder would be disqualified from the tender. Action would also be taken for banning of business dealing with the defaulting firm. In case contract has already awarded to the bidder, then PBG would be forfeited and the contract would be rescind / annulled and BSNL would be at liberty to procure the ordered goods and services from any other source at the risk and cost of the defaulting bidder. Action would also be taken for banning business dealing with the defaulting firm.

**NOTE**: To obviate any possibility of doubt and dispute and maintain veracity of the documents / papers / certificates, the documents conforming to eligibility part will be submitted by the participant bidder duly authenticated digitally by the authorized signatory along with EMBG (bid security) of requisite amount and will be checked at the time of tender opening. The documents / papers to be submitted in respective bid part will be explicitly mentioned in clause- 31(vii) of Section-4 Part A. This bid part (already digitally signed by the authorized representative of the bidder company during bid submission) will be digitally signed by the in charge of the tender opening team and will be kept preserved along with the bid submitted online. In case of any dispute these papers will be treated as authentic one”.

36. **Security Clause as per latest guidelines and requirement**

36.1 Mandatory Licensing requirements with regards to security related concerns issued by the Government of India from time-to-time shall be strictly followed and appropriate clauses shall be added in all bid documents. Necessary guidelines in this regard shall be issued separately.

**Appendix-1 to Section 4 Part A**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Defaults of the bidder / vendor.</th>
<th>Action to be taken</th>
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<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
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<tr>
<td>B</td>
<td>Submitting fake / forged</td>
<td>i) Rejection of tender bid of respective Vendor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii) Banning of business for 3 years which implies barring further dealing with the vendor for procurement of Goods &amp; Services including participation in future tenders invited by BSNL for 3 years from date of issue of banning order.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii) Termination/ Short Closure of PO/WO, if issued. This implies non-acceptance of further supplies / work &amp; services except to make the</td>
</tr>
<tr>
<td></td>
<td>a) Bank Instruments with the bid to meet terms &amp; condition of tender in respect of tender fee and/ or EMD;</td>
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<tr>
<td></td>
<td>b) Certificate for claiming exemption in respect of tender fee and/ or EMD;</td>
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</tbody>
</table>
and detection of default at any stage from receipt of bids till award of APO/issue of PO/WO.

**Note 1:** However, in this case the performance guarantee if alright will not be forfeited.

**Note 2:** Payment for already received supplies/completed work shall be made as per terms & conditions of PO/WO.

1(b) Submitting fake/forged documents towards meeting eligibility criteria such as experience capability, supply proof, registration with Sales Tax, Income Tax departments etc and as supporting documents towards other terms & conditions with the bid to meet terms & condition of tender:

(i) **If detection of default is prior to award of APO**
   - i) Rejection of Bid &
   - ii) Forfeiture of EMD.

(ii) **If detection of default after issue of APO but before receipt of PG/SD (DD,BG etc.)**
   - i) Cancellation of APO,
   - ii) Rejection of Bid &
   - iii) Forfeiture of EMD.

(iii) **If detection of default after receipt of PG/SD (DD,BG etc.)**
   - i) Cancellation of APO
   - ii) Rejection of Bid &
   - iii) Forfeiture of PG/SD.
   
   However on realization of PG/SD amount, EMD, if not already released shall be returned.

(iv) **If detection of default after issue of PO/WO**
   - i) Termination/Short Closure of PO/WO and Cancellation of APO
   - ii) Rejection of Bid &
   - iii) Forfeiture of PG/SD.
   
   However on realization of PG/SD amount, EMD, if not released shall be returned.

**Note 3:** However, settle bills for the material received in correct quantity and quality if pending items do not affect working or use of supplied items.

**Note 4:** No further supplies are to be accepted except that required to make the already supplied items work.

2 If vendor or his representative uses violent/coercive means viz. Physical/Verbal means to threatens BSNL Executive/employees and/or obstruct him from functioning in discharge of his duties & responsibilities for the following:

Banning of business for 3 years which implies Barring further dealing with the vendor for procurement of Goods &
<p>| | |</p>
<table>
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<tbody>
<tr>
<td><strong>a) Obstructing functioning of tender opening executives of BSNL in receipt/ opening of tender bids from prospective Bidders, suppliers/ Contractors.</strong></td>
<td><strong>Services including participation in future tenders invited by BSNL for 3 years from date of issue of banning order.</strong></td>
</tr>
<tr>
<td><strong>b) Obstructing/ Threatening other prospective bidders i.e. suppliers/ Contractors from entering the tender venue and/ or submitting their tender bid freely.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>3</strong></td>
<td><strong>Non-receipt of acceptance of APO/ AWO and SD/ PG by L-1 bidder within time period specified in APO/ AWO.</strong></td>
</tr>
<tr>
<td><strong>Forfeiture of EMD.</strong></td>
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<tr>
<td><strong>4.1</strong></td>
<td><strong>Failure to supply and/ or Commission the equipment and /or execution of the work at all even in extended delivery schedules, if granted against PO/ WO.</strong></td>
</tr>
<tr>
<td><strong>i)</strong> Termination of PO/ WO.</td>
<td><strong>ii)</strong> Under take purchase/ work at the risk &amp; cost of defaulting vendor.</td>
</tr>
<tr>
<td><strong>iii)</strong> Recover the excess charges if incurred from the PG/ SD and outstanding bills of the defaulting Vendor.</td>
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</tr>
<tr>
<td><strong>4.2</strong></td>
<td><strong>Failure to supply and/ or Commission the equipment and /or execution of the Work in full even in extended delivery schedules, if granted against PO/ WO.</strong></td>
</tr>
<tr>
<td><strong>i)</strong> Short Closure of PO/ WO to the quantity already received by and/ or commissioned in BSNL and/ or in pipeline provided the same is usable and/or the Vendor promises to make it usable.</td>
<td><strong>ii)</strong> Under take purchase/ work for balance quantity at the risk &amp; cost of defaulting vendor.</td>
</tr>
<tr>
<td><strong>iii)</strong> Recover the excess charges if incurred from the PG/ SD and outstanding bills of the defaulting Vendor.</td>
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</tr>
<tr>
<td><strong>5.1</strong></td>
<td><strong>The supplied equipment does not perform satisfactory in the field in accordance with the specifications mentioned in the PO/ WO/Contract.</strong></td>
</tr>
<tr>
<td><strong>i)</strong> If the material is not at all acceptable, then return the non-acceptable material (or its part) &amp; recover its cost, if paid, from the o/s bills/ PG/ SD. OR</td>
<td><strong>ii)</strong> If the material is inducted in network &amp; it is not possible to return it and/ or material is acceptable with degraded performance, the purchaser may determine the price for degraded equipment (Financial penalty = Price – price determined for degraded equipment) himself and/ or through a committee. Undertake recovery of financial penalty from outstanding dues of vendor including PG/ SD.</td>
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</table>
5.2 Major quality problems (as established by a joint team / committee of User unit(s) and QA Circle) / performance problems and non-rectification of defects (based on reports of field units and QA circle).

   i) If the material is not at all acceptable, then return the non-acceptable material (or its part) & recover its cost, if paid, from the a/s bills/ PG/ SD; OR
   ii) If the material is inducted in network & it is not possible to return it and/ or material is acceptable with degraded performance, the purchaser may determine the price for degraded equipment (Financial penalty = Price – price determined for degraded equipment) himself and/ or through a committee. Undertake recovery of financial penalty from outstanding dues of vendor including PG/ SD; and
   iii) Withdrawal of TSEC/ IA issued by QA Circle.

6 Submission of claims to BSNL against a contract

   (a) for amount already paid by BSNL.
   (b) for Quantity in excess of that supplied by Vendor to BSNL.
   c) for unit rate and/ or amount higher than that approved by BSNL for that purchase.

   i) Recovery of over payment from the outstanding dues of Vendor including EMD/ PG & SD etc. and by invoking 'Set off' clause 21 of Section 5 Part A or by any other legal tenable manner.
   ii) Banning of Business for 3 years from date of issue of banning order or till the date of recovery of over payment in full, whichever is later.

   Note 5: The claims may be submitted with or without collusion of BSNL Executive/ employees.

   Note 6: This penalty will be imposed irrespective of the fact that payment is disbursed by BSNL or not.

7 Network Security/ Safety/ Privacy:- If the vendor tampers with the hardware, software/ firmware or in any other way that

   a) Adversely affects the normal working of BSNL equipment(s) and/ or any other TSP through BSNL.
   b) Disrupts/ Sabotages functioning of the BSNL network equipments such as exchanges, BTS, BSC/ MSC, Control equipment including IN etc., transmission equipments but not limited to these elements and/ or any other TSP through BSNL.
   c) tampers with the billing related data/ invoicing/ account of the Customer/ User(s) of BSNL and/ or any other TSP(s).
   d) hacks the account of BSNL Customer for unauthorized use i.e. to threaten others/ spread improper news etc.
   e) Undertakes any action that affects/ endangers the security of India.

   i) Termination of PO/ WO.
   ii) Banning of business for 3 years which implies barring further dealing with the vendor for procurement of Goods & Services including participation in future tenders invited by BSNL for 3 years from date of issue of banning order.
   iii) Recovery of any loss incurred on this account from the Vendor from its PG/ SD/ O/s bills etc.
   iv) Legal action will be initiated by BSNL against the Vendor if required.
| 8 | If the vendor is declared bankrupt or insolvent or its financial position has become unsound and in case of a limited company, if it is wound up or it is liquidated. | i) Termination/ Short Closure of the PO/ WO.  
ii) Settle bills for the quantity received in correct quantity and quality if pending items do not affect working or use of supplied items.  
iii) No further supplies are to be accepted except that required to make the already supplied items work.  
iv) In case of turnkey projects, If the material is commissioned and is usable without any degradation of performance, then settle bills for the acceptable equipment/ material (or its part).  
v) In case of turnkey projects, if the material is inducted in network & it is not possible to return it and/ or material is acceptable with degraded performance, the purchaser may determine the price for degraded equipment (Financial penalty = Price – price determined for degraded equipment) himself and/ or through a committee.  
Undertake recovery of financial penalty from outstanding dues of vendor including PG/ SD. |
|---|---|---|
| 9 | In the event of the vendor, its proprietor, Director(s), partner(s) is / are convicted by a Court of Law following prosecution for offences involving moral turpitude in relation to the business dealings. | i) Termination/ Short Closure of the PO/ WO.  
ii) Settle bills for the material received in correct quantity and quality if pending items do not affect working or use of supplied items.  
iii) No further supplies are to be accepted except that required to make the already supplied items work.  
iv) In case of turnkey projects, If the material is commissioned and is usable without any degradation of performance, then settle bills for the acceptable equipment/ material (or its part).  
v) In case of turnkey projects, If the material is inducted in network & it is not possible to return it and/ or material is acceptable with degraded performance, the purchaser may determine the price for degraded equipment (Financial penalty = Price – price determined for degraded equipment) himself and/ or through a committee.  
Undertake recovery of financial penalty from outstanding dues of vendor including PG/ SD. |
<table>
<thead>
<tr>
<th>10</th>
<th>If the vendor does not return/ refuses to return BSNL’s dues:</th>
<th>i) Take action to appoint Arbitrator to adjudicate the dispute.</th>
</tr>
</thead>
</table>
|    | a) inspite of order of Arbitrator. | i) Termination of contract, if any.  
|    |    | ii) Banning of business for 3 years which implies barring further dealing with the vendor for procurement of Goods & Services including participation in future tenders invited by BSNL from date of issue of banning order or till the date by which vendor clears the BSNL’s dues, whichever is later.  
|    |    | iii) Take legal recourse i.e. filing recovery suite in appropriate court.  
|    | b) inspite of Court Orders. | i) Termination of contract, if any.  
|    |    | ii) Banning of business for 3 years which implies barring further dealing with the vendor for procurement of Goods & Services including participation in future tenders invited by BSNL from date of issue of banning order or till the date by which vendor clears the BSNL’s dues, whichever is later.  
| 11 | If the Central Bureau of Investigation/ Independent External Monitor (IEM) / Income Tax/ Sales Tax/ Excise / Custom Departments recommends such a course | Take Action as per the directions of CBI or concerned department.  
| 12 | The following cases may also be considered for Banning of business: | i) Banning of business for 3 years which implies Barring further dealing with the vendor for procurement of Goods & Services including participation in future tenders invited by BSNL for 3 years from date of issue of banning order.  
|    | (a) If there is strong justification for believing that the proprietor, manager, MD, Director, partner, employee or representative of the vendor/ supplier has been guilty of malpractices such as bribery, corruption, fraud, substitution of tenders, interpolation, misrepresentation with respect to the contract in question. |  
|    | (b) If the vendor/ supplier fails to execute a contract or fails to execute it satisfactorily beyond the provisions of Para 4.1 & 4.2. |  
|    | (c) If the vendor/ supplier fails to submit required documents/ information, where required. |
(d) Any other ground which in the opinion of BSNL is just and proper to order for banning of business dealing with a vendor/ supplier.

**Note 7:** The above penalties will be imposed provided it does not clash with the provision of the respective tender.

**Note 8:** In case of clash between these guidelines & provision of invited tender, the provision in the respective tender shall prevail over these guidelines.

**Note 9:** Banning of Business dealing order shall not have any effect on the existing/ ongoing works/ AMC / CAMC which will continue along with settlement of Bills.
Section 4 Part B

SPECIAL INSTRUCTIONS TO BIDDERS

The Special Instructions to Bidders shall supplement the 'Instructions to Bidders' and in case of any conflict with those in Section-4 Part A i.e. GENERAL INSTRUCTIONS TO BIDDERS (GIB), the provisions herein shall prevail.

1. Eligibility Conditions: As per Para 4 of DNIT.

2. Bid Security

2.1 The bank guarantee/DD so submitted shall be as per the format given in Section-7 B on prescribed judicial paper with stamps of proper value and should contain full address of the issuing branch of the bank with its telephone number and FAX number.

3. Distribution of Quantity

3.1 The quantity envisaged in the tender document shall be allotted to the one Bidder.


4.1 The Vendor shall have contemporary relevant Security standard certification and shall comply with the provisions of security standards certification with respect to Telecom & IT equipment hardware and software and those related to information & communication security management, such as ISO 15408 standards as applicable to IT and IT related products, ISO 27001 for Information Security Management System, standards used by other relevant standard formulation bodies for Telecom/IT equipment, ITU standard etc or equivalent acceptable international standards or certification. Based on the requisite testing to be conducted at their labs, Vendors will certify their own equipments as required under this clause. IT related elements in the telecom networks of the concerned OEMs, which are already ISO 15408 certified will be accepted as certified. Vendor will submit a relevant Self certificate based on test reports in this regard.

4.2 The successful Bidder shall execute an agreement, in the form as contained in section 10 of the Tender Document before issuance of any APO by the Purchaser, subject to the guidelines issued by DOT as amended from time to time.

5. TENDER EVALUATION

5.1 The Financial evaluation methodology is as per Section- 4 Part A clause-22 of the Tender Document. Further, the Bid shall be evaluated as a package quoted by the Bidders for various equipments/materials/services as per the criterion given below:

5.1.1 The price of various components forming part of the packages detailed in the SoR shall be evaluated. It shall also include all those items which respective Bidders consider essential for commissioning purposes. The sanctity of the price
of individual items shall be maintained by the Bidders within the package even though the evaluation is package based.

5.1.2 In case any item is not quoted by the bidder then bid will be loaded by the highest price quoted by any of the bidders for that item and the item will have to be supplied by the bidder free of cost.

5.1.3 For such items which are to be included in addition to what has been mentioned in the SoR, it is the responsibility of Bidder to indicate the quantities to be ordered for the project execution and it shall also form part of evaluation of total package. If the Bidder indicates quantities of any of the item as zero, such items are to be supplied free of cost irrespective of quote being available. Further the quantity of such items shall match with the quantity specified for the network element to which such an item is associated with.

5.2 Evaluation of the cost of AMC:

a) The bidder shall quote Comprehensive AMC Charges for each year. AMC charges shall be considered in evaluation of price bid, by applying a discounted rate of 12% per year to arrive at the NPV (Net Present Value). The quote for AMC shall be as % (percent) of equipment cost (excluding duties and taxes CENVAT-able, i.e. net cost to BSNL) and it is mandatory to quote yearly charge in Rs. In Section-9 Part-II of tender document. In case if there is difference between % and amount, the % quoted shall prevail.

b) Since the AMC is to be entered at the end of warranty period of two years, the calculation for NPV of AMC shall be done as follows:

\[
\text{Net Present Value (NPV) of AMC for equipments} = \frac{\text{Quoted rates for AMC for 1}^{\text{st}} \text{ year}}{(1.12)^3} + \frac{\text{Quoted rates for AMC for 2}^{\text{nd}} \text{ year}}{(1.12)^4} + \frac{\text{Quoted rates for AMC for 3}^{\text{rd}} \text{ year}}{(1.12)^5} + \frac{\text{Quoted rates for AMC for 4}^{\text{th}} \text{ year}}{(1.12)^6} + \frac{\text{Quoted rates for AMC for 5}^{\text{th}} \text{ year}}{(1.12)^7}.
\]

c) The minimum amount of yearly AMC charges which shall be taken for evaluation purpose shall be 5% of all basic prices (excluding Installation & Commissioning & O&M charges) exclusive of duties and taxes as per column 4 of the Price schedule section-9 Part-B or column 4A of the Price schedule section-9 Part-B multiplied by quantity in column 3. However ordering price will be arrived as per the actual quoted rates.

