Expression of Interest (EoI)

for

Selection of System Integrator for Implementing Network Management System (NMS)

BharatNet Phase II Implementation, Gujarat

Reference No: GFG/DST/BharatNet/NMS/2019/400

26th July 2019

Gujarat Fibre Grid Network Limited (GFGNL)

A Government of Gujarat Company

Block No: 1, 8th Floor, Udyog Bhavan, Sector-11, Gandhinagar 382010

Table of Contents

1 Introduction

The Gujarat Government has setup a Special Purpose Vehicle (SPV) namely "Gujarat Fibre Grid Network Limited" (GFGNL) to implement Phase-II of BharatNet Project in Gujarat. This SPV has been created to synergize with the efforts of Government of India under the National Optical Fiber Network and Digital India initiative and make focused efforts to actualize a state-to-village fiber grid and to facilitate building common Government owned infrastructure to provide internet facilities to residents of State of Gujarat.

The Gram Panchayats (GPs) to be connected under BharatNet Phase-II has been divided into two packages, each containing a group of GPs for convenience of implementation. As part of the scope a total of 7692 GPs spread over 22 districts in Gujarat shall be connected over the proposed fibre grid. GFGNL intends to create OFC infra highway by laying Optical Fibre Cable connecting all block with Gram Panchayat, including supply & installation of electronic equipment's to enable the intended services.

GFGNL through separate tenders[1] has already selected Project Implementing Agencies (PIA) for both the packages for implementing the entire project on Engineering Procurement and Construction (EPC) basis. The PIA's shall be responsible for "Survey, Design & Planning, Supply, Installation, testing and commissioning of OFC (Underground and Aerial) GPON Network with equipment's, transport network, end to end integration and also, to undertake the responsibility for Operations & Maintenance (O&M) and facilitating service provisioning of the established network for 7 years from the date of Go Live on turnkey basis.

Along with that GFGNL through a closed tender among empaneled agencies selected a third party audit agency (TPA) for validating the entire execution done by PIA. TPA agency shall inspect, verify, certify and monitor the timely execution of the entire network including OFC laying, Equipment installation & integration with state NOC as per the TEC GRs and Engineering Instructions mentioned in detail in RFP for selection of PIAs, material inspection, service level management and Inspection of OFC routes during digging, trenching, ducting, reinstatement, OFC blowing, splicing & testing as per the scope mentioned in the respective RFP.

Agencies selected for Project Implementation and auditing are:

- ITI limited as PIA for Package A
- GTPL Hathway Limited as PIA for Package B
- TCIL as TPA for both the packages

Prospective bidders are encouraged to read through the RFPs floated by GFGNL for selection of PIAs to develop further understanding of project objectives, methodology, milestones and execution along with the roles & responsibilities of different agencies involved in the project. The mentioned RFP documents are available at https://dst.gujarat.gov.in/tender.htm.

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[1] Request for Proposal (RFP) for Selection of Project Implementing Agency for BharatNet Phase-II project in the State of Gujarat under Gujarat Fibre Grid Network Limited (Package A)
Request for Proposal (RFP) for Selection of Project Implementing Agency for BharatNet Phase-II project in the State of Gujarat under Gujarat Fibre Grid Network Limited (Package B)

2 Purpose of EoI

Gujarat Fibre Grid Network Limited (GFGNL) through the Request for Proposal (RFP) for Selection of Project Implementing Agency for BharatNet Phase-II project in the State of Gujarat under Gujarat Fibre Grid Network Limited (Package A) mandated the selected agency to implement IT applications to support project execution and operations requirements of the RFP. This included implementation of following applications:

- Project Management Tool
- GIS
- Mobile Application for Project and O&M phase
- Web Portal
- ERP (including HRMS & Payroll, Inventory Management, Document Management System, Customer Relationship Management and finance and Accounts)
- NMS (Network management System)

Out of the above-mentioned applications, the scope of supplying and installing NMS application and deployment of a Helpdesk tools was curtailed as the system integrator (SI) failed to deliver functionality on time as sought in the RFP. As per RFP mandate, the payment of project execution agencies is to be released only when the GPs are discovered over the NOC. It was also envisaged in the said RFP, that availability and uptime of network has to be monitored in the NMS.

Currently GFGNL discovers lit GPs in EMS but has no single interface to check the availability of the network asset laid. Because of this GFGNL had to request for alternate make shift arrangement in BBNL NOC.

The purpose of the EoI is to select an implementing agency who has past experience of deploying NMS and helpdesk solutions for projects of such nature covering distributed geographies, capturing around 35000 nodes and possess out of the box solutions ready for immediate deployment for GFGNL as per the scope mentioned in the EoI document.

Given the project status, the approach chosen is to select a partner who has out of box solution that can serve the network management requirements of GFGNL, capture the network elements, manage faults, alerts, provide simple management interface for all EMS devices for pushing down service provisioning and keep a track of performance of network elements in the system.

The provided solution shall have to interface with all EMS for discovery & provisioning of network elements, with GIS platform for exchanging the inventory details and for viewing & managing network elements from a central console.

The successful bidder will then have additional four (4) months' time from the award of work to develop additional modules and integration with other applications to completely deliver the scope (Refer proposed timelines & scope mentioned in this EoI document for detailed milestones).

3 Important dates

Gujarat Fibre Grid Network Limited (GFGNL) invites eligible firms / companies to indicate their interest in providing the services in conformity to this document. The particulars of Expression of Interest Document are:

S No	Information	Details
1.	Name of the work	Selection of System Integrator for Implementing Network Management System (Reference No: GFG/DST/BharatNet/NMS/2019/400)
2.	EoI Availability	EoI can be downloaded from 26.07.2019 https://dst.gujarat.gov.in/tender.htm
3.	Bid processing fee	Rs. 25,000 (Rs. Twenty five thousand Only) In the form of Demand Draft in favor of "Gujarat Fibre Grid Network Limited" drawn on any scheduled bank and payable at Ahmedabad/ Gandhinagar
4.	Contract period	Execution and Operation & Management phase (7 years)

5.	Earnest Money Deposit (EMD)	Rs. 15,00,000 (Rs Fifteen Lakhs only)
		
		Demand Draft in favor of "Gujarat Fibre Grid Network Limited" drawn on any scheduled bank and payable at Ahmedabad/ Gandhinagar
		OR
		EMD in the form of bank guarantee of validity for 180 days from the due date of bid submission in favor of "CFO, Gujarat Fibre Grid Network Limited" from
		    • All Nationalized banks including the Public sector banks - IDBI Ltd.
		    • Private sector banks - AXIS Bank, ICICI Bank and HDFC Bank

