

Request for Proposal

For

Selection of Project Monitoring Agency (PMA) of Kerala Fibre Optic Network and Reliable Communication and Data Acquisition Network

Tender Ref No: KFON/MD/PMA/19/xx

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Kerala State Information Technology Infrastructure Limited

7th Floor, Felicity Square,

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- 6950001

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Glossary of Terms

Abbreviation	Description
ABD	As-Build Diagram
KFON	Kerala Fibre Optic Network
BG	Bank Guarantee
BoQ	Bill of Quantity
DD	Demand Draft
EMD	Earnest Money Deposit
FDMS	Fibre Distribution Management System
GoI	Government of India
HDPE	High-Density Polyethylene
LoI	Letter of Intent
MAF	Manufacturer Authorization Form
MoU	Memorandum of Understanding
MPLS	Multiprotocol Label Switching
SI	System Integrator
NDA	Non-Disclosure Agreement
NIT	Notice Inviting Tender
NOC	Network Operation Center
O&M	Operations & Maintenance
OEM	Original Equipment Manufacturer
OFC	Optical Fibre Cable
OTDR	Optical Time-Domain Reflectometer
PBH	Primary Business Hour
PLB	Permanently Lubricated
PMU	Project Management Unit
PoP	Point of Presence
PMA	Project Monitoring Agency
RCC	Reinforced Concrete Cement
RfP	Request for Proposal
RoW	Right of Way
SLA	Service Level Agreement
NOC	Network Operation Center
SoR	Schedule of Requirement
TAC	Type Approval Certificate
TEC GR	Telecommunication Engineering Center Generic Requirements
TSEC	Technical Specification Evaluation Certificate

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DRAFT

Definitions

#	Term	Definition
1.	Agreement/ Contract	the Agreement entered between Authority and the Successful Bidder including all attachments, schedules, annexure thereto and all documents incorporated by reference therein and all amendments, corrigendum /corrigenda, changes thereto
2.	Client/ Authority	Kerala State Information Technology Infrastructure Limited, represented by the its Managing Director
3.	Bidder	The use of the term “Bidder” in the Tender means the Single or the Lead Member of the consortium of firms not exceeding three.
4.	Bid/Proposal	Offer by the Bidder to fulfil the requirement of the Client/Authority under the RfP/Contract for an agreed price. It shall be a comprehensive technical and commercial response to the Tender
5.	Breach	A breach by Bidder of any of its obligations under this Agreement
6.	Confidential Information	All information including Authority’s data (whether in written, oral, electronic or other format) which relates to the technical, financial and business affairs, dealers, suppliers, products, developments, operations, processes, data, trade secrets, design rights, know-how, plans, budgets and personnel of each department and its affiliates which is disclosed to or otherwise learned by the other Party in the course of or in connection with this Agreement (including without limitation such information received during negotiations, location visits and meetings in connection with this Agreement);
7.	Consortium	The consortium consist of multiple members (not more than 3 parties including the Lead Member) entering into a Consortium Agreement for a common objective of satisfying the Authority’s requirements & represented by Lead Member of the consortium;
8.	Control	Control means the term “Control” as defined in section 2 (27) of the Companies Act, 2013;
9.	Deliverables of the PMA	Products, infrastructure and services agreed to be delivered by the Bidder in pursuance of the agreement as defined more elaborately in the RfP and includes all related documents like manuals inter alia payment and/or process related etc., source code and all its modifications;
10.	Go-Live	The date of commencement of Operations and Maintenance phase after the successful completion of each milestone (acceptance of the milestone by the Authority);
11.	Intellectual Property Rights	All rights in written designs and copyrights, moral rights, rights in databases and Bespoke Software / Pre-existing work including its up-gradation systems and compilation rights (whether or not any of these are registered and including application for registration);

RfP for Selection of Project Monitoring Agency

#	Term	Definition
12.	Month/ Week	The Month shall mean calendar month & Week shall mean calendar week;
13.	Parties	Shall mean Authority and Bidder for the purposes of this Agreement and “ Party ” shall be interpreted accordingly;
14.	Performance Security	Unconditional guarantee provided by the Bidder from a Scheduled Commercial Bank/Nationalized Bank in favour of the Authority for 5% of the total contract value;
15.	Project	Project shall mean implementation of Kerala Fibre Optic Network and Reliable Communication and Data Acquisition Network;
16.	Project Implementation	Project Implementation as per the quality and testing standards and acceptance criteria prescribed by Authority or its nominated agencies;
17.	Request for Proposal/ Tender Document	Written solicitation that conveys to the Bidder, requirements for products/ services that the Authority intends to buy and implement;
18.	Service Level	The level of service and other performance criteria which will apply to the Services delivered by the Bidder, executed as part of the Master Service Agreement;
19.	Software	Software designed, developed / customized, tested and deployed by the Bidder for the purposes of the Project and includes the source code (in case of Bespoke development) along with associated documentation, which is the work product of the development efforts involved in the Project and the improvements and enhancements effected during the term of the Project, but does not include the third party software products (including the COTS products used for the product), proprietary software components and tools deployed by the Bidder;
20.	Network System	Network System shall mean implementation of Kerala Fibre Optic Network and Reliable Communication and Data Acquisition Network
21.	Successful Bidder	The Bidder who is qualified & successful in the bidding process and awarded the Contract and will be referred to as Project Monitoring Agency(PMA);