6. Operation and Maintenance:

6.1 Bidder after successful installation and commissioning of NMS, shall be responsible for its operations and management for a period of two years from the date of successful installation and commissioning. The Operation & Management of Network shall include interalia all activities and processes which are equipment specific; and overall operations, like performance management, security management, configuration management, network and systems administration, data-base administration, fault management, billing and provisioning management.

6.2 The Operation & Management of NMS shall include but not be limited to the following:

i. Network Operations & Management - Full operations and management of all nodes covering all hardware, software, configuration and integration including framing policies and guidelines for operations and management under this contract for all nodes.

ii. System! Applications Administration
iii. Database Administration
iv. Help desk support to field units
v. Regular testing of all the Network services from customers' point of view
vi. Security Management
vii. Imparting on-the-job training to BSNL officers
viii. Submission of Performance Reports to BSNL

6.3 Any other activity or equipment, which is not explicitly covered in this document but is essential, as part of the operations and management of ISP network shall also be performed by the successful bidder. In case of any dispute in this regard, decision of BSNL shall prevail.

6.4 The bidder shall quote for the O&M charges for 2 years (4 man-months for two year). Cost of O&M shall be taken for evaluation calculated to the present value at a discounted rate of 12% per annum similar to the method adopted for AMC.
SECTION –4 PART C
SPECIAL INSTRUCTIONS TO BIDDERS (SIB) FOR E-TENDERING

1. General

1.1 The Special Instructions (for e-Tendering) supplement ‘Instruction to Bidders’, as given in these Tender Documents. Submission of Online Bids is mandatory for this Tender.

1.2 E-Tendering is a new methodology for conducting Public Procurement in a secured manner. Suppliers/ Vendors will be the biggest beneficiaries of this new system of procurement. For conducting electronic tendering, BSNL has decided to use the portal (https://www.tcil-india-electronic tender.com) of M/s TCIL, a Government of India Undertaking.

1.3 Benefits to Suppliers are outlined on the Home-page of the portal.

2. Instructions

2.1 Tender Bidding Methodology: – ‘Single Stage Bidding, Two stage opening using – Two Electronic Envelopes’.

3 Broad outline of activities from Bidders’ prospective:

3.1 Procure a Digital Signing Certificate (DSC)
3.2 Register on Electronic Tendering System® (ETS)
3.3 Create Users and assign roles on ETS
3.4 View Notice Inviting Tender (NIT) on ETS
3.5 Submit Tender fee and NDA offline to BSNL
3.6 Download Official Copy of Tender Documents from ETS
3.7 Attend training on e-tendering to be arranged by BSNL(optional)
3.8 Clarification to Tender Documents on ETS
3.9 Query to BSNL (Optional)
3.10 View response to queries/clarifications posted by BSNL as addenda
3.11 Bid-Submission on ETS
3.12 Attend Public Online Tender Opening Event (TOE) on ETS
3.13 Opening of Technical-Part
3.14 View Post-TOE Clarification posted by BSNL on ETS
3.15 Respond to BSNL’s Post-TOE queries
3.16 Attend Public Online Tender Opening Event (TOE) on ETS
3.17 Opening of Financial-Part (Only for Technical Responsive Bidders)

4 Other Instructions

For participating in this Tender online, the following instructions are to be read carefully. These instructions are supplemented with more detailed guidelines on the relevant screens of the ETS.

4.1 Digital Certificates

For integrity of data and authenticity/ non-repudiation of electronic records, and to be complaint with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC) also referred to as Digital Signature Certificate (DSC), of Class 2 or above, issued by a Certifying Authority (CA) licensed by Controller of Certifying Authorities (CCA) [refer http://www.cca.gov.in].
4.2 **Registration**

To use the ElectronicTender® portal ([https://www.tcil-india-electronictender.com](https://www.tcil-india-electronictender.com)) vendors need to register on the portal. Registration of each organization is to be done by one of its senior persons who will be the main person coordinating for the e-tendering activities. In ETS terminology, this person will be referred to as the Super User (SU) of that organization. For further details, please visit the website/portal, and click on the ‘Supplier Organization’ link under ‘Registration’ (on the Home Page), and follow further instructions as given on the web site. Pay Annual Registration Fee as applicable. **[Note: After successful submission of Registration details and Annual Registration Fee (Rs 6000/- plus service tax as applicable, payable etc TCIL), please contact TCIL Helpdesk (as given below), to get your registration accepted/activated].**

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<tr>
<th>TCIL Helpdesk</th>
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<tr>
<td><strong>TCIL’s Contact Person</strong></td>
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<tr>
<td><strong>Telephone/ Mobile</strong></td>
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<tr>
<td><strong>E-mail ID</strong></td>
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<th>BSNL Contact-1</th>
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<td><strong>BSNL’s Contact Person</strong></td>
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<td><strong>BSNL’s Contact Person</strong></td>
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<tr>
<td><strong>Telephone/ Mobile</strong></td>
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<tr>
<td><strong>E-mail ID</strong></td>
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5 **Some Bidding related Information for this Tender (Sealed Bid)**

5.1 **Procurement of Official Copy of Tender Documents**

After the registration process, to procure an official copy of Tender Documents, the Bidder is requested to submit the following documents offline to AGM (MMY), BSNL Corporate Office, 2nd Floor, Bharat Sanchar Bhawan, Janpath, New Delhi – 110001, on or before the date & time of procurement of Tender Documents specified in the covering letter of this Tender Document:

(i) DD/ Bankers cheque of INR 8,000/- (INR eight Thousand only) drawn in favour of AO(Cash), BSNL CO, New Delhi, payable at New Delhi against payment of tender fee (ie cost of Tender Documents).

(ii) Only after the receipt of the above mentioned documents, the Bidder would be authorized to procure the official copy of Tender Documents from the e-procurement portal.
5.2 Online Submission of Bids

The entire bid-submission would be online on ETS. Broad outline of submissions are as follows:

a) Submission of information about Bid Security/ Earnest Money Deposit (EMD) being submitted ‘offline’ on or before the date & time of submission of bids
b) Submission of digitally signed copy of Tender Documents/ Addenda
c) Acceptance of General Terms and Conditions (GTC)
d) Acceptance of Special Terms and Conditions (STC)
e) Two Envelopes
   i) Technical-Part
      - ElectronicForms-mandatory
      - Main-Bid-mandatory
      - Bid-Annexures (Optional)
   ii) Financial-Part
      - ElectronicForms-mandatory
      - Main-Bid-mandatory
      - Bid-Annexures (Optional)

6 Offline Submissions:

The Bidder is requested to submit the following original documents offline to DM (MMT), BSNL Corporate Office, 2nd Floor, Bharat Sanchar Bhawan, Janpath, New Delhi – 110001 on or before the Bid Closing Date specified in covering letter of this Tender Document, in a sealed envelope. The envelope shall bear (the Tender/Project name), the tender number and the words ‘DO NOT OPEN BEFORE’ (due date & time).

a) Bid Security.
b) Power of attorney in accordance with clause 14 of Section-4 Part A.
c) Integrity Pact duly signed by the Bidder.

[Note: The Bidder has to upload the Scanned copy of all above said original documents as Bid-Annexure during Online Bid-Submission].

7 Special Note on Security of Bids

7.1 Security related functionality has been rigorously implemented in ETS in a multi-dimensional manner. Starting with 'Acceptance of Registration by the Service Provider', provision for security has been made at various stages in Electronic Tender's software. Specifically for Bid Submission, some security related aspects are outlined below.

7.2 As part of the Electronic Encrypter™ functionality, the contents of both the 'Electronic Forms' and the 'Main-Bid' are securely encrypted using a Pass-Phrase created by the Bidder himself. Unlike a 'password', a Pass-Phrase can be a multi-word sentence with spaces between words (eg I love this World). A Pass-Phrase is easier to remember, and more difficult to break. It is recommended that a separate Pass-Phrase be created for each Bid-Part. This method of bid-encryption does not have the security and data-integrity related vulnerabilities which are inherent in e-tendering systems which use Public-Key of the specified officer of a Buyer organization for bid-encryption. Bid-encryption in ETS is such that the Bids cannot be decrypted before the Public Online Tender Opening Event (TOE), even if there is connivance between the concerned tender-opening officers of the Buyer organization and the personnel of e-tendering service provider.

7.3 Typically, ‘Pass-Phrase’ of the Bid-Part to be opened during a particular Public Online Tender Opening Event (TOE) is furnished online by each Bidder during the TOE itself, when demanded by the concerned Tender Opening Officer.
7.4 It is important for the bidder to keep a safe record of his Pass-phrases. It is the RESPONSIBILITY of the bidder to provide the CORRECT PASS-PHRASE for decrypting his bid part. In case the bidder is unable to provide the correct pass-phrase during the TOE, it will not be possible to open his bid and as his bid will be REJECTED (i.e. Archived Un-opened). Before rejection in such a situation, the bidder will be given opportunity to himself enter the pass-phrase from his own office or from BSNL’s office if his representative is physically present there.

7.5 There is an additional protection with SSL Encryption during transit from the client-end computer of a Supplier organization to the e-tendering server/ portal.

8 Public Online Tender Opening Event (TOE)

8.1 ETS offers a unique facility for ‘Public Online Tender Opening Event (TOE)’. Tender Opening Officers as well as authorized representatives of Bidders can attend the Public Online Tender Opening Event (TOE) from the comfort of their offices. Alternatively, duly authorized representatives of Bidders (i.e. Supplier organization) are requested to carry a Laptop with Wireless Internet Connectivity, if they wish to come to BSNL office for the Public Online TOE.

8.2 Every legal requirement for a transparent and secure ‘Public Online Tender Opening Event (TOE)’ has been implemented on ETS.

8.3 As soon as a Bid is decrypted with the corresponding ‘Pass-Phrase’ as submitted online by the Bidder himself (during the TOE itself), salient points of the Bids are simultaneously made available for downloading by all prospective Bidders. The tedium of taking notes during a manual ‘Tender Opening Event’ is therefore replaced with this superior and convenient form of ‘Public Online Tender Opening Event (TOE)’.

8.4 ETS has a unique facility of ‘Online Comparison Chart’ which is dynamically updated as each online bid is opened. The format of the chart is based on inputs provided by the Buyer for each Tender. The information in the Comparison Chart is based on the data submitted by the Bidders. A detailed Technical and/ or Financial Comparison Chart enhances Transparency. Detailed instructions are given on relevant screens.

8.5 ETS has a unique facility of a detailed report titled ‘Minutes of Online Tender Opening Event (TOE)’ covering all important activities of ‘Online Tender Opening Event (TOE)’. This is available to all prospective Bidders for ‘Viewing/ Downloading’.

8.6 There are many more facilities and features on ETS. For a particular tender, the screens viewed by a Supplier will depend upon the options selected/programmed by the Purchaser for the relevant tender.

IMPORTANT NOTE: In case of internet related problem at a bidder’s end, especially during ‘critical events’ such as – a short period before bid-submission deadline, during online public tender opening event, during e-auction, it is the bidder’s responsibility to have backup internet connections. In case there is a problem at the e-procurement/ e-auction service-provider’s end (in the server, leased line, etc) due to which all the bidders face a problem during critical events, and this is brought to the notice of BSNL by the bidders in time, then BSNL will promptly re-schedule the affected event(s).

9 Other Instructions

9.1 For further instructions, the vendor should visit the home-page of the portal (https://www.tcil-india-electronicntender.com) and go to the User-Guidance Center

9.2 The help information provided through ‘ETS User-Guidance Center’ is available in three categories – Users intending to Register / First-Time Users, Logged-in
users of Buyer organizations, and Logged-in users of Supplier organizations. Various links are provided under each of the three categories.

9.3 It is strongly recommended that all authorized users of Supplier organizations should thoroughly peruse the information provided under the relevant links, and take appropriate action. This will prevent hiccups, and minimize teething problems during the use of ETS.

9.4 The following ‘FOUR KEY INSTRUCTIONS for BIDDERS’ must be assiduously adhered to:

(a) Obtain individual Digital Signing Certificate (DSC or DC) well in advance of your first tender submission deadline on ETS

(b) Register your organization on ETS well in advance of your first tender submission deadline on ETS.

(c) Get your organization’s concerned executives trained on ETS well in advance of your first tender submission deadline on ETS.

(d) Submit your Bids well in advance of tender submission deadline on ETS (There could be last minute problems due to internet timeout, breakdown, et al).

(e) While the first three instructions mentioned above are especially relevant to first-time users of ETS, the fourth instruction is relevant at all times.

10 Minimum Requirements at Bidders end

10.1 Computer System with good configuration (Min PIV, 1 GB RAM, Windows XP)

10.2 Broadband connectivity

10.3 Microsoft Internet Explorer 6.0 or above

10.4 Digital Certificate(s)

11 Training Program

11.1 One day training (10:00 to 17:00) would be provided as per the following table. Training is optional.

11.2 The prospective Bidders are requested to carry a Laptop and Wireless Connectivity to Internet.

<table>
<thead>
<tr>
<th>Scheduled Date</th>
<th>Date of uploading of Tender document + 7 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Venue</td>
<td>BSNL Corporate Office, Bharat Sanchar Bhawan, Janpath, New Delhi – 110001</td>
</tr>
<tr>
<td>Training Charges (Per Participant)</td>
<td>Rs. 2,500/- (plus Service Tax @ 12.36 %)</td>
</tr>
</tbody>
</table>
SECTION- 5 Part A
GENERAL (COMMERCIAL) CONDITIONS OF CONTRACT (GCC)

1. APPLICATION
The General Conditions of Contracts provide the terms and conditions applicable to the Supplier for the supply of Goods and the provision of Services.

2. STANDARDS
The Goods and Services supplied under the Contract shall conform to the standards prescribed in the Technical Specifications mentioned in Section-3.

3. PATENT RIGHTS
The Supplier shall indemnify the Purchaser against all third-party claims of infringement of patent, trademark or industrial design rights arising from use of the Goods and/or Services or any part thereof in network of BSNL.

4. PERFORMANCE SECURITY
4.1 The Supplier shall furnish Performance Security to the Purchaser for an amount equal to 5% of the value of Advanced Purchase Order & valid for a minimum period of 36 months, within 14 days from the date of issue of Advance Purchase Order by BSNL.

4.2 The proceeds of the Performance Security referred to in Clause 4.1 above shall be payable to the Purchaser as compensation for any loss resulting from the Supplier’s failure to complete its obligations under the Contract.

4.3 The successful bidder shall submit a Bank Guarantee (BG) for AMC, valid for a period of six years from the date of start of AMC. This Performance Security for AMC shall be submitted by the successful bidder to the BSNL before expiry of warranty. Performance Security will be released after submission of AMC PBG only. Amount of Bank Guarantee against AMC shall be equal to the average over five years of the sum of the values of the yearly AMC charges.

4.4 The Successful Bidder shall submit the original performance bank guarantee (PBG) to BSNL.

4.5 The Performance Security shall be in the form of Bank Guarantee issued by a scheduled bank and shall be as per the format provided in Section-7(B) of this Tender Document respectively. The Bidder shall ensure that Performance Security is sent to the Purchaser directly by the issuing bank by Registered Post (A.D). In exceptional circumstances where the Performance Security is submitted by the Bidder to the Purchaser, the Bidder shall ensure that an unstamped duplicate copy of the Performance Security is sent immediately by the bank directly to the Purchaser by Registered Post (A.D).

4.6 The Performance Security will be discharged by the Purchaser after completion of the Supplier’s performance obligations including any warranty obligations under the Contract.

5. INSPECTION AND TESTS
5.1 The Purchaser or its representative(s) shall have the right to inspect and test the goods and services as per prescribed test schedules for their conformity to the specifications (“Inspectors”). Where the Purchaser decides to conduct such tests on the premises of the Supplier or subcontractor(s), all reasonable
facilities and assistance like testing instruments and other test gadgets including access to drawings and production data shall be furnished to the Inspectors at no charge to the Purchaser.

5.2 Should any inspected or tested goods and services fail to conform to the specifications the Purchaser may reject them and the Supplier shall either replace the rejected Goods or make all alterations necessary to meet specification requirements free of cost to the Purchaser. In case of Services, the Bidder shall make arrangements to rectify the deficiencies in Services to conform to the specifications and all quality aspects of installations.

5.3 Notwithstanding the pre-supply tests and inspections prescribed in Clause 5.1 and 5.2 above, the Equipment and accessories on receipt at the Purchaser's premises will also be tested during and after installation before "take over" and if any Equipment or part thereof is found defective, the same shall be replaced free of all cost to the Purchaser as laid down in Clause 5.4 below.

5.4 If any Equipment or any part thereof including the Services, before it is taken over under Clause 5.5, is found defective or fails to fulfill the requirements of the Contract, the Inspector shall give the Supplier notice setting forth details of such defects or failure and the Supplier shall make the defective equipment and/or the Services good, or alter the same to make it comply with the requirements of the Contract forthwith and in any case within a period not exceeding three months of the initial report. These replacements shall be made by the Supplier free of all charges at the site designated by the Purchaser. Should it fail to do so within this time, the Purchaser reserves the discretion to reject and replace at the cost of the Supplier the whole or any portion of Equipment and Services as the case may be, which is defective or fails to fulfill the requirements of the Contract. The cost of any such replacement of Goods and Services made by the Purchaser shall be deducted from the amount payable to the Supplier.