6.	Bid validity days	180 days from the date of submission of bids
7.	Last date of EoI response (bid) submission	Response to EoI should be submitted before 1:00 pm on 16.08.2019 at the below mentioned address Chief Finance Officer (CFO), Gujarat Fibre Grid Network Limited (GFGNL), Block No: 1, 8th Floor, Udyog Bhavan, Sector-11, Gandhinagar: 382010
8.	Opening of EOI	16.08.2019 at 04:00 pm Gujarat Fibre Grid Network Limited (GFGNL) Block No. 1, 8th Floor, Udyog Bhavan, Sector 11, Gandhinagar-382010 In the presence of Representatives of applicants who wish to remain present.
9.	Date of Technical Presentation	20.08.2019 at 12:00 pm

S No	Information	Details
10.	Opening of Commercial Proposal(s)	To be communicated to eligible bidder on a later stage

Venue for Technical Presentation

Committee room
Department of Science & Technology
Block No.7, 5th Floor,
New Sachivalaya, Gandhinagar

Interested bidders may obtain further information at following address:

Office of Head/Director (Technical & Infrastructure),
Gujarat Fibre Grid Network Limited (GFGNL)
Block No. 1, 8th Floor, Udyog Bhavan,
Sector 11, Gandhinagar-382010

4 Instructions for submission of Expression of Interest

1. Bidders shall read thoroughly the guidelines provided in this document before preparing EOI proposal/response.
2. Bidders who meet short listing criteria given in this document shall prepare EOI as per the guidelines given in this document. If the bidder feels to submit certain information not covered in the guidelines would be in his interest, he may submit such information. But required details as per EOI document must be submitted in stipulated formats only.
3. Duly response complete in all respects must be submitted together with a Cover letter not later than specified date & time mentioned in this document. Documents in support of all qualification information shall be submitted with application as required.
4. The response to EoI shall be the basis of drawing up a shortlist of eligible firms who will be qualifying for evaluation of financial proposals for services required.
5. The response to EoI and all related correspondence and documents should be written in the English language only. Supporting documents and printed literature furnished by Applicant with the Application may be in any other language provided that they are accompanied with translations in the English language. Supporting materials, which are not translated into English, may not be considered. For the purpose of interpretation and evaluation of the application, the English language translation shall prevail.
6. GFGNL reserves the right to accept any or all bid and to annul the EoI process or to reject all bids at any time prior to award of contract.
7. GFGNL reserves the right to modify the evaluation process at any time during the EoI process, without assigning any reason, whatsoever, and without any requirement of intimating the Bidder(s) of any such change.
8. The response to EoI shall provide all the information sought under this qualification Document. GFGNL would evaluate only those responses that are received in the required format and complete in all respects. Incomplete and/or conditional Applications shall be liable to rejection.
9. No claims whatsoever will be entertained if submission is not received by due date and time.
10. Responses to EoI shall be submitted under a sealed envelope clearly marked as "**Reference Number: Reference No: GFG/DST/BharatNet/NMS/2019/400**", along with the name and address of the firm. The outer sealed envelope shall further have three (3) separate envelopes sealed namely Envelope-A, Envelope-B and Envelope-C.
    - "Envelope-A" shall contain the EMD & DD
    - " Envelope-B " shall contain the Technical proposal
    - "Envelope – C" shall contain the financial proposal
11. The response to EoI should reach the prescribed address mentioned through courier or in person and before the last date as mentioned in the EoI document. Any response to EoI received by GFGNL after the deadline for submission shall be returned unopened. GFGNL shall not be responsible for any postal or courier delays.
12. An authorized representative of the bidding firm shall sign the original submission letters in the required format for EOI submission and shall put initials on all pages with company seal/stamp.
13. All contents of the response to EoI should be clearly numbered, indexed and arranged in a sequence and shall be bound firmly.
14. All costs incurred by the Bidder in the preparation, submission and presentation, etc. of the proposal shall be absorbed entirely by the Bidder. All responses along with the supporting document submitted by the Bidder in response to this EOI shall become the property of GFGNL

5 EoI Selection process

1. GFGNL through this Expression of Interest process intends to consider those potential bidders that have the requisite capability and competency, in terms of technical strengths and readily available out of the box solution for scope defined as mandatory and also experience of carrying out similar projects to address this urgent requirement of NMS solution for GFGNL.
2. No joint venture or consortium of firms is allowed to participate in this EoI.
3. No subcontracting of work shall be allowed.
4. All the bidders will be assessed against the eligibility criteria as mentioned in the EOI.
5. Bidders having their EMD & DD in order and fulfilling eligibility criteria shall be required to make a presentation and live demonstration of their proposed out of the box solution to GFGNL evaluation committee as per the dates specified in the EoI document.
6. The presentation and live demonstration of proposed product shall be evaluated against the technical evaluation criteria mentioned in the EoI document. The duration of presentation shall be 30 minutes excluding the questions & answers with the committee.
7. As part of EoI Presentation and product demonstration, bidder shall
   a. Present the minimum requirements as per EoI technical evaluation criteria which are non-negotiable
   b. Bidder shall obtain extra marks on demonstration of additional useful features for the project other than those mentioned but are useful to project. However, in that case bidder is mandated to provide those features to GFGNL along with the proposed product including required licenses and the same needs to be considered in the price bid. No additional price consideration will be given for added features. Bidder should also note that it will be assumed that all features shown as part of technical presentation (for scoring) are part of solution delivery and is included in the price bid.
   c. Such solution(s) not meeting the minimum requirements shall not be taken to the next stage of financial bid submission.
8. Time slot for 30 minute presentation and live demonstration to GFGNL shall be communicated to eligible bidders at a later stage (Tentatively as per date specified above).
9. Only bidders meeting 100% conformity to GFGNL's bare minimum requirements as mentioned in the technical evaluation criteria shall be eligible for financial evaluation.
10. After the evaluation of the financial proposals, combined evaluation will be carried out as per below mentioned methodology:

    For combined evaluation, the following abbreviations are used –
    - Ts = Technical score
    - Fm = Lowest evaluated financial proposal
    - Fs = Maximum financial score
    - F = Price of the proposal under consideration
    - T = Weight given to the Technical Proposal
    - P = Weight given to the Financial Proposal
    - S = Combined score

    The combined evaluation will be carried out as follows –

The lowest evaluated Financial Proposal (Fm) will be given the maximum financial score (Fs) of 100 points. The financial scores (Fs) of the other financial proposals will be computed as per the following formula -

Fs = 100 x Fm / F, in which Fs is the financial score, Fm is the lowest price and F the price of the proposal under consideration.