Table 1: Definitions

1 Bidding Data Sheet

Notice Inviting Tender		
1.	Name of the Tender Inviting Authority	Kerala State Information Technology Infrastructure Limited (KSITIL)
2.	Officer Tender Inviting Authority	Managing Director, KSITIL
3.	Name of the Tender	Project Monitoring Agency (PMA) for Kerala Fibre Optic Network and Reliable Communication & Data Acquisition Network
4.	Tender Reference Number	KSITIL/KFON/MD/PMA/19/xxx
5.	Tender Type	Open
6.	Tender Category	Services
7.	Publication of Tender Document	As per e-tender website
8.	Contact Person	Company Secretary, KSITIL
9.	Address	Kerala State Information Technology Infrastructure Ltd., 7th Floor, Felicity Square, Statue Junction, Thiruvananthapuram , - 6950001
10.	Contact No.	0471-2304006
11.	E-Mail ID, for any clarifications	pmo@ksitil.org
12.	Time & last date to submit clarifications	As per e-tender website
13.	Pre-bid Meeting	As per e-tender website
14.	Pre-Bid Meeting Venue	As per e-tender website
15.	Procedure for Bid Submission	Through e-tendering platform of Government of Kerala
16.	Last Date of Submission of Bids	As per e-tender website
17.	Opening of Prequalification Bids	As per e-tender website
18.	Bid System	Two stage bid system 1. Technical Bid 2. Commercial Bid
19.	Tender Fee (Non –Refundable)	INR 11,800
20.	EMD (Refundable)	INR 10 Lakhs
21.	Validity of the Bid	3 months from the date of opening of price bid
22.	Contract period	24 months
23.	Performance Security (PS)	5% of the total contract value In the form of a Bank Guarantee issued by any Nationalized / Scheduled Commercial Bank in favour of "Managing Director, Kerala State IT Infrastructure Ltd.", payable at Thiruvananthapuram.

Notice Inviting Tender		
		Performance Security must be furnished within 15 days from the date of receipt of notification of award (Letter Of Intent)
24.	Performance Security validity period	Three(3) months beyond expiry of contract period
25.	Period of Signing the contract	Within 15 days from the date of receipt of notification of award (Letter Of Intent)
26.	Terms & Conditions	As per the Tender document

Table 2: Bidding Data Sheet

Note:

- The Bidding process shall be conducted online (e-tendering). Please visit <https://etenders.kerala.gov.in/> for further details regarding the e-tendering process.
- All the notification/details and terms and conditions regarding this tender notice hereafter will be published on line on web site <https://etenders.kerala.gov.in/>
- All the clarifications / corrigendum to the queries will be published on the above said websites.

2 About Kerala Fibre Optic Network

Government of Kerala now wishes to build a dedicated optical fibre network capable of efficient service delivery, assured Quality of Service (QoS), reliability, interoperability, redundancy, security and scalability.

Key Outcomes

- Create a highly scalable and resilient core optical fibre network across the State and also to provide non-discriminatory access to service and content providers;
- Be an Infrastructure Service Provider and provide free/subsidized internet to targeted sections of households through service providers;
- Setup an access network to connect to 30,000+ govt. & educational institutions and provide infrastructure for extending the connectivity to 20 lakhs economically backward households utilizing the existing service provider network wherever available.

Project Structure

- **Track 1:-** Build a highly scalable and resilient core network and create an access to connect 30,000+ government and educational institutions.
- **Track 2:-** Collaborate with regional service providers to provide free internet to 20 lakhs economically backward households.

In this regard, Managing Director Kerala State IT Infrastructure Ltd.(KSITIL) on behalf of Managing Director, Kerala Fibre Optic Network Ltd. invited bids for ‘Selection of an Agency for Implementation of Kerala Fibre Optic Network & Reliable Communication and Data Acquisition Network’ vide e-tender id “2018_KSITI_209610_1” for Track 1. Contract with the SI was executed on 9 Mar 2019.

2.1 Broad Scope of Work of the SI

Scope of work of the Systems Integrator (SI) covers the survey, design, procurement, supply, installation, construction, configuration, testing, commissioning, operation and maintenance of state wide Optical Fibre Cable Network in the state of Kerala. It shall supply commission operate and maintain the associated active (components including NOC components), passive, civil, mechanical and power components.