5.5 When the performance tests called for have been successfully carried out, the Inspector will forthwith issue a Taking Over Certificate for all aspects of the Contract in respect of both Goods and Services. The Inspector/ shall not delay the issue of any "Taking Over Certificate" contemplated by this clause on account of minor defects in the Equipment and Services which do not materially affect the commercial use thereof provided that the Supplier shall undertake to make good the same in a time period not exceeding six months. All the major validation issues and major technical problems reported by the Circles should have been satisfactorily resolved.

5.6 Nothing in Clause-5 shall in any way discharge the Supplier from any warranty or other obligations under this Contract.

6. **DELIVERY AND DOCUMENTS**

6.1 Delivery of the Goods and documents, its installation and commissioning shall be made by the Supplier in accordance with the terms specified by the Purchaser in its SoR and Special Conditions of Contract. The title of the Equipment/material so supplied shall vest with the Purchaser after the sale is concluded by way of High Sea Sales or sales of indigenous materials. Thereafter, the Goods will be issued by the Purchaser to the Supplier and the risk of the Goods shall remain with the Supplier until delivery of the complete network as a turnkey job has been completed and the network is made over to the Purchaser for operation. The delivery of the Equipment shall be to the ultimate consignee as given in the Purchase Order. Bidder shall comply with the provisions of Applicable Law.
6.2 The supply, installation and commissioning of the system be completed in
accordance with the commissioning schedule stipulated in the Special Conditions
of Contract.

6.3 All technical assistance for installation, commissioning and monitoring of the
Equipment shall be provided by the Supplier at no extra cost during laboratory
evaluation, if any, validation/type approval and field trial/operation period as
stipulated in the Special Conditions of Contract.

6.4 The extension of delivery period against the Purchase Order, if any, should be
granted subject to the condition that BSNL shall have the absolute right to
revise the price(s) and also to levy penalty for the delayed supplies.

7. TRAINING

7.1 The Successful Bidder shall provide training for installation and maintenance
staff of the Purchaser free of cost.

7.2 The bidder shall specify in his bid the number of trainees, quantum of proposed
training, pre-training qualifications required of the trainees and duration of the
proposed training.

7.3 The bidder shall provide all training material and documents.

7.4 Conduct of training of the purchaser’s personnel shall be at the suppliers’ plant
and/or on-site in assembly start-up operation, maintenance and/or repair of the
supplied goods.

8. INCIDENTAL SERVICES

8.1 The Supplier may be required to provide any or all of the following services:

(a) Performance or supervision of on-site installation and/or start-up of the
supplied Goods.

(b) Furnishing of tools required for installation and/or maintenance of supplied
Goods.

(c) Performance of supervision or maintenance and/or repair of the supplied
Goods, for a period of time agreed by the Parties provided that this
Service shall not relieve the Supplier of any warranty obligations under
this Contract.

9. SPARES

9.1 The Supplier shall be required to provide a list of the following material and
notifications pertaining to spare parts manufactured or distributed by the
Supplier of spares including cost and quantity considered for arriving at the
price of spares stated at Clause 9, Section-4 Part A.

(a) Such spare parts as the Purchaser may elect to purchase from the
Supplier provided that such purchase shall not relieve the Supplier of any
warranty obligation under the Contract.

(b) In the event of termination of production of the spare parts, the Supplier
shall:

(i) give advance notification to the Purchaser pending termination (not
less than 2 years), in sufficient time to enable the Purchaser to
procure life time spare; and
(ii) following such advance intimation of termination, furnish at no cost to the Purchaser, the blue prints, drawings and specifications of spare parts, if and when requested.

9.2 Over a period of three years starting from the date of final acceptance, the Supplier shall supply, at his own cost, all necessary spares which have not been included in the offer as part of the requirement. These spares should be supplied within a maximum period of 30 days from the notification by the Purchaser of his need.

10. **WARRANTY**

10.1 The Supplier/Bidder shall warrant that all supplies under the scope of the Contract shall be new and free from all defects and faults in materials used, workmanship and manufacture and shall be of the highest grade and consistent with the established and generally accepted standards for materials of the type ordered and shall perform in full conformity with the specifications and drawings. The Supplier shall be responsible for any defect that may develop under the conditions provided by the Contract and under proper use, arising from faulty material, design or workmanship such as corrosion of the equipment, inadequate quantity of material to meet equipment requirements, inadequate contact protection, deficiencies in circuit design and/or otherwise and shall remedy such defects at his own cost when called upon to do so by the Purchaser who shall state in writing in what respect the stores are faulty. This warranty shall survive inspection or payment for/ and acceptance of goods, but shall expire (except in respect of complaints notified prior to such date) twenty four months from the date of commissioning of the complete network in the licensed service area and have been taken over under Clause 5.5 above.

10.2 If it becomes necessary for the Supplier to replace or renew any defective portion(s) of the Equipment under this clause, the provisions of the Clause 10.1 shall apply to the portion(s) of the equipment so replaced or renewed or until the end of the above mentioned period of twenty four months, whichever may be later. If any defect is not remedied by the Supplier within a reasonable time, the Purchaser may proceed to get the defects remedied from other supplier etc., at the Supplier's risk and expenses, but without prejudice to any other rights which the Purchaser may have against the Supplier in respect of such defects.

10.3 Replacement under warranty clause shall be made by the Supplier free of all charges at the site designated by the Purchaser including freight, insurance and other incidental charges.

11. **PAYMENT TERMS**

11.1 The payment terms shall be governed by Clause-9 of section-5 Part B. For claiming the payment on receipt of goods by the consignee, following documents are to be submitted to the paying authority.

(a) Invoice clearly indicating break up details of composite price i.e. Basic, E.D., Sales Tax, any other Duties and Taxes, Freight /Packing Charges, Service Tax etc.

(b) Acknowledged Delivery Challan in original.

(c) Supplier certificate for dispatch

(d) Excise gate pass / invoice or equivalent document viz. Custom invoice, if applicable.
(e) Inspection certificate of QA (For imported equipments certified factory test reports are sufficient)

(f) Proof of payment of octroi / entry tax etc., if applicable

(g) The sea freight receipt as per the rates approved by the Ministry of Water and Surface Transport, if applicable.

**Note:** “If the supplier fails to furnish necessary supporting documents i.e. excise/customs invoices etc. in respect of the Duties/Taxes which are Cenvatable, the amount pertaining to such Duties/Taxes will be deducted from the payment due to the firm.”

11.2 In case there are damage/shortages the consignee shall intimate the supplier in writing, who will take necessary action to collect the material at his own cost & replace the same.

11.3 Form C and also a certificate stating that the tendered item (stores) are meant for the use of BSNL shall be provided by the purchaser on the request of the bidder as and when asked for.

11.4 No payment will be made for goods rejected at the site on testing.

11.5 The bidder has to give the mandate for receiving the payment of Rs.5 lacs and above electronically and the charges, if any, levied by bank has to be borne by the bidder/contractor/supplier. The bidder company are required to give the following information for this purpose:

(i) Beneficiary Bank Name
(ii) Beneficiary Branch Name
(iii) IFSC Code of beneficiary Branch
(iv) Beneficiary account No.
(v) Branch Serial No. (MICR No)

12. **PRICES**

12.1 The prices payable under the Contract shall be governed by the following:

(i) Prices charged by the Supplier for goods delivered and services performed under the Contract shall not be higher than the prices quoted by the Supplier in his Bid except for variation caused by change in duty/tax as specified in Clause-12.1(ii).

12.2 The duty/tax part of the unit price shall be regulated as under:

(a) Prices will be fixed at the time of issue of Purchase Order as per taxes and statutory duties applicable at that time. If the duties are not quoted correctly, the basic price may be revised downwardly at the time of PO. Further, during extended delivery period, if there is increase in duties/taxes then the basic price would have to be reduced to accommodate the increase in taxes.

(b) In case of reduction of taxes and other statutory duties during the scheduled delivery period, Purchaser shall take the benefit of decrease in these taxes / duties for the supplies made from the date of enactment of revised duties / taxes.

(c) In case of increase in duties / taxes during the scheduled delivery period, the Purchaser shall revise the prices as per new duties /
taxes for the supplies, to be made during the remaining delivery period as per terms and conditions of the Purchase Order.

12.3 Any increase in taxes and others statutory duties / levies after the expiry of scheduled delivery date shall be to the Supplier's account. However, benefit of any decrease in these tax/ duties shall be passed on to the Purchaser by the Supplier.

13. CHANGE IN PURCHASE ORDERS

13.1 The Purchaser may, at any time, by a written order given to a Supplier, make changes within the general scope of the Contract in any one or more of the following:

(a) Drawings, designs or specifications, where goods to be supplied under the Contract are to be specifically manufactured for the Purchaser;

(b) the method of transportation or packing;

(c) the place of delivery; or

(d) the services to be provided by the Supplier.

13.2 If any such change causes an increase or decrease in the cost and quantity of, or the time required for the execution of the Contract an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any proposal by the Supplier for adjustment under this clause must be made within thirty days from the date of the receipt of the change in order.

14. SUBCONTRACTS

The Supplier shall notify the Purchaser in writing of all subcontracts awarded under this Contract if not already specified in his Bid. Such notification, in his original bid or later shall not relieve the Supplier from any liability or obligation under the Contract.

15. DELAYS IN THE SUPPLIER'S PERFORMANCE

15.1 Delivery of the Goods and performance of the services shall be made by the Supplier in accordance with the time schedule specified by the purchaser in its purchase order. In case the supply is not completed in the stipulated delivery period, as indicated in the Purchase Order, purchasers reserves the right to short close /cancel this purchase order and/or recover liquidated damage charges. The cancellation/short closing of the order shall be at the risk and responsibility of the supplier and purchaser reserves the right to purchase balance unsupplied item at the risk and cost of the defaulting vendors.

15.2 Delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to any or all of the following sanctions: forfeiture of its performance security, imposition of liquidated damages and/or termination of the contract for default.

15.3 (i) If at any time during the performance of the contract, the supplier encounters condition impending timely delivery of the goods and performance of service, the supplier shall promptly notify to the Purchaser in writing the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier’s notice, the purchaser shall evaluate the situation and may at its discretion extend the period for performance of the contract (by not more than 20
weeks or as per provisions of clause 16.2, Section-5 Part A) as per
provision given below:

(ii) The vendor has to submit their request for extension along with the required
additional BG, undertaking as per clause 24 Section-5 Part A (Fall Clause)
and a copy of QA inspection certificate at least two weeks before the expiry
delivery period. The decision regarding extension shall be communicated
within two weeks of the receipt of request.

(iii) In case extension is being granted beyond 20 weeks then the vendor shall
submit additional BG while seeking extension. For peace meal items the
amount of additional BG shall be 5% of the value of balance quantity of
items to be supplied for which extension in delivery period has been sought.
In case of infrastructure/turnkey projects other than as stated above, 1%
of the total project value shall be the value for additional BG. The additional
BG shall be valid for six months beyond extension of delivery period sought
and shall be discharged after the full ordered quantity has been supplied to
the ultimate consignee within the last extended delivery period on
submission of inspection certificate from QA and consignee receipt without
prejudice to the other remedies available to the purchaser.

(iv) If the vendor fails to deliver the full ordered quantity even during extended
delivery period then the PO shall be short-closed and the Performance Bank
Guarantee as well as additional BG shall be forfeited.

15.4 Format of (i) letters conveying conditions of DP extension and (ii) DP extension
letter are in section 7.

15.5 If the supplies are not completed in the extended delivery period, the purchase
order shall be short-closed and both the Performance securities shall be
forfeited.

16. LIQUIDATED DAMAGES

16.1 Time is the essence of this Tender Document/Contract. The Bidder shall adhere
to the project execution schedule given in the Tender Document /APO/PO. The
milestones stipulated for delivery of supplies and services in the acceptance of
the Tender shall be deemed to be the essence of the Contract and delivery must
be completed not later than the dates specified therein. Extension will not be
given except in exceptional circumstances. In the event of Bidder’s failure to
perform as per the milestones mentioned in the project execution schedule in
section-5 Part B, the Bidder shall be liable to pay liquidated damages. The target
dates for selected milestone shall be sacrosanct for the purposes reckoning
liquidated damages in this Tender/ Contract. Should, however, deliveries be
made after expiry of the contracted delivery period, without prior concurrence of
the Purchaser and be accepted by the Purchaser, such delivery will not deprive
the Purchaser of his right to recover liquidated damage under Clause 16.2
below. However, when supply is made within 21 days of the contracted original
delivery period, the Purchaser may accept the stores and in such cases the
provision of Clause 16.2 will not apply.

16.2 (i) Should the supplier fails to deliver the store or any consignment thereof
within the period prescribed and agreed for delivery, the purchaser, without
prejudice to other remedies available to the purchaser shall be entitled to
recover, as agreed liquidated damages for breach of contract, a sum equivalent
to 0.5% of the value of the delayed supply and/or undelivered material/supply
for each week of delay or part thereof for a period up to 10 (TEN) weeks, and
thereafter at the rate of 0.7% of the value of the delayed supply and/or
undelivered material/ supply for each week of delay or part thereof for another TEN weeks of delay.

(ii) DP extension beyond 20 weeks would not be generally allowed. The extension beyond 20 weeks may be decided in most exceptional circumstances on case to case basis, by the CGM concerned in case of tenders floated by Circles and by the Functional Director concerned in case tenders floated by Corporate Office, stating reasons and justifications for grant of extension of delivery period beyond 20 weeks.

(iii) In the case of package supply/turnkey projects when the delayed portion of the supply materially hampers installation and commissioning of the systems, LD charges shall be levied as above on the total value of the concerned package of the Purchase Order.

(iv) Quantum of liquidated damages assessed and levied by the purchaser and decision of the purchaser thereon shall be final and binding on the supplier, further the same shall not be challenged by the supplier either before Arbitration tribunal or before the court. The same shall stand specifically excluded from the purview of the arbitration clause, as such shall not be referable to arbitration. However, when supply is made to the ultimate consignee within 21 days of QA clearance in the extended delivery period and the goods were dispatched within this delivery period, the consignee may accept the stores and in such cases the LD shall be levied up to the date of dispatch after QA clearance only.

(iv) The total value of the liquidated damages as per above sub-clauses shall be limited to a maximum of 12% (Twelve percent) i.e. LD shall be levied upto 20 weeks only as per provision at para (i).

17. **FORCE MAJEURE**

17.1 If, at any time, during the continuance of this contract, the performance in whole or in part by either party of any obligation under this contract is prevented or delayed by reasons of any war or hostility, acts of the public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts or act of God (hereinafter referred to as events) provided notice of happenings of any such eventuality is given by either party to the other within 21 days from the date of occurrence thereof, neither party shall by reason of such event be entitled to terminate this contract nor shall either party have any claim for damages against other in respect of such non-performance or delay in performance, and deliveries under the contract shall be resumed as soon as practicable after such an event come to an end or cease to exist, and the decision of the Purchaser as to whether the deliveries have been so resumed or not shall be final and conclusive. Further that if the performance in whole or part of any obligation under this contract is prevented or delayed by reasons of any such event for a period exceeding 60 days, either party may, at its option, terminate the contract.

17.2 Provided, also that if the contract is terminated under this clause, the Purchaser shall be at liberty to take over from the Supplier at a price to be fixed by the purchaser, which shall be final, all unused, undamaged and acceptable materials, bought out components and stores in course of manufacture which may be in possession of the Supplier at the time of such termination or such portion thereof as the purchaser may deem fit, except such materials, bought out components and stores as the Supplier may with the concurrence of the purchaser elect to retain.

18. **TERMINATION FOR DEFAULT**
18.1 The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default, sent to the supplier, terminate this contract in whole or in part

a) if the supplier fails to deliver any or all of the goods within the time period(s) specified in the contract, or any extension thereof granted by the purchaser pursuant to clause 15;

b) if the supplier fails to perform any other obligation(s) under the Contract;

and

c) if the supplier, in either of the above circumstances, does not remedy his failure within a period of 15 days (or such longer period as the purchaser may authorize in writing) after receipt of the default notice from the purchaser.

18.2 In the event the purchaser terminates the contract in whole or in part pursuant to para 18.1, the purchaser may procure, upon such terms and in such manner as it deems appropriate, goods similar to those undelivered and the supplier shall be liable to the Purchaser for any excess cost for such similar goods. However, the supplier shall continue the performance of the contract to the extent not terminated.

19. TERMINATION FOR INSOLVENCY

The Purchaser may at any time terminate the Contract by giving written notice to the Supplier, without compensation to the supplier. If the supplier becomes bankrupt or otherwise insolvent as declared by the competent court provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.

20. ARBITRATION

20.1 In the event of any question, dispute or difference arising under this agreement or in connection therewith (except as to the matters, the decision to which is specifically provided under this agreement), the same shall be referred to the sole arbitration of the CMD, BSNL or in case his designation is changed or his office is abolished, then in such cases to the sole arbitration of the officer for the time being entrusted (whether in addition to his own duties or otherwise) with the functions of the CMD, BSNL or by whatever designation such an officer may be called (hereinafter referred to as the said officer), and if the CMD or the said officer is unable or unwilling to act as such, then to the sole arbitration of some other person appointed by the CMD or the said officer. The agreement to appoint an arbitrator will be in accordance with the Arbitration and Conciliation Act 1996. There will be no objection to any such appointment on the ground that the arbitrator is a Government Servant or that he has to deal with the matter to which the agreement relates or that in the course of his duties as a Government Servant he has expressed his views on all or any of the matters in dispute. The award of the arbitrator shall be final and binding on both the parties to the agreement. In the event of such an arbitrator to whom the matter is originally referred, being transferred or vacating his office or being unable to act for any reason whatsoever, the CMD, BSNL or the said officer shall appoint another person to act as an arbitrator in accordance with terms of the agreement and the person so appointed shall be entitled to proceed from the stage at which it was left out by his predecessors.