Proposals will be ranked according to their combined technical (Ts) and financial (Fs) scores using the weights (T = the weight given to the Technical Proposal; P = the weight given to the Financial Proposal; T + P = 100), which is S (combined score) = Ts x T% + Fs x P%.

The weights given to the Technical and Financial Proposals are:

T = 40 and P = 60

11. GFGNL may seek such clarification/information/document as may be required for it to satisfy the eligibility of the bidders. Failure on the part of the bidder to submit such information within the stipulated time, may entail cancellation of the bid of such bidder

12. If any information provided by the Bidder is found to be inaccurate at any stage of the EOI process, GFGNL may, at its discretion, reject the offer of and no correspondence will be entertained in this regard. Submission of wrong and / or false information may also disqualify the Bidder from any future work from GFGNL.

13. GFGNL reserves the right to cancel the EoI process.

14. This EoI does not constitute an offer by GFGNL.

15. The bidder's participation in this process may or may not result in the Purchaser selecting the bidder to execute the project.

16. The EMD of unsuccessful bidders will be returned by the GFGNL, without any interest, as promptly as possible on signing of contract with the selected bidder or when GFGNL cancels the bidding process.

17. The successful bidder who is awarded the work order shall be required to deposit a Performance bank guarantee (refer annexure V) @ 10% of the total value of the work order in the form of Bank Guarantee from any scheduled bank in favor of "CFO, Gujarat Fibre Grid Network Limited, Gandhinagar (from all Nationalized banks including the Public sector banks - IDBI Ltd. Or Private sector banks - AXIS Bank, ICICI Bank and HDFC Bank) within 7 days of award of work, covering the period of contract and 180 days beyond the contract period. In case, the contract is further extended beyond the initial period, the Bank Guarantee will have to be accordingly extended/renewed by the successful agency/bidder. All incidental charges whatsoever such as premium, commission etc. with respect to the Bank Guarantee shall be borne by the successful bidder. Non deposit of PBG within the stipulated time shall render the award of work invalid at the discretion of GFGNL.

18. The successful bidder shall sign a contract with GFGNL within 7 days of receipt of proforma contract from GFGNL; failing which their EMD and/or performance bank guarantee (PBG) shall be forfeited and GFGNL's decision to scrap the tender or negotiate with the second bidder (as per the final ranking) shall be binding on the first bidder.

6 Eligibility Criteria

S No	Criteria	Supporting Document
	Eligibility Criteria	
1.	The entity should be either registered as a Company under Companies Act 1956/ 2013 or as a Partnership (including Limited Liability Partnership) under Partnership Act, 1932 as the case may be	Certificate of Incorporation in respect of the applicant organization issued by Registrar of Companies or a partnership deed duly registered under the Partnership Act •Certificate of Commencement of business •Certificate consequent to change of name, if applicable
2.	The Bidder should have minimum average annual turnover of Rs 10 Cr in the last three financial year (2016-17, 2017-18 & 2018-19)	Certificate from the Statutory auditor / CA clearly specifying the annual turnover for the specified years. For 2018-19, if finally published results are not available, provisional turn over details with CA certificate.
3.	The Bidder should have, supplied/installed/implemented Minimum 3 projects comprising of both NMS plus Helpdesk/Ticketing solution as a package, each catering to managing minimum 2000 network devices during last 3 years. OR Minimum 2 projects of the same package each catering to minimum 7500 devices during last 3 years	Copies of work orders
4.	The bidder should not have been barred from participating in any tender/ providing services/procurement process or supply of materials by an organization/department/office/ PSU/ board or corporation of either Government of India or any state government .	Self-Undertaking by the bidder Refer format (Annexure III)
5.	The bidder should have at least 50 fulltime technicians working on its payroll, engaged in development and support services.	Self-undertaking by the bidder on its letterhead signed by authorized bid signatory / HR (head)

7 Technical Evaluation Criteria

Bidders are required to demonstrate below mentioned technical prequalification specifications for proposed solution. The bidder is required to demonstrate these minimum features as part of technical evaluation to qualify for financial bid. It is expected that these minimum functionalities shall be available on day zero (0) of product deployment.

Bidders should not invest much time for company information and past experience and are encouraged to make thoughtful use of allocated 30 minute slot.

S No	Criteria	Marks
Demonstration of Proposed Solution		
	The proposed application must (have)	Marks
1.	NMS shall support below functionality for Fault Management. • Alarm isolation. • Trouble ticket generation & Life cycle management for Network & Service Problems for NMS & Helpdesk tool. • Alarms Binning for different types of alarms (Resource alarms , service problems , fibre alarms , Threshold crossing alert -TCAs)	10
2.	NMS shall support below functionality for Configuration Management. • Auto discovery of device. • Resource Inventory Management • Service template Management	10
3.	NMS shall support below functionality for Performance Management. • Network Performance Management (KPIs) (Up/Down status for devices such as OLT, ONT, DWDM, Switch, Router, server and Traffic monitoring at device level and port level with bandwidth (Min/Max/Avg), throughput (daily, weekly), port wise & IP wise throughput and bandwidth with number of active users on that particular device) • SLA Management • Real time Traffic monitoring of Network Links and Devices with Historical reports for various periods. • Thresholds Crossover Alerts across Network and Services • NMS should allow the user to zoom down to port level of any card/Equipment and IP level for usage statistics. • Port of every device, IP of sub connection shall be monitored as independent nodes for network performance parameters.	15
4.	NMS shall support below functionality for Network Topology • End to End Network Topology connectivity for all Devices till last mile CPE and it's monitoring.	10

S No	Criteria	Marks
	• Dynamic discovery of Logical Fibre Connectivity	
5.	NMS shall have below functionality for Security & Accounting Management: • Role Based Access Control (RBAC) • Scheduler • Authentication & Authorization of Operators • Access Logs for Auditing • Online Operators Reporting • Help desk with ticking module for network and customer problem /issues management • Helpdesk module should have feature of SMS and E-mail notification. • Threshold crossover should auto trigger SMS and E-mail notification.	10
6.	NMS should have the Asset record against each active element of present discovered network till port level inventory.	5
7.	NMS shall support below functionality for Reporting (Daily /Weekly/Monthly /Quarterly/Yearly). • Dash Board reports with drill down features.(package wise, district wise, block wise, OLT & ONT wise) • Tabular and Graphical reports. • Fault and Performance Analysis Report • Location based reports flexible to configure as per user requirement details • Reports should be extracted in CSV and PDF format. • Auto SLA monitoring, SLA computation	10

8.	NMS shall support interfaces such as SNMP/JAVA/CORBA/XML/REST API for integration.
	 GFGNL is getting EMS from below OEMs.
	     GPON – Tejas Networks & C-DOT
	     RFMS – VeEX & EXFO
	     DWDM – D-Link & ECI
	     L2 switch – Tejas Networks
	 which use CORBA, Rest API, JSON, SNMP.
	
	 Proposed NMS solution should have integration interfaces readily available on day "0".
		10

9.	**Additional Features**	
	Any extra feature in line with project requirements including features which are deliverables at subsequent stage.	20
10.	Total	100

Bidder shall obtain extra marks on demonstration of additional useful features for the project other than those mentioned but are useful to project. However, in that case bidder is mandated to provide those features to GFGNL along with the proposed product including required licenses and the same needs to be considered in the price bid. No additional price consideration will be given for added features. Bidder should also note that it will be assumed that all features shown as part of technical presentation (for scoring) are part of solution delivery and is included in the price bid.

The minimum qualifying score in technical evaluation is 60 marks out of 100 marks and only those bidders who secure the minimum 60 marks shall be eligible for financial evaluation.

8 Scope and Requirements

Gujarat Fibre Grid Network Limited (GFGNL) intends to procure services of a competent firm for establishing NMS system to help in monitoring of telecom network and associated assets for BharatNet Phase II implementation with seven (7) years of operations & Management.

The scope of work envisaged by GFGNL for Implementation of NMS Solution is as given below:
1. The selected agency shall be responsible for Supply, installation, implementation, configuration, customization, integration and testing of Network Management system and helpdesk (s) together with relevant database, licenses and other software in conformance to Industry standards as per requirement defined in this EoI document.
2. The selected agency shall have to interface with EMS of individual network element as part of project scope. The details of present OEMs of this network are as follows:
   - GPON – Tejas & CDOT
   - RFMS- VeEX & ExFO
   - DWDM – D-Link & ECI
   - L2 switch – Tejas
3. The selected agency shall provide Annual Maintenance contract (AMC) of the proposed solution for 7 years.
4. The selected agency shall develop User specific dashboards, workflows, templates, and MIS reporting as per GFGNL's requirements
5. The selected agency shall perform administration, access and user rights etc. for deployed applications. The system should support SSO and LDAP to be provisioned by the ERP application.
6. The system should allow accessing application from the GFGNL web portal.
7. The system is required to integrate further with BBNL's NMS on standard North Bound Interfaces (JSON, Rest API). The licenses shall be supplied as the North bound interface along with suitable network interface and software in the NMS, so as to have a common/ centralized network management system of different vendors.
8. The selected agency shall be responsible to extend support to migrate data to any 3rd party NMS and Helpdesk software which will be procured by GFGNL after completion of contract period or in the event of termination of contract.
9. The selected agency shall be responsible to liaison with State Data Centre, Gandhinagar for all deployment and maintenance related activities for deployed software. All application should meet compliance standard of SDC, Gandhinagar.
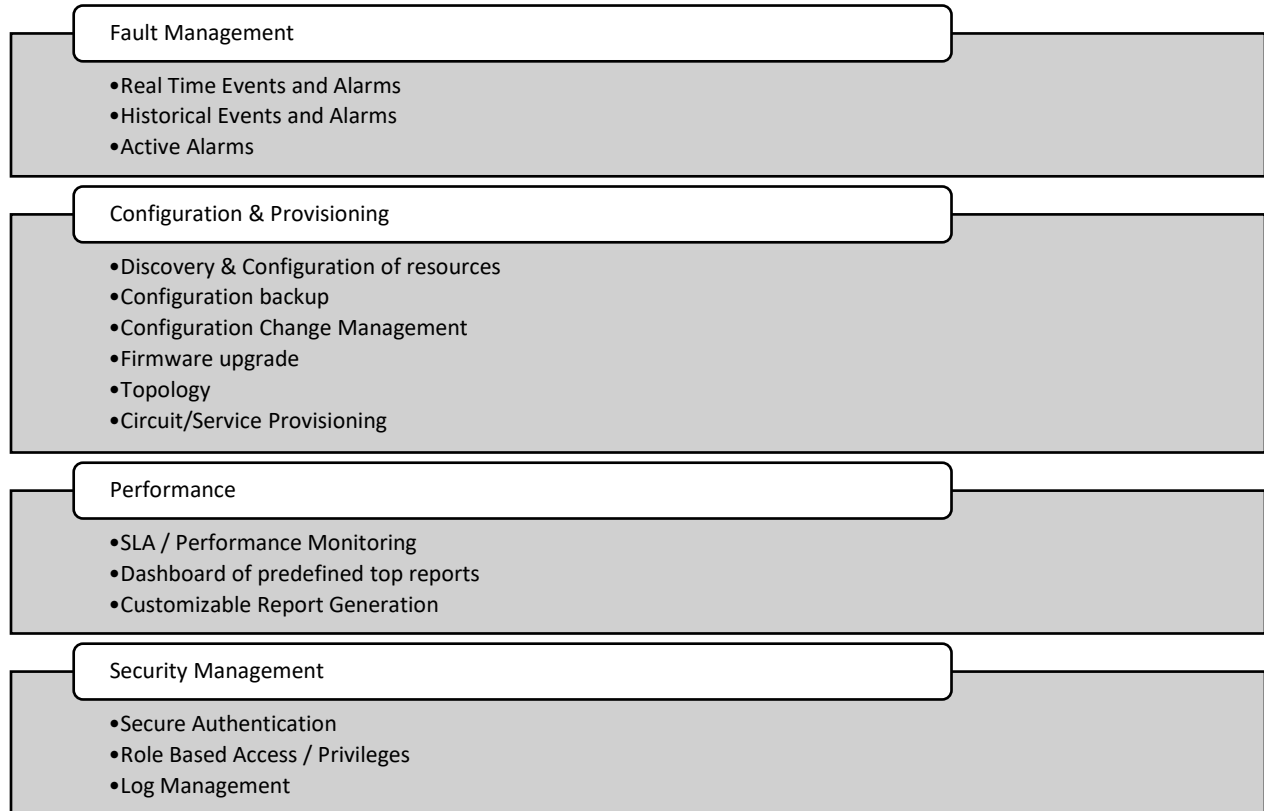
10. The selected agency shall provide following documents during the project implementation & operations phase:
    - User manuals and Self-help training material for application(s) installed.
    - Installation & Configuration manuals for all modules/installations
    - Any other document(s) required by SDC, Gandhinagar as part of compliance
    - Any other application performance, data migration plan and/or bugs fixation report required by GFGNL
11. The selected agency will have to perform API integration(s) as per requirement with other systems of GFGNL (not limited to GIS,ERP, etc. for exchanging inventory & inventory status details, GP lit up status project progress details of executing work) during the contract period at no additional cost to GFGNL.