20.2 The arbitrator may from time to time with the consent of both the parties enlarge the time frame for making and publishing the award. Subject to the aforesaid,
Arbitration and Conciliation Act, 1996 and the rules made there under, any modification thereof for the time being in force shall be deemed to apply to the arbitration proceeding under this clause.

20.3 The venue of the arbitration proceeding shall be the office of the CMD, BSNL, New Delhi or such other places as the arbitrator may decide.

21. SET OFF

Any sum of money due and payable to the supplier (including security deposit refundable to him) under this contract may be appropriated by the purchaser or the BSNL or any other person(s) contracting through the BSNL and set off the same against any claim of the Purchaser or BSNL or such other person or person(s) for payment of a sum of money arising out of this contract or under any other contract made by the supplier with the Purchaser or BSNL or such other person(s) contracting through the BSNL.

22. INTIMATION OF SUPPLY STATUS

The bidders, who are given Purchase Orders, must give the details of the supplies made against all the Purchase Orders every month on the first working day of the following month to MM and the concerned Planning Branches of BSNL (Corporate Office).

23. DETAILS OF THE PRODUCT

The bidder should furnish the name of his collaborator (if applicable), brand name, model no. and type of the products offered in this tender. The technical literatures of the products should also be submitted. No change in either technology or product shall be permitted after opening of bids.

24. FALL CLAUSE

24.1 The prices once fixed will remain valid during the scheduled delivery period except for the provisions in clause 12.1 of Section 5 Part A. Further, if at any time during the contract

(a) It comes to the notice of purchaser regarding reduction of price for the same or similar equipment/service;

(b) The prices received in a new tender for the same or similar equipment/service are less than the prices chargeable under the contract.

24.2 The purchaser, for the purpose of delivery period extension, if any, will determine and intimate the new price, taking into account various related aspects such as quantity, geographical location etc., and the date of its effect for the balance quantity/service to the vendor. In case the vendor does not accept the new price to be made applicable during the extended delivery period and the date of its effect, the purchaser shall have the right to terminate the contract without accepting any further supplies. This termination of the contract shall be at the risk and responsibility of the supplier and the purchaser reserves the right to purchase the balance unsupplied quantity/service at the risk and cost of the defaulting vendor besides considering the forfeiture of his performance security.

24.3 The vendor while applying for extension of time for delivery of equipment/services, if any, shall have to provide an undertaking as “We have not reduced the sale price, and/or offered to sell the same or similar equipment/service to any person/organization including Department of central/state Government or any central/state PSU at a price lower than the price chargeable under the contract for scheduled delivery period.”
24.4 In case under taking as in Clause 24.3 is not applicable, the vendor will give the details of prices, the name(s) of purchaser, quantity etc. to the purchaser, while applying extension of delivery period.

25. **COURT JURISDICTION:**

25.1 Any dispute arising out of the tender/bid document/evaluation of bids/issue of APO shall be subject to jurisdiction of the competent court at the place from where the NIT/tender has been issued.

25.2 Where a contractor has not agreed to arbitration, the dispute/claims arising out of the Contract/PO entered with him shall be subject to the jurisdiction of the Competent Court at the place from where Contract/PO has been issued. Accordingly, a stipulation shall be made in the contract as under:

“This Contract/PO is subject to jurisdiction of Court at Delhi only”.
SECTION – 5 PART-B
SPECIAL CONDITIONS OF CONTRACT

1. INTRODUCTION

The Special Conditions of the Contract shall supplement the ‘Detailed Notice Inviting Tender’ as contained in Section-1, ‘General Instructions to the Bidders’ as contained in Section-4 Part A, "General Commercial Conditions of the Contract" as contained in Section-5 Part A. Wherever there is a conflict, the provisions herein shall prevail over those in Section-1, Section-4 Part A and Section-5 Part A.

2. Instructions regarding technology solution-

2.1. Bidder shall submit along with the bid, the complete list of their OEM partners.

2.2. The bidder shall identify and supply solutions with hardware/software that have a road map from respective OEMs for the next 8 years w.e.f. date of submission of the bid and the same shall be submitted in the technical bid. Product offered shall not be nearing end of life within 8 years of date of bid submission.

2.3. The bidder shall have Teaming agreement with each of the OEM partners individually, to ensure that respective product support for implementation, operations, maintenance, spares and upgrades is available to BSNL for a minimum period of 8 years from the date of commissioning the product/service. The copies of the Teaming Agreement between the bidder and each of the partner companies shall be submitted along with the Technical bid. All such agreements shall be signed by the respective authorized signatories of the concerned companies. Teaming agreement format and minimum requirement is at Section 7(F).

2.4. Bidder shall also submit a support Certificate from each of the OEM partners for their respective products proposed to be supplied through this tender to BSNL, for a period of 8 years from the date of commissioning, as per Section 7(G) of the tender document.

2.5. Bidder has to keep the AMC support current from all the OEMs during the contract period (including implementation, warranty and AMC period). In case it is noticed that bidder has not renewed the AMC services from any of the OEMs then BSNL shall be at liberty to renew the AMC contract directly from the respective OEM at the risk and cost of the bidder.

3. Hardware/Software/Database:

3.1. NMS software OEM shall provide a certificate that proposed application is commercially deployed on the quoted hardware and Operating System (OS) as on the date of bid submission.

3.2. Various products including servers, networking equipments, etc should be commercially launched as on the date of bid submission. Any product shall be considered as commercially launched if it has been supplied to a customer for deployment by the OEM (proof of supply shall be attached) or declared at the website of OEM.
3.3. All the software licenses supplied against this Tender Document shall be perpetual without any limitations on use and shall be licensed in the name of BSNL. Licensing matrix shall be indicated for each of the applications.

3.4. Software version of the equipment being supplied shall be indicated in the technical bid. Bidders must quote for all necessary licenses required to meet out the tender requirements.

3.5. Certified and licensed copies of the application software required shall be supplied. Only supported Freeware software (i.e. Linux & Apache) that is supported by respective OEMs for the period of contract (i.e. Eight years) can be supplied bundled with application /solution. Details shall be submitted along with the technical bid. Unsupported software from with no provision of bug fixing, upgrades and updates shall not be accepted.

3.6. All the Software upgrades and/or patches required for the maintenance of the system supplied/shown in the roadmap for realization of the features stated in the Bid will be implemented without any additional cost at each site during the currency of the warranty & AMC.

3.7. Site references shall be verifiable and in case, needed, BSNL reserves the right to visit the reference site. BSNL team is at liberty to visit these live sites at its own cost for verification of the details submitted by the bidder for that particular site, however bidder shall be required to organize and co-ordinate the visit at referred site.

4. **Delivery schedule and time for commissioning:**

4.1. Delivery schedule for shall be as below-

   i) Equipments shall be supplied within 90 days of the date of P.O.

   ii) The equipments installation and Commissioning shall be completed at all the sites within 180 days from the date of P.O.

   iii) The Validation/Acceptance Testing shall be conducted by a team nominated by BSNL.

4.2. In case there is delay in provisioning of Space, Electric supply, Router ports, network connectivity or any other requirement as part of BSNL responsibility, the selected Bidder shall inform the project implementation Authority, which shall then grant additional days extension to take care of delay on part of BSNL.

5. **Acceptance Testing (A/T):**

5.1. The Selected Bidder shall submit the Acceptance test schedule within 30 days from issue of PO and BSNL shall finalize the same in consultation with the bidder.

5.2. Bidder shall arrange the tools & testers for A/T purpose. The bidder shall indicate whether the software package includes programs for testing the nodes under full load conditions and overload conditions by creation of artificial traffic. Such test program shall be supplied by the bidder for the limited purpose of testing. The Bidder shall also indicate the technique used in the creation of such artificial traffic.

5.3. BSNL designated implementation unit shall offer equipment for acceptance testing to A/T team that will carry out the tests detailed in the acceptance test schedule to confirm that the performance of the different modules,
subsystems, and system satisfies the specified requirement of specifications including service performance.

5.4. Any components or modules failing during the acceptance tests shall be replaced at no additional cost to the Purchaser at site by the Selected Bidder.

5.5. After successful acceptance tests, designated unit shall declare the NMS solution fit for deployment in BSNL network and commissioning shall be declared.

6. Liquidity Damages “LD” (Also see Clause 16 of Section 5-A):

6.1. **Delay in supply of Equipment**: Delay in supply of hardware and software beyond 90 days from the date of PO shall invite a LD of 0.5% of the PO value of delayed supplies per week for initial 10 weeks & thereafter 0.7% of PO value of delayed supplies per week.

   6.1.1 Upper ceiling of LD so imposed shall be 12% of the PO value related to the cost of equipment (HW+SW).

6.2. **Delay in commissioning of system**: Delay in commissioning of system beyond 180 days from date of PO shall invite a LD of 6 Lakh per week for delay for initial 10 weeks of delay and thereafter 8 Lakh per week.

6.2.1 Upper ceiling of LD so levied shall be 1.4 Crore.

6.3. Any delay on part of BSNL shall be duly taken care while imposing penalty.

7. **Payment Terms**:

7.1. Payment shall be made in Indian Rupees. The payments schedule shall be as follows:

   7.1.1. **Equipment (Hardware & Software)**: Payment terms for the equipment (HW+SW) shall be as below:
   
   i. 30% on delivery after physical inspection (without any physical damage) of the equipment supplies.
   
   ii. 60% on commissioning after successful completion of AT including integration of the existing network.
   
   iii. 10% after completion of warranty period of 2 year.

   7.1.2. **Payment terms for Services**
   
   i. 90% on successful AT & Commissioning of solution at all the locations.
   
   ii. Remaining 10% of services shall be paid after completion of warranty period of 2 year.

   7.1.3. **Payment terms for AMC**:
   
   i. No advance payment for AMC shall be made.
   
   ii. The entire AMC duration for a year will be divided in four quarterly segments.
   
   iii. After successful completion of the AMC period of 3 months, 100% payment after making due adjustment towards SLA penalties will be made based on the half yearly bills submitted.
   
   iv. It has to be ensured by the bidder that it has back to back AMC agreements with all associated vendors. The copy of the agreements shall be supplied at the time of signing the AMC contract.
7.2. For claiming payments against delivery of equipment, the following documents are to be submitted by the Supplier to BSNL:

   i. Invoice.
   ii. Delivery Challan.
   iii. Supplier certificate for dispatch.
   iv. Excise gate pass/invoice for Indigenous equipment and Customs duty challan for the imported equipment.
   v. Inspection certificate of QA for Indigenous equipment
   vi. Consignee receipt confirming receipt of the specified quantity of the equipment mandated for the supply and Factory Test Reports for the imported equipment
   vii. Proof of payment of octroi /entry tax etc., if any

7.3. The Supplier shall submit a mandate for receiving payment of Rs. 5 lakhs and above electronically. Charges, if any, levied by the bank for electronic fund transfer shall be borne by the Supplier. The Supplier is required to submit the following information for this purpose:

   a) Name of the beneficiary’s bank and branch.
   b) IFSC code of the beneficiary’s branch.
   c) Account number of the beneficiary.
   d) Branch serial number (MICR No.)

8. Warranty

8.1. The warranty of the stores/equipment supplied shall be for a period of twenty four months from the date of commissioning.

8.2. During the warranty period, all obligations of AMC including SLA penalties etc. shall be fulfilled by the bidder.

9. Operation during warranty period

9.1. The bidder shall perform the operation activities for two years from the date of commissioning of system i.e during the warranty period of two years. The Successful Bidder shall associate the staff of BSNL during this period so that the takeover of the O&M functions by the BSNL staff is smooth and they are able to operate & maintain the network efficiently and independently.

9.2. The Bidder shall deploy minimum four persons on-site for O&M purpose at the Central system management location.

9.3. The bidder shall quote for the O&M charges for 2 years (4 man-months for two year). Cost of O&M shall be taken for evaluation calculated to the present value at a discounted rate of 12% per annum similar to the method adopted for AMC.

9.4. BSNL reserve the right to hire the requisite operational manpower beyond warranty period also at the same rate on pro-rata basis.

9.5. During the operation period, the Successful Bidder shall put into operation the set of maintenance procedures, periodic test schedules, Report generation & analysis and remedial measures to be taken in each occasion, Extraction of performance statistics from the various systems. The Bidder shall also help BSNL to put into practice maintenance schedules viz opening of appropriate registers for log, test schedule and performance and fault recording.

10. Annual Maintenance Contract (AMC)
10.1. The Bidder shall quote prices for year-wise comprehensive Annual Maintenance Contract for 5 years. AMC shall start on the date of expiry of the warranty. The Bidders shall quote the AMC prices as a percentage of the quoted equipment cost (other than the services).

10.2. For this purpose, the successful bidder shall be required to enter into Annual Maintenance Contract with BSNL for a period of 5 years after the warranty period as per AMC Agreement given in section 5 part C. The terms and conditions for AMC are given in AMC Agreement given in section 5 part C.

10.3. The price for year-wise AMC shall include for all the efforts required to maintain the SLA specified for AMC agreement. No separate charges shall be paid for visit of engineers or attending to faults and repairs or supply of spare parts.

11. Make Model list - The Bidder shall quote for only one make, model and manufacturer included in the proposal for each of the system, subsystem. The Bidder shall furnish the details of make, model no of the imported and indigenous equipments as part of the technical Bid.

12. Additional hardware and software required for the system

12.1. The Bidder shall indicate in the Bid any other related items (along with the price) commissioning of system.

12.2. These items can be quoted by the bidder under “Any other Item” category of the Price Schedule. Any other item shall be included in the evaluation and the price shall be payable to successful bidder.

13. Training

13.1. Bidder shall provide 100 man-days training (i.e. 20 persons for one week) to BSNL officers in India/abroad in planning, engineering, testing Operation and Maintenance of NMS system.

13.2. The training on Planning, engineering, testing and commissioning needs to be organized immediately on acceptance of APO while other training may be organized as the network system is being deployed.

13.3. The training modules shall be finalized by Bidder in consultation with BSNL. However, the travel expenses, boarding and lodging for the BSNL trainees shall be borne by BSNL.

14. Due to increased number of EMSs at a later stage, there may be a need to augment the system, hence augmentation in the existing NMS solution shall be resorted to by BSNL at the APO prices.

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Section 5-Part C
ANNUAL MAINTENANCE CONTRACT
For NMS Equipments & Applications

This agreement is made on the ________ day of _______ (year) to be effective from __________ between M/s. Bharat Sanchar Nigam Limited a company registered under the Companies Act 1956 having license to provide all types of services of Telegraph and having its registered office at Bharat Sanchar Bhavan, Harish Chandra Mathur Lane, Janpath Road, New Delhi-110 001 New Delhi and local office at ---------- ------------------------------- (hereinafter called BSNL which terms shall mean and include its successors, administrators, heirs and assigns).
> (hereinafter called BSNL) of the ONE PART and ______________ a company registered under the Companies Act 1956 and having its registered office at ________________

(hereinafter called SUPPLIER which expression shall unless repugnant to the context, include its successors in business, legal representatives and administrators or permitted assigns) of the OTHER PART.

WHEREAS, BSNL has placed purchase order on the SUPPLIER vide No. __________ dated __________ for supply, installation, commissioning & Annual Maintenance of BB NMS EQUIPMENTS/APPLICATIONS against tender No.__________, dated __________.

WHEREAS the SUPPLIER has made the offer to duly comply with all the provisions of the Bid Document, including those pertaining to Post Warranty Annual Maintenance Contract, after making himself fully aware and understanding fully the implications of the terms and conditions and specifications mentioned therein and which has been accepted by BSNL on the terms and conditions mentioned hereafter and after ascertaining that the SUPPLIER is fully capable of complying with the aforesaid terms of the Bid Document.

NOW the AGREEMENT WITNESSETH as follows:

1. This AMC Agreement shall remain in force for FIVE years from the date of completion of Two years warranty, while at the same time the term and conditions of this agreement except for payment of charges to the SUPPLIER shall also apply during warranty period.

1.1. This AMC agreement can be extended beyond 5 year also on mutually negotiated terms and conditions including commercials.

2. In addition to complying with all the terms and conditions recorded in the Bid Document, the bidder hereby agrees and unequivocally undertakes to fully comply with all the terms and conditions stipulated in this Agreement.

3. Unless otherwise mentioned or appearing from the context, the Tender (Bid) Document and any clarifications thereof and the purchase order shall form part and parcel of this agreement, provided that in case of conflict or inconsistency on any issue relating to this Agreement, the terms set out in the body of this agreement with schedules and Annexure thereto shall prevail.

4. During the period of AMC the bidder shall inter alia:
i. Diagnose the hardware and software faults.

ii. Rectify the hardware and software faults detected.

iii. Repair and replace the faulty PCB, modules, terminals and any other equipment or part thereof.

iv. Carry out the periodic preventive maintenance on half yearly basis.

v. Upkeep the software periodically.

vi. Upgrade the software to latest version.

vii. Create customized reports from various systems as required and specified by BSNL from time to time.