For detailed interaction of these components, please refer the detailed software scope mentioned in this EoI Document and the RFP floated for selection of PIA available at (https://dst.gujarat.gov.in/Images/pdf/RFP_Gujarat-BharatNet-Phase-II_23rd-March-2018-Package-A.pdf)

Expression of Interest (EoI) for Selection of System Integrator for Implementing GIS Solution available at https://dst.gujarat.gov.in/Images/pdf/EoI-Selection-of-System-Integratorfor-Implementing-GIS-Solution.pdf

Expression of Interest (EoI) for Selection of System Integrator for Implementing ERP for BharatNet Phase II Implementation available at https://dst.gujarat.gov.in/Images/pdf/EoI-Selection-of-System-Integrator-for-Implementing-ERP.pdf

In order to achieve increased reliability and improved performance by seamless monitoring and management of the network, a NMS software shall be deployed at state data centre and shall be operated from NOC at Gandhinagar. The NOC operators would be able to access the network for effective monitoring and management. Key modules of NMS Applications are as below:

Fault Management

- Real Time Events and Alarms
- Historical Events and Alarms
- Active Alarms

Configuration & Provisioning

- Discovery & Configuration of resources
- Configuration backup
- Configuration Change Management
- Firmware upgrade
- Topology
- Circuit/Service Provisioning

Performance

- SLA / Performance Monitoring
- Dashboard of predefined top reports
- Customizable Report Generation

Security Management

- Secure Authentication
- Role Based Access / Privileges
- Log Management

8.1 NMS Interfaces

a. **Web Based User Interface:** This will enable NOC users, field users to access NMS and helpdesk through mobile.

b. **Network Interface:** This will enable users to send alarms via email/SMS through NMS Applications. GFGNL shall provide SMS and E-mail gateways.

c. **GIS Based Network visualization:** GFGNL is procuring a GIS solution separately. The said solution will also provide a GIS map (without GIS engine) as a base layer. The provided NMS shall create network topology on said map layer. Different elements of network will become visible with different zoom levels (this level view to detailed views as we zoom in). The NMS topology graph view will create all network assets in logical relationship. (from EMS to fiber to device to card to port to end users northbound port). Same interface will display in a pop-up window or side bar view showing device or network or alert status area statistics of KPI's and performance parameters. Clicking on specific device will open alert management interface for that device. Through that interface, ticket generation & assignment will take place. Same interface will have ability of corelating different alarms, RCA for identifying isolated faults in parent child hierarchical

relationship, auto SMS, e-Mail facility to responders configured in system for fault attendance.

d. **Interface with ERP:** For integration with different Modules of ERP to give GP lit status for payment in project phase and uptime report for in O&M phase, customer ticket management for customer complaint for SLA penalty calculation of customer link.

8.2 NMS' SLA and Performance Reporting

1) The selected agency should submit the reports on a regular basis in a mutually decided format. Reports shall be daily, weekly, fortnightly, monthly, quarterly etc.

2) Granularity of report shall be state level view, package level view, OLT level view, ONT level view and for each EMS managed device views.

3) Softcopy of these reports shall be delivered automatically via email at specific frequency and to the pre-decided list of recipients.

4) The detailed list of reports as well as templates will be decided once the bidder is on-boarded.

5) The selected agency should also submit required information as part of periodic review as and when required by the GFGNL.

6) The minimum set of reports required are as given below. GFGNL may request such reports at any time irrespective of a predefined scheduled. Moreover, any new report may be requested by GFGNL during the tenure of the contract without any additional cost to GFGNL.

8.3 **Indicative list of MIS reports during O&M:**

Sr. No.	Report Type	Periodicity
1.	Bandwidth Available: per GP/ONT, OLT wise, Total Taluka/Block wise, District wise and State wise	**Daily**
2.	Bandwidth utilization (max, min and average): per GP/ONT, OLT wise, Total Taluka/Block wise, District wise and State wise	
3.	Availability of Devices live vs faulty (ONT and OLT): Pop wise, Block wise, District wise and State wise	
4.	Total No. of complaints raised	
5.	Ageing Report of issues/Complaints/Incidents	
6.	Receive Signal Strength at ONT (indicating an alert if the signal strength is below the defined threshold)	
7.	Bandwidth Utilization (max, min and average) over last 7 days: per GP/ONT, OLT wise, Total Taluka/Block wise, District wise and State wise	**Weekly**
8.	Total No. of complaints raised	
9.	Ageing Report of issues/Complaints/Incidents	
10.	Receive Signal Strength at ONT (indicating an alert if the signal strength is below the defined threshold)	
11.	Total No. of complaints raised	**Monthly**
12.	Ageing Report of issues/Complaints/Incidents	
13.	Software upgrade/enhancement reports	
14.	Configuration change reports	
15.	SLA compliance reports	**Quarterly**
16.	Preventive maintenance reports	
17.	Scheduled maintenance reports	
18.	Configuration change reports	
19.	Inventory reports	
20.	Bandwidth Utilization (max, min and average): per GP/ONT, OLT wise, Total Taluka/Block wise, District wise and State wise	
21.	Service Availability, Downtime, Usage/Utilization, Fault & rectification, Performance statistics-, Log of Network parameters along with Service down time and % uptime achieved	

Sr. No.	Report Type	Periodicity
22.	Any other reports- As and when required by Tenderer	

8.4 Deployment landscape

1. The selected agency shall be responsible to develop, deploy and maintain NMS system catering to approximately 35,000 network devices.
2. The selected agency shall provide all required licenses of proposed solution, associated databases, all system software's (Operating System, etc.) with support for entire contract period required for the proposed COTS/ open source application.
   The selected agency shall be required to intimate the compute requirement to GFGNL before deployment (i.e. Cores, RAM and storage).
   The proposed software should be compatible with the virtualized environment. GFGNL shall only provide virtualized machines (VMs) with required cores, RAM & storage. Successful bidder shall have to bring Operating System, Environmental software with other libraries, database licenses, etc. needed to deliver the solution.
   Likewise, the bidder shall be responsible for O&M as well as AMC of all that which is been proposed to deliver the solution and the cost towards the O&M and AMC shall have to be factored in the price bid.
3. GFGNL shall only provide VMs with required core, RAM and storage in State Data Centre (SDC) environment (Government of Gujarat Private Cloud) with antivirus at Gandhinagar. Please do not quote any product which do not work on windows or Linux. Please note Solaris OS is not supported in SDC cloud.
4. Selected agency will have to supply, install, test and commission **2 Nos.** of routers at SDC for routing of management traffic of GFGNL's Network towards NMS/EMS. Routers must support below mentioned basic specifications.
   - Router should support redundant power supply and should also support online insertion & removal of cards.
   - Router should support IPv4 and IPv6,SNMP, MLD, IGMP V2/V3 MLD, PIM, IPV4 Multicast, VPN v4 Multicast ECMP, LDP,BGP prefix independent control(EDGE & CORE) for IPV4 and IPV6, BGP, IS-IS, OSPF v2 /v3.
   - Router shall support QoS on all kind of interfaces and bundled interfaces in both ingress and egress direction.
   - Router should support NAT and PAT.
   - Router should support 20,000 static NAT entry from day one.
   - Router should support more than 20,000 concurrent NAT translations from day one.
   - Router should support ingress classification, marking and policing on physical and logical interfaces using source /destination IP subnet protocol types (IP/TCP/UDP), source /destination ports, IP precedence, DSCP, 802.1P.
   - Router should be NDPP or EAL3 certified at the time of bidding.
   - Router should support AC/DC power supply.
   - Router should have at least 8 No. of ports (4 Nos. of 1000 Base-T ports (electrical ethernet) + 4 Nos 1000 Base-X ports (optical ethernet)) .
   - Router should be supplied with all applicable licenses from day one.

- Router should be supplied with 7 years onsite warranty.
5. Required software and other necessary things for doing a voice call from NMS / helpdesk application on a single click has to be arranged and integrated in NMS / helpdesk application by selected agency.
6. All license should be perpetual and be factored in for the entire life contract period and shall be in the name of Gujarat Fibre Grid Network Limited (GFGNL).
7. The selected agency will deploy at least 3 Nos. of developers at T+15 days post award of Work order till the time milestone 3 is achieved and certified by GFGNL. The selected agency will also have to deploy 4 No. of resources at T+15 days for entire contract period as per below.

S No	Item Name	clarification
1.	Resource Deployment	- System admin -1 Nos. - DB manager - 1 Nos. - Backup and patch update manager- 1 Nos. - API integration expert -1 Nos. The deployed mix of resources should be capable of handling day-to-day requests related to application, system and server administration, data base management, back up management, updation and administration of NMS application etc. The selected agency shall have to mobilize the additional resource (L2 Level) as and when required during contract period at no additional cost to GFGNL. At no time, remote access of application deployed for GFGNL shall be provided to the selected agency.

8. The selected agency will have to provide detailed classroom and hands-on training to GFGNL and PIA resources for NMS and Helpdesk.

9 Proposed Timelines for NMS applications

S No	Milestones #	Timelines (T- Date of issuance of Work order)	Deliverables
Execution Phase			
1.		T+ 15 Days (calendar days)	- Deployment of proposed application along with Security audit. GFGNL shall bear the cost associated with security audit of application.
2.	Milestone #1	T+ 1 Month	- NMS application to be made live with integration with all network discovery related integration with respective EMS of

S No	Milestones #	Timelines (T- Date of issuance of Work order)	Deliverables
			GPON (Tejas/CDOT) and RFMS EMS of GFGNL network. • Integration with GIS & ERP system • Fault management : RCA and alarm correlation • Auto discovery along with Mismatch Reconciliation • Remote ticket status monitoring and control through SMS • Communication to field engineers with different means such as SMS, e-Mail.
3.	Milestone #2	T+3 Months	• NMS application to be made live with integration with all network discovery related integration with respective EMS of DWDM (ECI, D-Link) of GFGNL network. • NMS application to be made live with integration with all network configuration related integration with respective EMS of GFGNL network • Service Provisioning and Network Provisioning – service provisioning and IP allocation shall happen through NMS • Service problem management & automatic association/disassociation. • Configuration push to EMS for end to end Service provisioning. • Communication to field engineers with voice call on a single click from NMS /Helpdesk tool • Asset record of all active elements with historical details.
4.	Milestone #3	T+4 Months	• Integration with GIS mobile app,BBNL NOC • Rest all requirements as per EOI .
Operation & Management Phase			
5.			• Seven (7) years from successful implementation of milestone #3

10 Payment Terms

S No	Milestone	Payment
1.	Successful completion of milestone #1	20 % of (58% of Contract value)
2.	Successful completion of milestone #2	30% of (58% of Contract value)
3.	Successful completion of milestone #3	30% of (58% of Contract value)
4.	Stabilization period (3 months from successful completion of milestone #3)	20% of (58% of Contract value)
5.	Operation & Maintenance phase	Remaining amount shall be paid in 28 equal Quarterly Instalments i.e. 1.5% of contract value per quarter.

11 Penalties

In case of delay of timelines, penalties shall be levied on the bidder. Penalties are exclusive.