5. The supplier shall prepare the schedule of preventive maintenance to be carried out half yearly and shall submit the same to BSNL in advance. The preventive maintenance shall not affect the normal functioning of the system. The details of activities to be carried out during preventive maintenance visits shall be decided by BSNL before the start of warranty/AMC.

6. The SUPPLIER shall provide further releases of software / upgrades to BSNL free of cost as a part of the AMC as well the maintenance of these upgrades.

7. The SUPPLIER shall be responsible for the maintenance, repair & upgradation of the software/hardware systems, equipments and parts thereof and BSNL shall not be liable to interact with any of the partners/collaborators or subcontractors of the SUPPLIER.

8. The schedule of routine operational and maintenance activities to be carried out at each node shall be provided by supplier. The day to day operations and maintenance activities shall be done by BSNL.

9. BSNL site in charge shall replace the faulty /affected module with a readily available good module, stocked at the site by the supplier or out of the spare capacity, if available, at the site. However, it shall not absolve the SUPPLIER from his responsibilities under this agreement for restoration of fault etc. All such changes / replacement of faulty / affected modules shall be done by BSNL staff as per the telephonic (or otherwise) instructions of the technical support centre.

10. **Technical Support Center**:

10.1. The SUPPLIER shall have at least one Technical support Center. The SUPPLIER may set up more such center to meet the criteria for fault restoration/faulty unit repair times as mentioned in the AMC. The SUPPLIER shall furnish the names, locations, complete postal address, Telephone numbers and FAX numbers of all Technical support Centers at the time of signing this Agreement.

10.2. Any change in Address, Phone number, FAX Number, contact details etc shall have to be intimated in writing by the SUPPLIER to the designated BSNL authority.

11. **TECHNICAL SUPPORT PROCEDURE:** The technical support procedure shall be as follows:

11.1. The supplier shall open a Web portal site/tool for booking/registering the faults by BSNL. The site shall be password protected and can be assessed by
authorized BSNL personnel only. The details of faults booked for each site, its nature, severity level, time taken to resolve the issue, status of each fault reported etc shall be available on the portal site. Any other details as required by BSNL subsequently shall be incorporated in the Web tool by supplier before the start of AMC. Necessary permissions for accessing the portal site by site in-charges, by senior management etc shall be given by the supplier

11.2. In case of any fault, abnormality in the system, partial or total failure of the system, the officer in charge of the site shall contact the designated Technical support Center of the SUPPLIER and give information about the nature of fault over phone / FAX / e-mail/Web portal.

11.3. The supplier shall design a fault reporting docket format/procedure, covering all the details, which shall be approved by BSNL before the start of AMC. All the details related to the faults reported shall be recorded in it. This shall become part of the AMC agreement at the time of signing of the agreement.

11.4. Even if the fault is reported over phone/portal/fax/email etc by BSNL, fault docket should be prepared through Web based tool by the technical support center and a copy of the same, duly filled in, shall be kept for records as well as for reconciliation purposes by BSNL and at the technical support center. The time of occurrence of fault, the time of restoration, total duration of fault and other details, as recorded in the fault docket only shall be taken into consideration for all purposes.

11.5. In case of any dispute arising regarding duration of fault etc, the Fault Docket as maintained at the BSNL station shall be the guiding documents to be agreed by both parties.

11.6. The “Fault Docket” shall be filled with utmost care, giving all the details of the faults and other information as prescribed in the Fault Docket and the entries made shall be authenticated by signature of the station in charge of the station concerned.

11.7. Technical instructions shall be given to the BSNL staff of the concerned station, over phone. If the fault is restored by following the instructions given over phone, the station in charge will close the Fault Docket after making suitable entries and after satisfying himself of the proper restoration of the fault. A copy of the Fault Docket duly filled in shall be sent to the Technical support Center for records.

11.8. The SUPPLIER shall ensure visits of the expert and competent technical staff of the SUPPLIER in case the fault is not rectified to the satisfaction of BSNL even after following the telephonic instructions and advices.

11.9. Once the fault has been rectified and the system & services were restored to normalcy, the visiting engineer of the SUPPLIER shall record in the station Log Book, the details of the works done by him for restoration of the faults and also record the details of steps to be taken and procedures to be followed for not only restoration of similar faults by BSNL staff but also for preventing the occurrence of similar faults in future. Similar entries shall be made in the fault docket also.
11.10. The Technical support Center shall regularly obtain feedback about the health of the systems under its jurisdiction from the station incharge of BSNL on monthly basis and maintain a proper record of such feedback in the form of History Sheets. These Sheets shall be made available to the technical experts nominated by the SUPPLIER for analysis. Such technical experts, in turn, shall give adequate and proper guidelines / technical advice to the in-charge of BSNL stations for taking necessary preventive measure during preventive maintenance visits for reducing the frequency of such faults and also for preventing such faults from re-occurring in future. This shall, however, not absolve the SUPPLIER from fulfilling his obligations under this agreement.

12. Preventive Maintenance (PM)

12.1. The technical expert personnel of the supplier shall visit each site on half yearly basis for preventive maintenance, for general exchange health check up, for educating /guiding the site personnel on various operational, technical and maintenance related matters etc.

12.2. The preventive maintenance schedule shall be prepared by the supplier in advance, which shall be approved by BSNL in mutual consultation with bidder and then it shall be sent to all sites, designated nodes/offices.

12.3. The scope of activities under PM visits shall be finalized before the start of AMC. All such activities are to be carried out by the technical expert team of the supplier.

12.4. Any new upgrade, feature facility, procedure etc shall also be explained to BSNL site in-charges during the PM visits apart from the defined activities/scope of such visits.

12.5. History sheet proforma shall be designed by the supplier for acceptance by BSNL before the start of AMC. BSNL reserves the right to make changes in the proforma proposed by the SUPPLIER. These proformas shall become part of the AMC agreement at the time of signing of the agreement.

12.6. The SUPPLIER shall supply elaborate maintenance procedures and proforma of the history sheet to every site of BSNL.

13. AMC CHARGES AND PAYMENTS:

13.1. The charges for AMC will be as given in the purchase order. A copy of the same shall be enclosed as part of the agreement, at the time of signing the AMC agreement.

13.2. BSNL shall pay the charges for the services rendered by the SUPPLIER under the AMC Agreement after successful execution of the works under Agreement.

13.3. BSNL shall not pay any charges in advance. Bills for AMC shall be paid by BSNL at the end of every six months, after successful execution of the works under Agreement.

13.4. All payments shall be made based on the slip of satisfactory performance of the vendor, as received from site in charge of each node, within 15 days time, after deducting penalties, if any. For this, BSNL shall designate nodal officers.
13.5. BSNL reserves the right to adjust any over-payment of AMC charges of one period, any time during the period of AMC.

14. Faults

14.1. System Uptime / Availability Shall be key criterion for measurement of bidders performance in the delivery of AMC services. The availability of various sub-systems is as follows:

14.2. During the term of the contract period, the entire system shall support the performance parameters and percentage availability as defined in tender document. In case there is degradation in performance or percentage non-availability is higher than specified or delay in restoration of faults beyond the prescribed limits, it will result in Penalties.

14.3. Penalties will be imposed based on two parameters:

(a) Availability related SLA breach:
   i. Complete non-availability of a sub-system (Hardware/ Software).
   ii. Partial availability of a sub-system.

(b) Delays in resolving incidents reported by BSNL through dockets.

14.4. In case a sub-system is completely non-available then the severity level shall be defined as per the system non-availability calculated over a period of one month.

14.5. The time for restoration of fault will be counted from the time of reporting to the help desk and obtaining the fault ticket number from them.

15. System Level SLA - System Availability
The Uptime would be measured as detailed below:

\[
\left\{\frac{\text{Actual Uptime} + \text{Scheduled Downtime}}{\text{Scheduled Hours}}\right\} \times 100
\]

The above percentage will be calculated monthly.

15.1 "Actual Uptime" means, of the Scheduled Hours, the aggregate number of hours in any month during which each Machine / application, is actually available for use.

15.2 Scheduled Downtime" means the aggregate number of hours in any month during which each Machine / application, is down during Scheduled Hours, due to preventive maintenance, scheduled outages, However for any scheduled and planned outages, the SI will take prior approval from BSNL.

15.3 "Scheduled Hours" means the measurement period in a 24 x 7 manner i.e. equivalent number of hours in month excluding the scheduled downtime associated.

15.4 Systems/ sub-systems for which the availability is 99% shall not be down for more than 12 hours in a month.

15.5 Systems/ sub-systems for which the availability is 98% shall not be down for more than 24 hours in a month.

15.6 Systems/ sub-systems for which the availability is 95% shall not be down for more than 48 hours in a month.

15.7 The desired system availability over a defined period shall be ensured. Scheduled backup and other recovery functions must be clearly identified by the vendor with business impact explanations enclosure.
15.8 In case a sub-system is completely non-available then the severity level shall be defined as per the system non-availability calculated over a period of one month. The penalties in such cases shall be imposed as indicated below:

<table>
<thead>
<tr>
<th>Performance requirement</th>
<th>Range of non-availability</th>
<th>Penalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metric Uptime - 100% availability</td>
<td>a. 99% to 100% in steps of 0.1%</td>
<td>Penalty based on the Penalty code as per the above table corresponding to system applied for each 0.1% degradation.</td>
</tr>
<tr>
<td></td>
<td>b. Less than 99%</td>
<td>1.5 times the Penalty based on the Penalty code corresponding to the system shall be applied per each step of 0.1% degradation. This will be calculated incrementally after penalty for point (a) above is calculated.</td>
</tr>
<tr>
<td>Metric Uptime - 99.5% availability</td>
<td>a. 99.5% to 98% in steps of 0.1%</td>
<td>Penalty based on the Penalty code as per the above table corresponding to system applied for each 0.1% degradation.</td>
</tr>
<tr>
<td></td>
<td>b. Less than 98%</td>
<td>1.5 times the Penalty based on the Penalty code corresponding to the system shall be applied per each step of 0.1% degradation. This will be calculated incrementally after penalty for point (a) above is calculated.</td>
</tr>
<tr>
<td>Metric Uptime - 99% availability</td>
<td>a. 99% to 97% in steps of 0.1%</td>
<td>Penalty based on the Penalty code as per the above table corresponding to system applied for each 0.1% degradation.</td>
</tr>
<tr>
<td></td>
<td>b. Less than 97%</td>
<td>1.5 times the Penalty based on the Penalty code corresponding to the system shall be applied per each step of 0.1% degradation. This will be calculated incrementally after penalty for point (a) above is calculated.</td>
</tr>
<tr>
<td>Metric Uptime &lt; 97% availability</td>
<td>a. 97% to 94% in steps of 0.1%</td>
<td>Penalty based on the Penalty code as per the above table corresponding to system applied for each 0.1% degradation.</td>
</tr>
<tr>
<td></td>
<td>b. Less than 94%</td>
<td>1.5 times the Penalty based on the Penalty code corresponding to the system shall be applied per each step of 0.1% degradation. This will be calculated incrementally after penalty for point (a) above is calculated.</td>
</tr>
</tbody>
</table>

16. Incident Management - Hardware and Software Defect related Priority Levels:
16.1 **Priority 1 / Critical / Serious / Outage:** Critical business impact / Application / Infrastructure inoperable making it unable to use the program resulting in a critical impact on operations. No workaround is available. This condition requires immediate resolution. Issue has crippling effect on the customer’s business that will be classified as Priority 1 will be

(a) Critical system crash or completely disrupt service
(b) Significant performance degradation
(c) Security violation
(d) A main system function supporting a business critical process has failed, and the System functionality is limited such that critical business processes are paralyzed
(e) System crashes repeatedly under normal use
(f) System hangs (stuck) - System not operative, or there is unreasonable wait times for resources or response as if the System is hanging

16.2 **Priority 2 / Major / Substantial:** Significant business impact, this indicates the program is usable but more effort and time are required from customer to accomplish the process. Application / Infrastructure usable but malfunctioning. Workaround available. Issues classified as Priority 2 are

(a) Severe operational error
(b) Some performance degradation
(c) Loss of functionality with existing workaround
(d) The System is impaired, however the System is operative with a non-critical malfunction

16.3 **Priority 3 / Minor:** Direct BSNL-impacting issues where greater than 10% of CSRs or end users are being commercially hindered from completing tasks, sales or service processes required for day to day operations where a reasonable workaround is not available. Application / Infrastructure usable but is not performing to specification. There is little or no business impact. The System is operative with limitation on minor functions

<table>
<thead>
<tr>
<th>Priority 1</th>
<th>ACKNOWLEDGEMENT THAT DEFECT WAS RAISED</th>
<th>RESTORATION FIX (WITH WORKAROUND)</th>
<th>DELIVERY MECHANISM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Two hours from the time defect was logged</td>
<td>One business day for 80% of the problems, 100% within 3 elapsed working days. Penalty Code A shall be used for this category</td>
<td>Hot fix on an exceptional basis</td>
</tr>
<tr>
<td>Priority 2</td>
<td>Two hours from the time defect was logged</td>
<td>Two business days for 80% of the problems, 100% within 5 elapsed working days. Penalty Code B shall be used for this category</td>
<td>Scheduled Release or Hot fix on an exceptional basis</td>
</tr>
</tbody>
</table>
17. Penalties

17.1 The penalties mentioned are applicable for two categories namely System Availability and Hardware / Software Defect priority levels as mentioned in this section.

<table>
<thead>
<tr>
<th>Penalty Code / Severity “A”</th>
<th>1. 0.2% of the weighted service charge for every 0.1% drop in availability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. 0.2% of the weighted service charge for every 4 hr delay in incident resolution beyond agreed duration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Penalty Code “B”</th>
<th>1. 0.15% of the weighted service charge for every 0.1% drop in availability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. 0.15% of the weighted service charge for every 4 hr delay in incident resolution beyond agreed duration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Penalty Code “C”</th>
<th>1. 0.1% of the weighted service charge for every 0.1% drop in availability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. 0.1% of the weighted service charge for every 4 hr delay in incident resolution beyond agreed duration</td>
</tr>
</tbody>
</table>

17.2 Weighed Service Charge and Service Level Penalties

17.2.1 The three broad parameters for measurements in service level framework & their weightage are below:

   a. Availability-80%
   b. Incident Management-20%

17.2.2 The calculation for the penalties is as below:

17.3 Service Level Penalties

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Formulae</th>
<th>Remarks</th>
</tr>
</thead>
</table>
17.4 In the event of a Service Level drop, the bidder needs to ensure that all efforts are made to bring the service back to normal in the shortest possible time.

17.5 Penalty Calculation Example:

17.5.1 Availability SLA

i. SLA pertaining to availability of Network Elements within Data Center premises (Routers, modems, RAS, LAN switch, etc.) is 99.5%.

ii. Penalty code defined for this SLA is B, which means 0.15% of the weighted service charge for every 0.1% degradation in availability level.

iii. Now let's assume that monthly service charge payable to bidder is Rs 1000.

iv. The overall penalty cap is 20%, which means the max penalty is 200

v. The weight for availability SLA is 80%, which means max penalty against degradation in availability SLA cannot be more than Rs 160 for the month

vi. Let's assume that data center router uptime for the month was 99% which means 0.5% degradation from the expected level of 99.5%

vii. This translates to $0.15\% \times 5 = 0.75\%$ of weighted service charge for availability which is Rs 48 for this month.

viii. Hence penalty of $0.75\%$ of Rs 200 = Rs 1.5 shall be levied for this item

ix. Similarly penalty for other items in the availability matrix shall be calculated.

17.5.2 Failure to carry out preventive maintenance: If the bidder fails to perform half yearly health check and technical audit visit, penalty charges of 10% of AMC cost (over and above the 20% as specified in Para 14.6 above shall be levied.

17.5.3 Failure on the part of SUPPLIER to comply with any of the clauses of this agreement shall constitute to be sufficient ground for termination of contract and the BSNL (purchaser) shall have the right to forfeit the performance securities submitted to BSNL.

17.5.4 If BSNL is not satisfied with the performance of the SUPPLIER during AMC it reserves the right to terminate the AMC during its currency, after giving two months notice to the SUPPLIER and in such an event the vendor will hand over all the spares as indicated above.

18. Force Majeure:
18.1. Neither BSNL nor the SUPPLIER shall be liable to the other for any delay in or failure of performance of their respective obligation under the agreement caused by occurrences beyond the control of BSNL or the SUPPLIER including but not limited to fire (including failure or reductions), acts of God, acts of the public enemy, wars, insurrections, riots, strikes, lockouts, sabotage, any law, status or ordinance, thereof of any other local authority, or any compliance therewith or any other causes, contingencies of circumstances similar to the above. Either party shall promptly but not later than twenty days thereafter notify the other of the commencement, and cessation of such contingencies, and if such contingencies continue beyond three months. Both parties agree upon the equitable solution for termination of this agreement or otherwise decide the course of action to be adopted.

19. **DISPUTES & ARBITRATION:**

19.1. In the event of any question, dispute or difference arising under this agreement or in connection there-with (except as to matter the decision of which is specifically provided under this agreement), the same shall be referred to sole arbitration of the CMD, BSNL, New Delhi or in case his designation is changed or his office is abolished then in such case to the sole arbitration of the officer for the time being entrusted (whether in addition to his own duties or otherwise) with the functions of the CMD, BSNL or by whatever designation such officers may be called (hereinafter referred to as the said officer) and if the CMD, BSNL or the said officer is unable or unwilling to act as such the sole arbitration or some other person appointed by the CMD, BSNL or the said officer. The agreement to appoint an arbitrator will be in accordance with the Arbitration and Conciliation Act, 1996.

19.2. There will be no objection to any such appointment on the ground that the arbitrator is BSNL Servant or that he has to deal with the matter to which the agreement relates or that in the course of his duties as BSNL officer he has expressed views on all or any of the matter under dispute. The award of the arbitrator shall be final and binding on the parties to the agreement. In the event of such arbitrator to whom the matter is originally referred, being transferred or vacating his office or being unable to act for any reasons whatsoever the CMD, BSNL or the said officer shall appoint another person to act as arbitrator in accordance with terms of the agreement and the person so appointed shall be entitled to proceed from the stage at which it was left out by his predecessors.

19.3. The arbitrator may from time to time with the consent of parties enlarge the time for making and publishing the award. Subject to aforesaid Arbitration and Conciliation Act, 1996 and the Rules made thereunder, any modification thereof for the time being in force shall be deemed to apply to the arbitration proceeding under this clause.

19.4. The venue of the arbitration proceeding shall be the Office of the CMD, BSNL, New Delhi or such other Places as the arbitrator may decide.

19.5. Any party shall not use any information obtained from other party during the course of dispute resolution process under this clause for any purpose.
other than to resolve the dispute and such information shall not be used in any litigation.

19.6. Both parties shall use their best efforts in good faith and best intention to resolve disputes by mutual negotiation and consultation and shall settle amicably any dispute that may arise or relate to this agreement or a breach thereof. Pending resolution of dispute, the supplier shall continue to fulfill its obligations under this agreement.

20. **SET OFF:**

Any sum of money due and payable to the SUPPLIER (including security deposit refundable to him) under this contract may be appropriated by the purchaser or the BSNL or any other person or persons contracting through the BSNL and set off the same against any claim of the Purchaser or BSNL or such other person or persons for payment of a sum of money arising out of this contract or under any other contract made by the SUPPLIER with the Purchaser or BSNL or such other person or persons contracting through BSNL.

**IN WITNESS WHEREOF** the parties hereto have caused this Agreement to be executed through their respective authorized representatives on the day and year first above written.

Signed and delivered for and on behalf of BHARAT SANCHAR NIGAM LIMITED.

By____________

Signed on behalf of M/s.___________________

By Shri _______________ holder of General Power of Attorney dated___________ executed in accordance with the Resolution No. Nil dated __________ passed by Board of Directors.

In the presence of:

Witness :
1 ______________________

2 ______________________
SECTION- 6
UNDERTAKING & DECLARATION
PART A
Undertaking for understanding the terms & condition of Tender & Spec. of work

This Deed of Undertaking executed on this______ day of  Two thousand and --------------- by (Name of authorized representative of the Bidder) S/O --------------------------------------------- residing at-----------------------------------------------on behalf of said M/s ------------------- (Name of the Company,.,) having its office at-----------------------------------------------and duly authorised to sign, file and verify present undertaking by the said -------------------(Name of the Company,) in favour of Bharat Sanchar Nigam Limited, a Government of India Undertaking having its Registered Office at Bharat Sanchar Bhavan, Harish Chandra Mathur Lane, Janpath Road, New Delhi-110 001 New Delhi and local office at ----------------------------------------------- (hereinafter called BSNL which terms shall mean and include its successors, administrators, heirs and assigns).

I/ We ----------------------------------------------- acknowledge that I/We ---
-----------------------------------------------have fully understood and are aware of the terms & conditions of the Tender Document/ Contract & offer to execute the work at the rates quoted by us in the Bid and do hereby unequivocally and unconditionally undertake and declare that :

(i) I/ We -----------------------------------------------shall comply with all the rules/ regulations/ Laws/ Government instructions/ status etc. that are applicable/ will be made applicable and or are aimed to protect the interest of the workers/ employees engaged by me / us in the past and during the course of performance of the contract with BSNL.

(ii) I/We shall fully protect, indemnify and hold harmless BSNL and its employees, officers, Directors, agents or representatives from and against any and all liabilities, losses, actions, judgments, damages, fines, penalties and costs (including legal costs and disbursements ) arising from or relating to:

(a) Any breach/ violation of any direction, order from any governmental authority any provisions of the labour laws or any other laws, statute or
regulation that are ‘or’ will be aimed to protect the interest of the workers/laborers engaged by the contractor in past and during the course of this contact

OR

(b) Any other payments, claims ‘or’ liability that may arise for ensuring compliance of the provisions of any of the labour laws or any other laws, etc.

OR

(c) Any other claim made by any third party in connection with any violation of any of the laws, guidelines, instruction, etc.

In witness whereof this undertaking has caused on the -------------------------

Day-----------Month of ------------------------Year .

Date:
Place:

Signature:--------------------------
Name :--------------------------
Designation:--------------------------

WITNESS : 1. ................................
2. ................................
SECTION 6
PART B
NEAR RELATIONS CERTIFICATE

(Certificate to be given by the Bidder in respect of status of employment of his/her near relative(s) in BSNL)

“.........................s/o........................................r/o..............................
.................................................................
......................hereby certify that none of my relative(s) as defined in the Tender Document is/are employed in BSNL unit as per details given in Tender Document. In case at any stage, it is found that the information given by me is false / incorrect, BSNL shall have the absolute right to take any action as deemed fit/without any prior intimation to me.”

Signature of the Bidder
with date and seal
SECTION- 7(A)
For the BIDSECURITY/ EMD Guarantee
(To be typed on Rs.100/- non-judicial stamp paper)

Sub: Bid Security/EMD guarantee.

Whereas M/s ........................................ R/o ................. ...........
................................................. (Hereafter referred to as Bidder) has approached us for
giving Bank Guarantee of Rs. ........................../- (hereafter known as the “B. G. Amount”) valid up to ..../....../ 20..... (hereafter known as the “Validity date”) in
favour of DGM (MMT) BSNL CO, Delhi (Hereafter referred to as BSNC) for
participation in the tender of work of ........................................... vide tender no.
.................................................

Now at the request of the Bidder, We ........................................ Bank
........................................Branch having ........................................ .......
................................................. (Address) and Regd. office address as .......
................................................. ........................................ ........................................ (Hereinafter
called "the Bank") agrees to give this guarantee as hereinafter contained:

2. We the Bank do hereby undertake to pay the amounts due and payable under
this guarantee without any demur, merely on a demand from the BSNC stating
that the amount claimed is due by way of loss or damage caused to or would be
caused to or suffered by the BSNC by reason of breach by the said bidder(s) of
any of terms or conditions contained in the said Agreement or by reason of the
bidder(s) failure to perform the said Agreement. Any such demand made on
the bank shall be conclusive as regards the amount due and payable by the
Bank under this guarantee where the decision of the BSNC in these counts shall
be final and binding on the bank. However, our liability under this guarantee
shall be restricted to an amount not exceeding the “B. G. Amount”.

3. We undertake to pay to the BSNC any money so demanded notwithstanding
any dispute or disputes raised by the bidder(s) in any suit or proceeding before
any court or tribunal relating thereto our liability under this present being
absolute and unequivocal. The Payment so made by us under this bond shall be
valid discharge of our liability for payment there under and the bidder(s) shall
have no claim against us for making such payment.

4. We the Bank further agree that the guarantee herein contained shall remain in
full force and effect during the period that would be taken for the performance
of the said agreement and that it shall continue to be enforceable till all the
dues of the BSNC under or by virtue of the said Agreement have been fully paid
and its claims satisfied or discharged or till BSNC Certifies that the terms and
conditions of the said Agreement have been fully and properly carried out by
the said bidder(s) and accordingly discharge this guarantee. Unless a demand
or claim under this guarantee is made on us in writing or before the expiry of
Validity date from the date hereof, we shall be discharged from all liability
under this guarantee thereafter.

5. We the Bank further agree with the BSNC that the BSNC shall have the fullest
liberty without our consent and without affecting in any manner our obligations
hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said bidder(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the BSNC against the said bidder(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Bidder(s) or for any forbearance, act or omission on the part of the BSNC or any indulgence by the BSNC to the said bidder(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. Notwithstanding anything herein contained;
   (a) The liability of the Bank under this guarantee is restricted to the “B. G. Amount” and it will remain in force up to its Validity date specified above.
   (b) The guarantee shall stand completely discharged and all rights of the BSNC under this Guarantee shall be extinguished if no claim or demand is made on us in writing on or before its validity date.

7. In case BSNC demands for any money under this bank guarantee, the same shall be paid through banker’s Cheque in favour of “AO (Cash) BSNL CO” payable at New Delhi.

8. The Bank guarantees that the below mentioned officer who have signed it on behalf of the Bank have authority to give this guarantee under its delegated power.

Place: .................................
Date: .................................  (Signature of the Bank Officer)
Rubber stamp of the bank
Authorized Power of Attorney Number: ..................
Name of the Bank officer: .................................
Designation: ........................................
Complete Postal address of Bank: ..................
........................................................................
Telephone Numbers .................................
Fax numbers .................................
Section 7(B)

For the Performance Guarantee
(To be typed on Rs.100/- non-judicial stamp paper)

Dated:.............

Sub: Performance guarantee.

Whereas DGM (MM) BSNL CO, Delhi R/o ...................................................
..........................................................(hereafter referred to as BSNC) has issued an APO no. ..............
Dated ....../....../20..... awarding the work of .............. .................. to M/s ..............
.......................................................... R/o ..........................................................
(hereafter referred to as "Bidder") and BSNC has asked him to submit a performance guarantee in favour of DGM(MMT) BSNL CO, Delhi of Rs. ............../- (hereafter referred to as "P.G. Amount") valid up to ....../....../20.......(hereafter referred to as "Validity Date")

Now at the request of the Bidder, We ........................................... Bank ..........................................................
.......................................................... Branch having ...........................................
.......................................................... (Address) and Regd. office address as ........
.......................................................... ..........................................................
(Hereinafter called ‘the Bank”) agreed to give this guarantee as hereinafter contained:

2. We, “the Bank” do hereby undertake and assure to the BSNC that if in the opinion of the BSNC, the Bidder has in any way failed to observe or perform the terms and conditions of the said agreement or has committed any breach of its obligations there-under, the Bank shall on demand and without any objection or demur pay to the BSNC the said sum limited to P.G. Amount or such lesser amount as BSNC may demand without requiring BSNC to have recourse to any legal remedy that may be available to it to compel the Bank to pay the same.

3. Any such demand from the BSNC shall be conclusive as regards the liability of Bidder to pay to BSNC or as regards the amount payable by the Bank under this guarantee. The Bank shall not be entitled to withhold payment on the ground that the Bidder had disputed its liability to pay or has disputed the quantum of the amount or that any arbitration proceeding or legal proceeding is pending between Bidder and BSNC regarding the claim.

4. We, the Bank further agree that the guarantee shall come into force from the date of its issue and shall remain in full force and effect up to its Validity date.

5. The Bank further agrees that the BSNC shall have the fullest liberty without the consent of the Bank and without affecting in any way the obligations hereunder to vary any of the terms and conditions of the said agreement or to extend the time for performance of the said agreement from any of the powers exercisable by BSNC against the Bidder and to forebear to enforce any of the terms and conditions relating to the said agreement and the Bank shall not be relieved from its liability by reason of such failure or extension being granted to Bidder or through any forbearance, act or omission on the part of BSNC or any indulgence by BSNC to Bidder or any other matter or thing
whatsoever which under the law relating to sureties would but for this
provision have the effect of relieving or discharging the guarantor.

6. Notwithstanding anything herein contained;
   (a) The liability of the Bank under this guarantee is restricted to the P.G.
       Amount and it will remain in force up to its Validity date.
   (b) The guarantee shall stand completely discharged and all rights of the
       BSNC under this Guarantee shall be extinguished if no claim or
       demand is made on us in writing on or before its validity date.

7. In case BSNC demands for any money under this bank guarantee, the same
   shall be paid through banker’s Cheque in favour of “AO (Cash) BSNL CO”
   payable at New Delhi.

8. The Bank guarantees that the below mentioned officer who have signed it on
   behalf of the Bank have authority to give this guarantee under its delegated
   power.

Place: ...........................................

Date: ................................. (Signature of the Bank Officer)

Authorized Power of Attorney Number: ..............

Name of the Bank officer: .................................

Designation: ...........................................

Complete Postal address of Bank: .................

Telephone Numbers .................................

Fax numbers .................................
SECTION 7 (C)

LETTER OF AUTHORISATION FOR ATTENDING TENDER OPENING EVENT

[On the letterhead of the Bidder company]
(To reach AGM (MM) before Bid Opening Date)

To
The AGM (MM),
BSNL Corporate Office,
Bharat Sanchar Bhawan, HC Mathur lane, Janpath
New Delhi 110 001

Subject : Authorization for attending bid opening –TOE on
________________________________________________________(date) in the Tender of
________________________________________________________.

Dear Sir,

Following persons are hereby authorised to attend the bid opening for the Tender mentioned above on behalf of ______________(Bidder) in order of preference given below.

Order of Preference Name Specimen

I.

II.

Alternate
 Representative

Signatures of bidder

Or

Officer authorized to sign the Bid Documents on behalf of the Bidder.

Note :

1. Maximum of two representatives will be permitted to attend the TOE. In cases where it is restricted to one, first preference will be allowed. Alternate representative will be permitted when regular representatives are not able to attend.

2. Permission for entry to the hall where bids are opened, may be refused in case authorization as prescribed above is not received by BSNL prior to the Bid Opening Date.
SECTION 7 (D)

INTEGRITY PACT AGREEMENT

This Integrity Pact Agreement is made on ___ day of ____, 2011, by and between: Bharat Sanchar Nigam Limited (BSNL) (hereinafter referred to as “The Principal”) And

……………………………….. (hereinafter referred to as “The Bidder/Contractor”)

Each of the Principal and the Bidder shall be individually referred to as the “Party” and collectively as the “Parties”.

Preamble

A. The Principal intends to award, under laid down organizational procedures, contract/s for…………………………. (“Tender”). The Principal values full compliance with all relevant laws and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder/s .

B. In order to achieve these goals, the Principal will appoint an Independent External Monitor (as hereinafter defined) who will monitor the Tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 – Commitments of the Principal

1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:

1.2 No employee of the Principal, personally or through family members, will in connection with the Tender for, or the execution of a contract, demand, take a promise for or accept, for him/herself or third person, any material or immaterial benefit which he/she is not legally entitled to.

1.3 The Principal will, during the Tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

1.4 The Principal will exclude from the process all known prejudiced persons.

If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the relevant Anti-Corruption Laws of India, or if there be a substantive suspicion in this regard, the Principal will inform its Corporate Vigilance Office of BSNL (“Corporate Vigilance Office”) and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)

2.1 The Bidder(s) commits itself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the contract execution.

2.2 The Bidder(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal’s employees involved in the tender process or the execution of the contract or to any third person any material or immaterial benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

2.3 The Bidder(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission
or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

4.11 The Bidder(s) will not commit any offence under the relevant applicable laws include the anti-corruption laws of India; further the Bidder(s)/Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

4.12 The Bidder(s)/ will, when presenting his Bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.

4.13 The Bidder(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 – Disqualification from Tender process and exclusion from future contracts

If the Bidder(s) before award of the Contract or during execution of the Contract has committed a transgression through a violation of Section 2, above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process or take action as per the defined procedure.

Section 4 – Compensation for Damages

4.1 If the Principal has disqualified the Bidder(s) from the Tender process prior to the award of the Tender, according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Bid Security.

4.2 If the Principal has terminated the Contract in accordance with Section 3, or if the Principal is entitled to terminate the Contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor the amount equivalent to Performance Security in addition to any other payments as per terms and conditions of the Tender Document.

Section 5 – Previous transgression

5.1 The Bidder declares that no previous transgression occurred in the last 3 years with any other Company in any country conforming to the anti-corruption approach or with any other public sector enterprise in India that could justify his exclusion from the Tender process.

5.2 If the Bidder makes any incorrect, contrary to the provisions of this Section 5, he can be disqualified from the Tender process or action can be taken as per the defined procedure.

Section 6 – Equal treatment of all Bidders/ Subcontractors

6.1 The Principal will enter into agreements with identical conditions as this one with all Bidders

6.2 The Bidder(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact Agreement.

6.3 The Principal will disqualify from the Tender process all bidders who do not sign this Integrity Pact Agreement or violate its provisions.

Section 7 – Criminal charges against violating Bidder(s)/ Subcontractor(s)

If the Principal obtains knowledge of conduct of a Bidder, or Subcontractor, or of an employee or a representative or an associate of a Bidder, or Subcontractor, which constitutes a violation of the terms and conditions of stated herein, or if the Principal has substantive suspicion in this regard, the Principal will inform the Corporate Vigilance Office.

Section 8 – Independent External Monitor
8.1 The Principal appoints competent and credible independent external Monitor for this Integrity Pact Agreement ("Independent External Monitor"). The task of the Independent External Monitor is to review independently and objectively, whether and to what extent the Parties comply with the obligations under this Integrity Pact Agreement.

8.1 The Independent External Monitor is not subject to instructions by the representatives of the Parties and performs his functions neutrally and independently. He reports to the CMD of the BSNL.