11.1 Project execution phase

S No	Milestone	Penalties
1.	Milestone #1	**Weekly Penalties** First two (2) weeks – 2 % of contract value per week Next two (2) weeks – 4 % of contract value per week Delay of more than 4 weeks – termination of contract
2.	Milestone #2	**Fortnightly Penalties** First two (2) fortnight : 1% of contract value per fortnight Next two(2) fortnights : 1.5 % of contract value per fortnight Every fortnight further : 2% of contract value per fortnight
3.	Milestone #3	**Monthly Penalties** First two(2) months : 0.5% of contract value per month Next two(2) months : 1% of contract value per month Every month further : 1.5% of contract value per month

11.2 Manpower availability

S No	Component	Timelines	Penalty
1	Non-deployment of proposed resources	T+ 15 Days	A penalty of Rs. 2000/- per resource per day for non-deployment as per EoI Scope.
2	Manpower Availability	Instance beyond admissible leaves	Non-reporting/ Un sanctioned leaves/ Absent / Non-replacement • Penalty of Rs. 1000 per day per resource or part thereof
	Admissible leaves: Prior intimated leave of absence will be allowed for 24 days per year per designated resource. If a resource is proceeding on leave or becoming absent is replaced with a resource approved by GFGNL, then such situation will not be treated as absence.		

11.3 Software Support

Any patch/ new fixes need to be applied to the corresponding product within 24 working hours with prior approval of GFGNL team. Any delay in applying the patch will attract penalty of Rs. 5000/- per day.

Any Software bug/ application related issue identified by GFGNL/ selected agency will be classified in types:

- Priority #1: System outage/ performance related issue effecting the overall functionality of the application.
- Priority #2: Having bearing on the day to day functioning of the deployed system/ availability of application (part functionality) for the GFGNL users, for example:
  - Unable to provide /fetch the necessary parameters/details to other software system of GFGNL like ERP, GIS, etc.
- Priority #3 : Not having bearing on the day to day functioning of the deployed system.

Resolution time & the penalty component for the bug fixing is given below (applicable on 24 * 7 basis):

Type of Issue	Resolution time (from the time of reporting of incident in the system or ticketing tool)	Penalty amount (exceeding resolution time)
Priority #1	2 hours	Rs. 4000/- (per hour)
Priority #2	4 hours	Rs. 2000/- (per hour)
Priority #3	24 hours	Rs. 500/- (for every 24 hour or part thereof)

12 Annexures: EoI Response Formats

12.1 Bid Document checklist

#	Documents to be submitted	Submitted (Y / N)	Documentary Proof (Page No.)
Qualification Criteria			
1.	Demand Draft as bid processing fee		
2.	EMD as Bid Security (DD/ BG as per Annexure IV)		
Technical Qualification			
3.	Cover Letter (Annexure I)		
4.	Bidder's information sheet (Annexure II)		
5.	Certificate from the Statutory auditor / CA clearly specifying the annual turnover for the specified years		

6.	Self-undertaking by the bidder for having sufficient Manpower on its letterhead signed by authorized bid signatory / HR (head)		
7.	Copy of Certificate of Registration /Copy of certificate of incorporation / partnership deed (if applicable)		
8.	Undertaking by the bidder for not being barred by any State/ Central Government/PSU (Annexure III)		
9.	Copy of work orders in support of clause #3 of eligibility criteria		
Financial Proposal			
10.	Commercials for delivering services as per scope of EoI (Annexure VI)		

12.2 Annexure I: Cover Letter

(To be Signed and submitted by the agency on their letter head)

To
Chief Finance Officer (CFO)
Gujarat Fibre Grid Network Limited (GFGNL),
Block No: 1, 8th Floor,
Udyog Bhavan,
Sector-11, Gandhinagar -382010

Sir,

I have carefully gone through the Terms & Conditions contained in the Expression of Interest (EoI) for Selection of System Integrator for Implementing Network Management System. I declare that all the provisions mentioned in the EoI document are acceptable to my Company.

I/We agree for unconditional acceptance of all the terms and conditions set out in the EoI document (and subsequent clarification/corrigendum, if any) document. I/we agree that you are not bound to accept any EoI response you may receive. We also agree that you reserve the right in absolute sense to reject all or any of the products/ services specified in the EoI response.

I/We fully understand and agree to comply that on verification, if any of the information provided here is found to be misleading the selection process, we are liable to be dismissed from the selection process or termination of the contract during the project, if selected to do so.

I further certify that I am an authorized signatory of my company and am, therefore, competent to make this declaration

Yours Truly,

Name: _____
Designation: _____
Company: _____
Address: _____
Seal:

12.3 Annexure II: Bidder Information Sheet

(To be Signed and submitted by the agency on their letter head)

S No	Particulars to be provided	Responding Firm's / Company Details to be provided	
Basic details			
1.	Name of the Bidder		
2.	Correspondence details of the Bidder:	Corporate Office	Local Office
3.	Telephone No & Email Address		
4.	Contact person details (Name, Designation Contact number etc.), to whom all references shall be made regarding this EoI		
5.	Details of ownership (Name and Address of the Board of Director, Partners etc.)		
6.	Name of the authorized Signatory who is authorized to sign all the relevant documents		
7.	No. of years of experience of providing NMS related services		
8.	Annual Turnover for last three years (INR Lakhs)	2016-17	
		2017-18	
		2018-19	
9.	Net worth (INR Lakhs)		
10.	Address of office in Ahmedabad/ Gandhinagar (if any)		
Details for registration under Companies Act, 1956			
11.	Registration Number of the Bidder in case of company/LLP		
12.	Place of registration		
13.	Date of registration		
14.	Product/service for which firm is Registered		
15.	Validity Period, if applicable		
Details for registration with appropriate authorities			
16.	GST registration details Registration number and details)		
17.	PAN No		

Authorized Signatory   **Seal of the Company**

Name & Designation   **Date**

12.4 Annexure III: Self-declaration -Undertaking of not being barred by any State/ Central Government/PSU

(To be submitted by agency on their letter heads)

To
Chief Finance Officer (CFO)
Gujarat Fibre Grid Network Limited (GFGNL),
Block No: 1, 8th Floor,
Udyog Bhavan,
Sector-11, Gandhinagar -382010

Sir,

In response to the EoI Ref. No. _____ dated _____
for "Expression of Interest (EoI) for Selection of System Integrator for Implementing Network Management System", as an Owner/Partner/Director of _____, I/We hereby declare that presently our Company/Firm _____ not have been barred from participating in any tender/ providing services/procurement process or supply of materials by an organization/department/office/ PSU/ board or corporation of either Government of India or any state government.