8.2 The Bidder(s) accepts that the Independent External Monitor has the right to access without restriction to all project documentation of the Principal including that provided by its sub-contractor. The Bidder will also grant the Independent External Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to the subcontractors of the Bidder. The Independent External Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/Subcontractor(s) with confidentiality.

8.4 Notwithstanding anything contained in this Section, the Bidder(s) shall have no obligation whatsoever to provide any internal costing mechanisms or any internal financial or commercial data pursuant to any audit or review conducted by or on behalf of the Principal. Further, the Bidder(s) shall not be required to provide any data relating to its other customers, or any personnel or employee related date.

8.5 The Principal will provide to the Independent External Monitor sufficient information about all meetings among the Parties related to the project provided such meetings could have an impact on the contractual relations between the Principal and the Bidder. The Parties offer to the Independent External Monitor the option to participate in such meetings.

8.6 As soon as the Independent External Monitor notices, or believes to notice, a violation of this Integrity Pact Agreement, he will so inform the management of the Principal and request the management to discontinue or take corrective action, or to take other relevant action. The Independent External Monitor can in this regard submit non-binding recommendations. Beyond this, the Independent External Monitor has no right to demand from the Parties that they act in a specific manner, refrain from action or tolerate action.

8.7 The Independent External Monitor will submit a written report to the Chairperson of the Board of the Principal within 8 to 10 weeks from the date of reference or intimation to him by the ‘Principal’ and, should the occasion arise, submit proposals for correcting problematic situations.

8.8 If the Independent External Monitor has reported to the CMD of the BSNL, a substantiated suspicion of an offence under Applicable Laws including relevant anti-corruption laws of India, and BSNL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Corporate Vigilance Office, the Independent External Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

8.9 The word Independent External ‘Monitor’ would include both singular and plural.

Section 9 – Term

9.1 This Integrity Pact Agreement shall commence upon the date of signature by BSNL and shall continue (a) for the Successful Bidder for a period of 12 months after the last payment has been made by the Principal to the Successful Bidder under the Contract, and (ii) for all other Bidders 6 months after the Contract has been awarded to the Successful Bidder (“Term”).
9.2 If any claim is made/ lodged during this time, the same shall be binding and continue to be valid despite the lapse of this Integrity Pact Agreement as specified above, unless it is discharged/determined by CMD, BSNL.

Section 10 – Other provisions

10.1 This Integrity Pact Agreement is subject to the laws of India. The place of performance and jurisdiction is the registered office of the Principal, i.e. New Delhi. The arbitration clause provided in the Tender Document / contract shall not be applicable for any issue /dispute arising under Integrity Pact Agreement.

10.2 Changes and supplements as well as termination notices need to be made in writing.

10.3 Should one or several provisions of this Integrity Pact Agreement turn out to be invalid, the remainder of this Integrity Pact Agreement remains valid. In this case, the parties will strive to come to an agreement to their original intention.

10.4 Capitalised terms not defined in the Integrity Pact Agreement shall have the meaning assigned to it in the Tender.

--

For the Principal For the Bidder/Contractor

Place…………………… Witness 1 : ……………………

Date …………………… Witness 2 : ……………………
SECTION 7 (E)

Consortium Agreement
(on non-judicial stamp paper of minimum of INR 100/-)

In compliance to Clause No. ......of Tender No. dated , a consortium has been formed on <Date> between <Bidder’s Name> and OEM of web-filtering/Anti-spam application to meet various eligibility criteria specified in the Tender under reference and provide solution as per the tender requirement.

It has been agreed with the OEM of web-filtering/anti-spam application that <Bidder’s Name> is designated to submit the Bid on behalf of this consortium and henceforth called as lead Bidder/bidder. It is also confirmed that both the bidder and OEM of web-filtering/anti-spam application (consortium partner) of the said consortium meet the eligibility conditions as specified in the above referred Tender and have authorized the lead bidder by way of duly executed power of attorney in his favour to act on their behalf.( “Lead Bidder” and “Bidder” has been used interchangeably).

It has been agreed that both the bidder as well as OEM of web-filtering/anti-spam application (Consortium partner) will furnish separate Performance Bank Guarantees (PBGs), each for an amount equal to 5% of the value of Purchase Order as per tender. 

It has also been agreed that the in its capacity as Bidder, <Bidder’s Name> will interact with BSNL for all obligations, however both the bidder and OEM of web-filtering/anti-spam application (consortium partner) shall be jointly and severally responsible for the execution of the contract including post execution maintenance (AMCs).

The details of Bidder and various and consortium partners are as under:-

For <Bidder’s Name>:
- <Details containing Registered office & correspondence address>

For <Consortium Partner>:
- <Details containing Registered office & correspondence address>

IN WITNESS WHEREOF the parties have caused this AGREEMENT to be executed by their duly authorized officers as of the day first above written.

<table>
<thead>
<tr>
<th>For &lt;Bidder’s Name&gt;</th>
<th>For &lt;Consortium Partner&gt;</th>
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</thead>
<tbody>
<tr>
<td>Signature of Authorized Signatory Name:</td>
<td>Signature of Authorized Signatory Name:</td>
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<td>Designation:</td>
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<td>Date:</td>
<td>Date:</td>
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SECTION 7 (F)

Teaming Agreement

Bidder & OEM(s) shall sign and submit a Teaming Agreement which shall at least include following obligations, apart from other items:

1. OEM shall have to give skill set requirements from its own perspective and from bidder’s perspective.
2. OEM shall clearly specify the parameters responsible for performance.
3. Sizing shall be done exactly as per the OEM’s recommendation.
4. OEM shall give a Certificate of Satisfaction with respect to all the parameters concerning sizing and performance.
5. The cost and commercial terms and conditions shall be mutually and previously agreed by the two parties.
6. Availability of Subject Matter Expertise (SME) on site from OEM shall be ensured.
7.1. A minimum number of SME shall be made available for entire implementation duration. The same shall be covered contractually.
6.2. Identified SME to be attached with respective bidder for the period of delivery or up to an identified milestone.
6.3. Designated OEM representative shall be available for all Project Steering committee meetings.
7. Review of Statement of Work created by bidder:
7.1. OEM shall have to authorize the customizations. OEM will have to provide a guarantee that the Customizations being done would be supportable by subsequent upgrades. In case of customizations that require touching the core, same would have to be pointed out to BSNL.
7.2. OEM shall have to accept the Interface details, giving consent to overall design.
8. Training & Documentation on APIs available – OEM shall enable the bidder to use the API for plugging on customizations or interfaces to third party solution. In case APIs need to be modified or new APIs need to be created to enable customization/ interface the primary responsibility for this will be with the OEM. The new APIs created/modified shall be supported by subsequent upgrades.
9. OEM shall give an undertaking that the SLA applicable to their solution will be supportable. OEM shall give undertaking that current version of the software will be supported for next 7 years excluding the contract implementation period.
10. The OEM shall clearly define its policy of releasing major and minor version each year. The implementation shall be based on a product configuration with a clear product roadmap for the contract period.
11. OEM Shall deliver the following to Bidder (System Integrator) for finally delivering to BSNL:
11.1. Licensed copy of all OEM applications that are within the scope of implementation by bidder.
11.2. Licensed copy of development and runtime versions of the report writer products and other products bundled with the application.
11.3. List and specifications of all available APIs in each version.
11.4. Installation Scripts for all OEM applications that are within the scope of implementation by bidder.
11.5. Product Specifications of all OEM applications that are within the scope of implementation by bidder.
11.6. User Manuals (hard & soft copy)
11.7. Functional Overview Manual
11.8. Operations Manuals
11.9. System Administration Manuals
11.10. Business process guide
11.11. Reporting reference guide
11.12. Screens reference guide (if applicable)
11.13. Training Brochure containing details of training programs to be offered (hard & soft copy)
11.14. Training Kit for training of bidder personnel
11.15. Hardware Specifications meeting the Sizing & SLA requirements
11.16. Benchmark Reports on Supported Platforms
11.17. Guaranteed response times for typical OLTP and batch transactions on various configurations of the suggested hardware (if applicable).
11.18. Product Road Map document
11.19. Warranty, Post Warranty, and Operational Support programs offered by OEM— including commercial implications, SLA and availability of local support facilities. This shall include problem resolution, application maintenance, change requests, as well as policy for upgrades and updates.
SECTION 7 (G)
(Support Certificate)

(To be given by all OEMs of Web-filtering solution/Anti-spam solution including Hardware)

To

DGM MM
BSNL CO New Delhi

Subject: Support for Implementation and AMC of NMS solution for deployment in BSNL Broadband network

Sir,

This is to certify that the following hardware/software, for which we M/s ............... are the OEM, has been quoted in bid of M/s ...........(name of the bidder).

<table>
<thead>
<tr>
<th>S.N.</th>
<th>All Hardware/ Network/ Software System</th>
<th>Model/ Version</th>
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<tbody>
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<td>1</td>
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We undertake to provide the following:

1. Full Professional Service Support for turnkey implementation of the project covering all the above hardware/network/software components, their Design, Planning, Engineering, Supply, Installation, customization, commissioning, integration with other components of the Broadband NMS project, training, Operation and Maintenance for the entire project period which includes one year warranty and Seven year AMC.

2. Support for Patches updates and upgrades shall be made available as per terms and conditions during warranty (two year) and AMC (5 years) from the date of commissioning.

3. Applications shall be supported on the quoted platform (including OS and quoted Database) for the next 8 years with effect from the date of project completion, and that patches, release, updates and upgrades shall be made available on this platform (including OS and quoted Database) for this period.

We also certify that the agreement in the above respect has already been signed with the Bidder.

Authorized signatory of OEM/ 
Country Manager of OEM 
Name and Designation 
Contact details: Ph Number, email 
Address

Authorized signatory of Bidder
SECTION 7 (H)
(Sizing Certificate)

(To be given by OEM of NMS application)

ON THE OEM’S LETTER HEAD

To
DGM MM
BSNL CO New Delhi

Subject: Certificate from OEM about sizing of hardware for NMS application, regarding.

Sir,

1. This is to certify that for the NMS application (including all the sub-modules) solution quoted in the bid of M/s ............(Name of the Bidder), for which our company M/s ............is the OEM, following hardware sizing is required to meet all the requirements mentioned in the tender. The details of the Applications and Hardware are as under:

A. Production Sizing (separately for each of 5 Gateway location mentioning the location name)

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Application Software Name</th>
<th>Application Version</th>
<th>Hardware Required(Core Clock speed, type/make, RAM &amp; soft/hard partition)</th>
<th>Platform Details including OS with version &amp; Database with version</th>
<th>Licenses Required (for software OEM)</th>
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</table>

B. Test & Development, Simulation Sizing: This shall include Cores/RAM/HDD etc for T&D server with class of Cores i.e. DC class or edge class.

C. Training server sizing is to be given separately in a similar manner.

2. This is to also to certify that this application has been benchmarked on class/ family of the quoted hardware as on date.

___________________________
Signature of Authorized signatory of OEM

Name
Designation

___________________________
Signature of Authorized signatory of Bidder

Name
Designation
SECTION 7 (I)

To
DGM MM
BSNL CO New Delhi

Subject: Undertaking/Certificate from OEM of server, Operation System (OS) and Application software for commercially in operation.

We hereby Certified/undertake that the Hardware solution (make/model), for which our company, M/s ................. is the OEM, and Operating System (OS version/model) for which M/s ................. is the OEM, quoted in the bid of M/s ..........., is commercially in operation.

Signature of Authorized signatory of OEM (OS)
Name
Designation and contact details (Email, contact number, address)

Signature of Authorized signatory of OEM (Server hardware)
Name
Designation and contact details (Email, contact number, address)

Authorized signatory of Bidder
SECTION 7 (J)
Model Amendment Letter Intimating Conditions for Extension of Delivery Period

Registered Acknowledgement Due

Address of the purchaser

To
M/s ...........................................

Sub: This office contract no……………….. dated ……………… placed on you for supply of

Ref: Your letter no……………………………… dated ………………

You have failed to deliver the goods/ entire quantity of the goods/ execution/ installation/ commissioning of the entire project within the contract delivery period/ delivery period as agreed schedule or last extended up to ______________. In your above referred letter, you have asked for extension/ further extension of time for delivery/ execution/ installation/ commissioning. In view of the circumstances stated in your above referred letter, the time of delivery can be extended from _______ (original/ last delivery period) to ____________ (presently agreed delivery period) subject to your unconditional acceptance of the following terms and conditions:

1. That, liquidated damages shall be levied in accordance with agreed clause 16.2 Section III of terms and conditions of the tender/ PO.
2. That, notwithstanding any stipulation in the contract for increase in price on any ground, no such increase, whatsoever, which takes place after zzz shall be admissible on such of the said goods as are delivered after the said date as per clause 12 Section III.
3. That, the prices during this extended delivery period shall be provisional and shall be governed as per agreed clauses 12 and 24 of Section III and shall be finalized in accordance with the current PO price or the current PO price with latest budget/ duty impact or the prices in the new tender (T.E. no. ………..) from the date of its opening, on whichever is lower basis.
4. An additional BG of Rs. _________ in accordance with clause 15.3, Section III of the contract with validity up to ________.
5. An undertaking as required vide clause 24, Section III.

Please intimate your unconditional acceptance of this letter along with the additional BG within ten days of the issue of this letter failing which the contract will be cancelled at your risk and expense without any further reference to you. This letter shall form part and parcel of the agreement/ contract/ APO/ PO and all other terms & conditions of the contract remain unaltered.

Yours faithfully,

(………………………)

for and on behalf of………..

zzz Original delivery date or the last extended/ re-fixed delivery period (as the case may be)

NB: The entries which are not applicable for the case under consideration are to be deleted.
SECTION 7 (K)

Model Amendment Letter for Extension of Delivery Period

Registered Acknowledgement Due

Address of the purchaser

M/s ……………………………..

Sub : This office contract no............. dated .......... placed on you for supply of ............

Ref : 1. Your letter no.......................... dated ............... requesting DP extension

2. This office letter no. ..................... dated ....... intimating conditions for DP extension

3. Your letter no......................... dated ............ accepting the conditions for DP extension

You have failed to deliver the goods/ entire quantity of the goods/ execution/ installation/ commissioning of the entire project within the contract delivery period/ delivery period as agreed schedule or last extended up to ______________. In your above letter under reference (1), you have asked for extension/ further extension of time for delivery/ execution/ installation/ commissioning. The terms and conditions for extension of delivery period were conveyed to you vide this office letter under reference (2). In view of the circumstances stated in your above referred letter, and upon your unconditional acceptance of the terms and conditions of this extension vide your letter under reference (3), the time of delivery is hereby extended from _______ (last delivery period) to ____________ (presently agreed delivery period) on the terms and conditions in letter under reference (2) above and agreed by you vide letter under reference (3) i.e.:

(a) Liquidated damages shall be levied in accordance with agreed clause 16.2 Section III of terms and conditions of the tender/ PO.

(b) Notwithstanding any stipulation in the contract for increase in price on any ground, no such increase, whatsoever, which takes place after zzz shall be admissible on such of the said goods as are delivered after the said date as per clause 12 Section III.

(c) The prices during this extended delivery period shall be provisional and shall be governed as per clauses 12 and 24 of Section III and shall be finalized in accordance with current PO price or the current PO price with latest budget/ duty impact or the prices in the new tender (T.E. no. ...........) from the date of its opening, on whichever is lower basis.

The letters under reference above and this letter shall form part and parcel of agreement/ contract/ APO/ PO and all other terms & conditions of the contract remain unaltered.

Yours faithfully,

(.........................)

for and on behalf of...........

Copy to :
(All concerned)zzz Original delivery date or the last unconditionally re-fixed delivery date (as the case may be)

NB : The entries which are not applicable for the case under consideration are to be deleted.
Section 7 (L)

Format of Non Disclosure Agreement (NDA)
(on Non-judicial stamp paper of appropriate value)

This Agreement is made as of the ______________ 2013 between BHARAT SANCHAR NIGAM LIMITED (BSNL) a Government of India Enterprise, having its corporate office at BSNL BHAWAN, H.C.Mathur Lane, Janpath, New Delhi which expression shall unless repugnant to the subject or the context mean and included its successors, nominees or assigns and M/s ------------------ a company incorporated under the Indian Companies Act, 1956, and having its registered office at ------------------ herein after called "------------------" which expression shall unless repugnant to the subject or the context mean and include its successors, nominees or assigns.

Whereas in order to pursue the mutual business purpose of this particular project as specified in Exhibit A (the "Business Purpose"), BSNL and M/s ------------------ recognize that there is a need to disclose to one another certain information, as defined in para 1 below, of each party to be used only for the Business Purpose and to protect such confidential information from unauthorized use and disclosure.

In consideration of the other party’s disclosure of such information, each party agrees as follows:

1. This Agreement will apply to all confidential and proprietary information disclosed by one party to the other party, including information listed in Exhibit A attached hereto and other information which the disclosing party identifies in writing or otherwise as confidential before or within thirty days after disclosure to the receiving party ("Confidential Information"). Information consists of certain specifications, designs, plans, drawings, software, prototypes and/or technical information, and all copies and derivatives containing such Information, that may be disclosed to one another for and during the Purpose, which a party considers proprietary or confidential ("Information"). Information may be in any form or medium, tangible or intangible, and may be communicated/disclosed in writing, orally, or through visual observation or by any other means to one party (hereinafter referred to as the receiving party) by the other party (hereinafter referred to as one disclosing party). Information shall be subject to this Agreement, if it is in tangible form, only if clearly marked as proprietary or confidential as the case may be, when disclosed to the receiving party or, if not in tangible form, its proprietary nature must first be announced, and it must be reduced to writing and furnished to the receiving party within thirty(30) days of the initial disclosure.

2. M/s ------------------ and BSNL hereby agreed at during the Confidentiality Period:

   a) The receiving party shall use Information only for the Purpose, shall hold Information in confidence using the same degree of care as it normally exercises to protect its own proprietary information, but not less than reasonable care, taking into account the nature of the Information, and shall grant access to Information only to its employees who have a need to know, but only to the extent necessary to carry out the business purpose of this project as defined in exhibit A, shall cause its employees to comply with the provisions of this Agreement applicable to the receiving party, shall
reproduce Information only to the extent essential to fulfilling the Purpose, and shall prevent disclosure of Information to third parties. The receiving party may, however, disclose the Information to its consultants and contractors with a need to know; provided that by doing so, the receiving party agrees to bind those consultants and contractors to terms at least as restrictive as those stated herein, advise them of their obligations, and indemnify the disclosing party for any breach of those obligations.

b) Upon the disclosing party's request, the receiving party shall either return to the disclosing party all Information or shall certify to the disclosing party that all media containing Information have been destroyed. Provided, however, that an archival copy of the Information may be retained in the files of the receiving party's counsel, solely for the purpose of proving the contents of the Information.

3. The foregoing restrictions on each party's use or disclosure of Information shall not apply to Information that the receiving party can demonstrate:

a) was independently developed by or for the receiving party without reference to the Information, or was received without restrictions; or

b) has become generally available to the public without breach of confidentiality obligations of the receiving party; or

c) was in the receiving party's possession without restriction or was known by the receiving party without restriction at the time of disclosure; or

d) is the subject of a subpoena or other legal or administrative demand for disclosure; provided, however, that the receiving party has given the disclosing party prompt notice of such demand for disclosure and the receiving party reasonably cooperates with the disclosing party's efforts to secure an appropriate protective order; or

e) is disclosed with the prior consent of the disclosing party; or

f) was in its possession or known to it by being in its use or being recorded in its files or computers or other recording media prior to receipt from the disclosing party and was not previously acquired by the receiving party from the disclosing party under an obligation of confidence; or

g) the receiving party obtains or has available from a source other than the disclosing party without breach by the receiving party or such source of any obligation of confidentiality or non-use towards the disclosing party.

4. Each party agrees not to remove any of the other party's Confidential Information from the premises of the disclosing party without the disclosing party's prior written approval. Each party agrees to exercise extreme care in protecting the confidentiality of any Confidential Information which is removed, only with the disclosing party's prior written approval, from the disclosing party's premises. Each party agrees to comply with any and all terms and conditions the disclosing party may impose upon any such approved removal, such as conditions that the removed Confidential Information and all copies must be returned by a certain date, and that no copies are to be make off of the premises.
5. Upon the disclosing party’s request, the receiving party will promptly return to the disclosing party all tangible items containing or consisting of the disclosing party’s Confidential Information all copies thereof.

6. Each party recognizes and agrees that all of the disclosing party’s Confidential Information is owned solely by the disclosing party (or its licensors) and that the unauthorized disclosure or use of such Confidential Information would cause irreparable harm and significant injury, the degree of which may be difficult to ascertain. Accordingly, each party agrees that the disclosing party will have the right to obtain an immediate injunction enjoining any breach of this Agreement, as well as the right to pursue any and all other rights and remedies available at law or in equity for such a breach.

7. Access to Information hereunder shall not preclude an individual who has seen such Information for the purposes of this Agreement from working on future projects for the receiving party which relate to similar subject matters, provided that such individual does not make reference to the Information and does not copy the substance of the Information during the Confidentiality Period. Furthermore, nothing contained herein shall be construed as imposing any restriction on the receiving party’s disclosure or use of any general learning, skills or know-how developed by the receiving party’s personnel under this Agreement, if such disclosure and use would be regarded by a person of ordinary skill in the relevant area as not constituting a disclosure or use of the Information.

8. As between the parties, all Information shall remain the property of the disclosing party. By disclosing Information or executing this Agreement, the disclosing party does not grant any license, explicitly or implicitly, under any trademark, patent, copyright, mask work protection right, trade secret or any other intellectual property right. THE DISCLOSING PARTY DISCLAIMS ALL WARRANTIES REGARDING THE INFORMATION, INCLUDING ALL WARRANTIES WITH RESPECT TO INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS AND ALL WARRANTIES AS TO THE ACCURACY OR UTILITY OF SUCH INFORMATION. Execution of this Agreement and the disclosure of Information pursuant to this Agreement does not constitute or imply any commitment, promise, or inducement by either party to make any purchase or sale, or to enter into any additional agreement of any kind.

9. Either party’s failure to enforce any provision, right or remedy under this agreement shall not constitute a waiver of such provision, right or remedy.

10. This Agreement will be construed in, interpreted and applied in accordance with the laws of India.

11. That in case of any dispute or differences, breach & violation relating to the terms of the Agreement. The said matter or dispute, difference shall be referred to sole arbitration of Chairman and Managing Director (CMD) of BSNL or any other person appointed by him. That the award of the arbitrator shall be final and binding on both the parties. In the event of such Arbitrator to whom the matter is originally referred to is being transferred or vacates his office on resignation or other wise or refuses to do work or neglecting his work or being unable to act as Arbitrator for any reasons whatsoever, the CMD BSNL shall appoint another person to act as Arbitrator in place of out going Arbitrator and the person so appointed shall be entitled to proceed further with the reference from the stage at which it was left by his predecessor. M/s ---------------------------------------------- -------------------------- M/s ---------------------------------------------- -------------------------- will have no Objection in any such appointment, that arbitrator so appointed is employee of BSNL. The said Arbitrator shall act under the Provisions of the Arbitration and conciliation Act, 1996 or any statutory modifications or re-enactment there of or any rules made thereof.
12. This Agreement and Exhibit A attached hereto constitutes the entire agreement of the parties with respect to the parties' respective obligations in connection with Information disclosed hereunder and supersedes all prior oral and written agreements and discussions with respect thereto. The parties can amend or modify this Agreement only by a writing duly executed by their respective authorized representatives. Neither party shall assign this Agreement without first securing the other party's written consent.

13. This Agreement will remain in effect for five years from the date of the last disclosure of Confidential Information, at which time it will terminate, unless extended by the disclosing party in writing.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by their duly authorized officers or representatives.

M/s ___________________________  BHARAT SANCHAR NIGAM LIMITED

Signature:______________________
Signature:______________________

Printed Name:_________  Printed:_________
Name:_____________

Title:________________________
Title:________________________

Exhibit A

1. Business Purpose :
2. Confidential Information of M/s - ________________________________

3. Confidential Information of Bharat Sanchar Nigam Limited(BSNL):
   ➢ All information shared in oral or in written form by BSNL with M/s ____________

   ➢ Number of subscriptions, consumption pattern etc

M/s ___________________________  Signed
SECTION- 8

BIDDER’S PROFILE
(To be filled in and submitted by the Bidder)

11. **Bidder’s (Company) Profile**

1. **Name of the Company:** ..............................................................................

2. **Present Correspondence Address** ................................................................

..........................................................................................................................

Telephone No. ............................................ Mobile No. ............................... FAX No.
..........................................................................................................................

3. **Address of place of Works/ Manufacture**

..........................................................................................................................

Telephone No. ............................................ Mobile No. ...............................

4. **Registration No. Of the Company:**

5. **Name of the Director(s) of the Company:**

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<tr>
<th>S. No.</th>
<th>Name</th>
<th>Father’s Name</th>
<th>Designation</th>
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6. **Name of the person authorized to enter into and execute contract/ agreement and the capacity in which he is authorized:**

..........................................................................................................................

............

7. **Permanent Account No.:** .................................................................

8. **Whether the firm has Office/ works (i.e. manufacture of the tendered item) in Delhi? If so state its Address**

..........................................................................................................................

Name and Signature ..............................................
In the capacity of..........................................

Duly authorized to sign the bid for and on behalf of..................................................

Address..................................................
Signature...........................................
SECTION- 9
PART-I

BID FORM

From

To

AGM (MMY), BSNL CO,

IInd Floor, Bharat Sanchar Bhawan,

HCM Lane, Janpath,

New Delhi-110001

Tender No.                                            Date :

Dear Sir,

1. Having examined the Tender Document including the General Conditions of Contract, Special Conditions of Contract, the Detailed Technical Requirements, and other specifications including amendments made from time to time the receipt of which is hereby duly acknowledged, we, undersigned, offer to supply and deliver the Goods and Services in conformity with the Tender Document including the said drawings, General Conditions of Contract, Special Conditions of Contract, the Detailed Technical Requirements and other specifications for the sum shown in the Price Schedule submitted and made part of this Bid.

2. We undertake, if our Bid is accepted, the delivery schedule as detailed in the Tender Document will be strictly followed by us.

3. If our Bid is accepted, we will submit the Performance Security from a scheduled bank for a sum @ 5% of the value of the APO for the due performance of the Contract and also a separate PBG @ 5% of the value of the APO from consortium partner (applicable only for consortium bids).

4. We agree to abide by this Bid for a period of 150 days from the Bid Opening Date and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

5. We understand that you are not bound to accept the lowest or any bid, that BSNL may receive.

6. We understand that the Bid so submitted is the true copy of Tender Document available on the BSNL website www.bsnl.co.in. Any deviation from the terms and conditions stated in the Tender will result in the rejection of the Bid.

7. Capitalised terms not defined herein shall have the meaning assigned to it in the Tender Document.

Dated this .................................. day of .......................... 2011

Name and Signature ..................................
In the capacity of.................................
Duly authorized to sign the bid for and on behalf of..................................................

Witness..........................................
Address..........................................

Signature.....................................
### Price Schedule for Indigenous Items for

**NMS solution for BSNL Internet network {Data Center (DC) Site}**

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Item description</th>
<th>Total quantity</th>
<th>Ex-factory price (Basic unit price exclusive of all levies &amp; charges)</th>
<th>Excise Duty</th>
<th>Sales Tax</th>
<th>F.F Pkg &amp; I</th>
<th>Other levies &amp; charges, if any</th>
<th>Unit Price (all inclusive)</th>
<th>Duties &amp; taxes CENVAT-able on unit price</th>
<th>Total price inclusive of all levies &amp; charges excluding Duties &amp; Taxes (3x14)</th>
<th>Discount offered, if any</th>
<th>Total discounted price excluding Duties &amp; Taxes CENVAT-able (15-16)</th>
<th>E.D.Tariff Head</th>
<th>Import content</th>
<th>Percentage(%) of customs duty</th>
<th>Customs Tariff Head</th>
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<td><strong>NMS Fault Management &amp; Performance Management</strong></td>
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<td>Software (75000 NEs)</td>
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<td><strong>Enterprise Reports (Log Analytics)</strong></td>
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<td><strong>BLADE CHASIS</strong></td>
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<td>Excise Duty Amt</td>
<td>Sales Tax Amt</td>
<td>F.F Pkg &amp; I Amt</td>
<td>Other levies &amp; charges, if any</td>
<td>Unit Price (all inclusive)</td>
<td>Duties &amp; taxes CENVAT-able on unit price</td>
<td>Total price inclusive of all levies &amp; charges excluding Duties &amp; Taxes CENVAT able</td>
<td>Discount offered, if any</td>
<td>Total discounted price excluding Duties &amp; Taxes CENVAT-able</td>
<td>E.D. Tariff Head</td>
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<td>Workstations &amp; printers</td>
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<td>8.2</td>
<td>SAN switches with high availability</td>
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<td>Production Storage (Min 30 TB)</td>
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<td>Ex-factory price (Basic unit price exclusive of all levies &amp; charges)</td>
<td>Excise Duty</td>
<td>Sales Tax</td>
<td>F.F Pkg &amp; I Other levies &amp; charges, if any</td>
<td>Duties &amp; taxes CENVAT-able on unit price</td>
<td>Unit Price (all inclusive) (4+6+10+11)</td>
<td>Duties &amp; taxes CENVAT-able (12-13)</td>
<td>Unit price excluding Duties &amp; Taxes CENVAT-able (12-13)</td>
<td>Discount offered, if any</td>
<td>Total discounted price excluding Duties &amp; Taxes CENVAT-able (15-16)</td>
<td>E.D.Tarriff Head</td>
<td>Import content</td>
<td>Percentage(%) of customs duty</td>
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<td>10.</td>
<td>100 KVA UPS in (1+1) configuration</td>
<td>1 Set</td>
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<td>Battery Set (1 Hr Backup)</td>
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<td>Associated Bus bar &amp; Switchgear</td>
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<td>Installation &amp; Commissioning including integration with existing EMSs</td>
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**Note:** 1. "We hereby declare that in quoting the above prices, we have taken into account the entire credit on inputs available under the MODVAT SCHEME introduce w.e.f. 1st March 1986 and further extended on more items till date.

2. If Annual maintenance Contract charges are required to be quoted as per SOR, basic charges should be shown in column -4 & the service tax in column 11 &13.

3. "We hereby certify that ED/ Customs Tariff Head shown in column 18/21 are correct & CENVAT Credit for the amount shown in column 13 above are admissible as per CENVAT Credit Rules 2004."

4. The bidder shall quote separately for hardware and software as per special conditions of the contract.

5. The bidder submitted the offer with concessional E.D/sales tax shall submit the proof of applicable concessional E.D/Sales tax.
### SECTION- 9 PART-II (B)

**Price Schedule for Imported Items for**

**NMS solution for BSNL Internet network {Data Center (DC) Site}**

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<th>Sl No</th>
<th>Item description</th>
<th>Total quantity</th>
<th>Ex-factory price (Basic unit price exclusive of all levies &amp; charges)</th>
<th>Unit Price Per unit CIF</th>
<th>Custom Duty</th>
<th>Sales Tax</th>
<th>Package &amp; Inland Freight</th>
<th>Duties &amp; taxes CENVAT-able on unit price</th>
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Note: 1."We hereby declare that in quoting the above prices, we have taken into account the entire credit on inputs available under the MODVAT SCHEME introduce w.e.f. 1st March 1986 and further extended on more items till date.
2. If Annual maintenance Contract charges are required to be quoted as per SOR, basic charges should be shown in column -4 & the service tax in column 11 &13
3. " We hereby certify that ED/ Customs Tariff Head shown in column 18/21 are correct & CENVAT Credit for the amount shown in column 13 above are admissible as per CENVAT Credit Rules 2004"
4. The bidder shall quote separately for hardware and software as per special conditions of the contract.
5. The bidder submitted the offer with concessional E.D/sales tax shall submit the proof of applicable concessional ED/Sales tax.
### SECTION- 9 PART-II (C)
Price Schedule for Indigenous Items for
NMS solution for BSNL Internet network {Data Center (DR) Site}

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Item description</th>
<th>Total quantity</th>
<th>Ex-factory price (Basic unit price exclusive of alllevies &amp; charges)</th>
<th>Excise Duty</th>
<th>Sales Tax</th>
<th>F.F Pkg &amp; I</th>
<th>Other levies &amp; charges, if any</th>
<th>Unit Price (all inclusive)</th>
<th>Duties &amp; taxes CENVAT-able on unit price</th>
<th>Total price inclusive of all levies &amp; charges excluding Duties &amp; Taxes CENVAT-able</th>
<th>Discount offered, if any</th>
<th>Total discounted price excluding Duties &amp; Taxes CENVAT-able</th>
<th>E.D.Tariff Head</th>
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<td>Excise Duty</td>
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<td>Duties &amp; taxes CENVAT-able</td>
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<td>Sales Tax</td>
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<td>Unit Price (all inclusive)</td>
<td>Duties &amp; taxes CENVAT-able on unit price</td>
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Note: 1. "We hereby declare that in quoting the above prices, we have taken into account the entire credit on inputs available under the MODVAT SCHEME introduce w.e.f. 1st March 1986 and further extended on more items till date.
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4. The bidder shall quote separately for hardware and software as per special conditions of the contract.
5. The bidder submitted the offer with concessional E.D/sales tax shall submit the proof of applicable concessional ED/Sales tax.
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<th>Item description</th>
<th>Description</th>
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<th>Ex-factory price (Basic unit price exclusive of all levies &amp; charges)</th>
<th>Unit Price per unit</th>
<th>CIF</th>
<th>Custom Duty Amt</th>
<th>Sales Tax Amt</th>
<th>Package &amp; Inland Freight Amt</th>
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<th>Price per unit for the site (all inclusive)</th>
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**Note:**
1. "We hereby declare that in quoting the above prices, we have taken into account the entire credit on inputs available under the MODVAT SCHEME introduce w.e.f. 1st March 1986 and further extended on more items till date.
2. If Annual maintenance Contract charges are required to be quoted as per SOR, basic charges should be shown in column -4 & the service tax in column 11 &13
3. " We hereby certify that ED/ Customs Tariff Head shown in column 18/21 are correct & CENVAT Credit for the amount shown in column 13 above are admissible as per CEN VAT Credit Rules 2004"
4. The bidder shall quote separately for hardware and software as per special conditions of the contract.
5. The bidder submitted the offer with concessional E.D/sales tax shall submit the proof of applicable concessional ED/Sales tax.
Section 10

DRAFT AGREEMENT WITH REGARD TO SECURITY REQUIREMENTS

As per security Norms of DOT