I further certify that I am an authorized signatory of my company and am, therefore, competent to make this declaration

Yours Truly,

Name: _____
Designation: _____
Company: _____
Address: _____
Seal:

12.5 Annexure IV: Format for Bank Guarantee format for Earnest Money Deposit (EMD)

To   Dated:

……………………

……………………

……………………

……………………

Whereas --- (here in after called "the Bidder") has submitted its bid dated ---------------- in response to the EoI no: GFG/DST/BharatNet/NMS/2019/400 for Expression of Interest (EoI) for Selection of System Integrator for Implementing Network Management System. KNOW ALL MEN by these presents that WE --- ---------- -- having our registered office at ------------ ---------------------- ------ --------------------- (hereinafter called "the Bank") are bound unto the _____, Gujarat Fibre Grid Network Limited in the sum of ---------------------- for which payment well and truly to be made Gujarat Fibre Grid Network Limited , the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this --------------day of ------- ---------------- ----2019.

THE CONDITIONS of this obligation are:

The EMD may be forfeited, In case of a Bidder if:

1) The bidder withdraws its bid during the period of bid validity.

a. The Bidder does not respond to requests for clarification of their Bid.

b. The Bidder fails to co-operate in the Bid evaluation process.

c. The bidder, fails to furnish Performance Bank Guarantee in time.

2) The bidder fails to Sign the contract in accordance with this EoI

3) The bidder is found to be involved in fraudulent and corrupt practices

We undertake to pay to the GFGNL up to the above amount upon receipt of its first written demand, without GFGNL having to substantiate its demand, provided that in its demand GFGNL will specify that the amount claimed by it is due to it owing to the occurrence of any of the above-mentioned conditions, specifying the occurred condition or conditions.

This guarantee will remain valid up to 180 days from the last date of bid submission. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the GFGNL and further agrees that the guarantee herein contained shall continue to be enforceable till the GFGNL discharges this guarantee

The Bank shall not be released of its obligations under these presents by any exercise by the GFGNL of its liability with reference to the matters aforesaid or any of them or by reason or any other acts of omission or commission on the part of the GFGNL or any other indulgence shown by the GFGNL or by any other matter or things.

The Bank also agree that the GFGNL at its option shall be entitled to enforce this Guarantee against the Bank as a Principal Debtor, in the first instance without proceeding against the BIDDER and not withstanding any security or other guarantee that the GFGNL may have in relation to the BIDDER's liabilities.

Dated at _____ on this _____ day of _____2019.

Signed and delivered by

_____

For & on Behalf of

Name of the Bank & Branch &

Its official Address with seal

Approved Bank: Guarantee issued by following banks will be accepted as SD or EMD on permanent basis

1. All Nationalized banks including the Public sector banks - IDBI Ltd.

2. Private sector banks - AXIS Bank, ICICI Bank and HDFC Bank

12.6 Annexure V: Bank Guarantee for Performance Bank Guarantee (PBG)

(To be typed on non-judicial stamp paper)

In consideration of the ...., ... having agreed to exempt _____ (hereinafter called 'the said agency') from the demand under the terms & conditions of an agreement/ Advance Work Order No _____ dated _____ made between _____ and _____ for the "**Expression of Interest (EoI) for Selection of System Integrator for Implementing Network Management System**"(hereinafter called "the said Contract"), of security deposit for the due fulfilment by the said agency of the terms & conditions contained in the said Contract, on production of the bank guarantee for _____we, (name of the bank) _____ (hereinafter refer to as "the bank") at the request of _____ (agency) do hereby undertake to pay to the State/SIA an amount not exceeding _____ against any loss or damage caused to or suffered or would be caused to or suffered by GFGNL by reason of any breach by the said agency of any of the terms &conditions contained in the said Contract.

We (name of the bank) _____ do hereby undertake to pay the amounts due and payable under this guarantee without any demure, merely on a demand from the State/SIA by reason of breach by the said agency' of any of the terms &conditions contained in the said Contract or by reason of the agency' failure to perform the said Contract. 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 State/SIA 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

_____.

We undertake to pay to the GFGNL any money so demanded notwithstanding any dispute or disputes raised by the agency in any suit or proceeding pending 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 agency shall have no claim against us for making such payment.

We (name of 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 Contract and that it shall continue to be enforceable till all the dues of the State/SIA under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged or till _____ (office/ Department) State/SIA certifies that the terms &conditions of the said Contract have been fully or properly carried out by the said agency and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or till 60 days post contract period (as specified in Work Order) from the date hereof, we shall be discharged from all liabilities under this guarantee thereafter.

We (name of the bank)_____ further agree with the GFGNL that the State/SIA shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms &conditions of the said Contractor to extend time of performance by the said agency from time to time or to postpone for any time or

from time to time any of the powers exercisable by the GFGNL against the said agency and to forbear or enforce any of the terms & conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said agency or for any forbearance, act or omission on the part of the GFGNL or any indulgence by the GFGNL to the said agency 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.

This guarantee shall not be discharged due to the change in the constitution of the Bank or the agency.

We (name of the bank) _____ lastly undertake not to revoke this guarantee during its currency except with the previous consent of the GFGNL in writing.

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..

Approved Bank: Guarantee issued by following banks will be accepted as SD or EMD on permanent basis

1. All Nationalized banks including the Public sector banks - IDBI Ltd.

2. Private sector banks - AXIS Bank, ICICI Bank and HDFC Bank

12.7. **Annexure VI: Financial Bid Format**

(To be Signed and submitted by the agency on their letter head)

S No	Component	UoM	Quantity (a)	Unit Price excluding taxes (in Indian Rupees) (b)	Taxes, duties applicable (in %) (please specify)	Total amount (in Indian Rupees) (c=a*b)
1	Total Cost of delivering services	Lumpsum	1			
2	Supply, installation, testing, commissioning of router with all the required hardware, software, applicable licenses, 7 years onsite warranty and O&M for entire contract period	No.	2			
Total						

Authorized Signatory   **Seal of the Company**

Name & Designation   **Date**

Note:
- Payments shall be made by the GFGNL as per the terms and conditions of the EoI and no extra charges shall be paid by GFGNL.
- For financial evaluation, Price excluding Tax shall be taken into consideration
- The taxes shall be mentioned separately and will be applicable as actual as per the time of billing. All invoices should be raised from Gujarat.