- A. Route Survey, Planning and Design
 - i. Capturing the GIS coordinates of the OFC route and all sites being setup and uploading the same to central servers at NOC.
- B. Procurement, Supply and Installation of all material/equipment required for the implementation of following components of the network in 24 months from the date of signing of contract
 - i. Establishment of the Core Rings, Aggregation Rings, Pre-Aggregation Rings and Spur Connectivity as per the final design
 - ii. Setup of Core, Aggregation, Pre-Aggregation and Spur PoPs with all the required networking components
 - iii. Establishment of NOC
 - a) Site preparation and physical infrastructure provisioning like setup of pre-fabricated structures, power, air conditioning etc.
 - b) Supply and installation of Servers, Storage, Networking, Security components
 - c) Supply, installation and customization of the required application software
 - iv. Establishment of GPON last mile network connecting about 30,000+ government and educational institutions
 - v. Ensuring integration of all the network elements with NOC
 - vi. Provision of intranet and internet services to all government and educational offices connected through KFON
- C. Site level coordination with

- i. KSEBL substation authorities for carrying out laying work and establishment of PoPs in each substation
 - ii. Government institutions for accessing their premises
- D. Providing required support to Authority or its selected agency for conducting verification and acceptance testing processes
- E. The works are to be completed on turnkey basis and the supplied equipment and network are required to be maintained for 7 years from the date of Go-Live. The proposed solution is intended to meet the objectives and SLAs of the Project. SI will be responsible to meet the service levels as mentioned in the tender document. SI is also allowed to improvise the architecture and other components of the solution so that the project meets its objectives.

2.2 Proposed Network

The entire network is divided into two – Core Network and Access Network. The high-level network architecture is as shown in the diagram below:

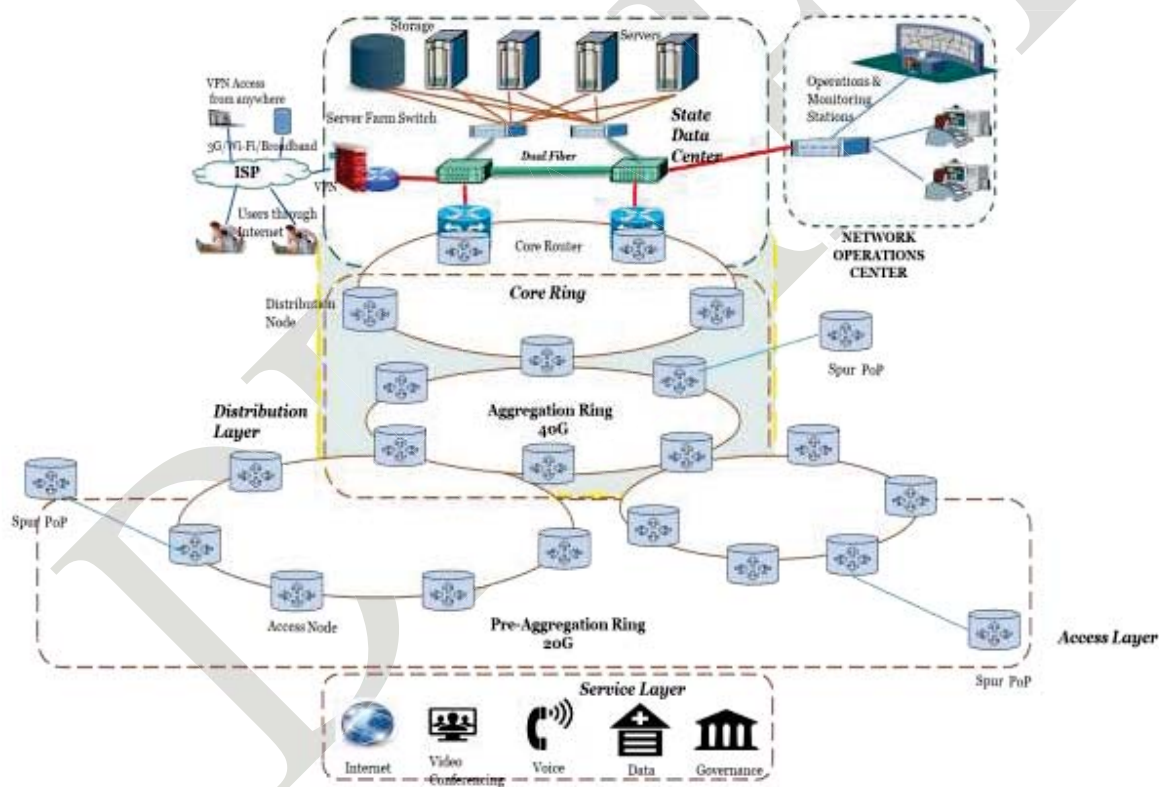


Figure 1: High Level Network Architecture Diagram

The proposed network architecture for KFON project follows ring architecture with Internet Protocol – Multi Protocol Label Switching (IP-MPLS) technology.

Core Ring:

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14 Tier-1 PoPs (14- Districts) shall have provisioned DWDM equipment which co-exists with IP/MPLS routers. The network shall be leveraged to deliver scalable bandwidth to Government offices, households, institutions and enterprises.

1. The ring will interconnect all the 14 Tier 1 substations with NOC and SDC. There shall be more than one ring.
2. The core backbone ring topology shall be constructed using over-head 48 Core Optical Fibre Cable.
3. This ring will carry all the traffic from each districts to the NOC, Data Centre as well as each district to district. The core ring shall be designed to drop approx. 40 Gbps traffic at each district node.
4. It will deploy high end scalable routers and will be running IP/MPLS protocols.

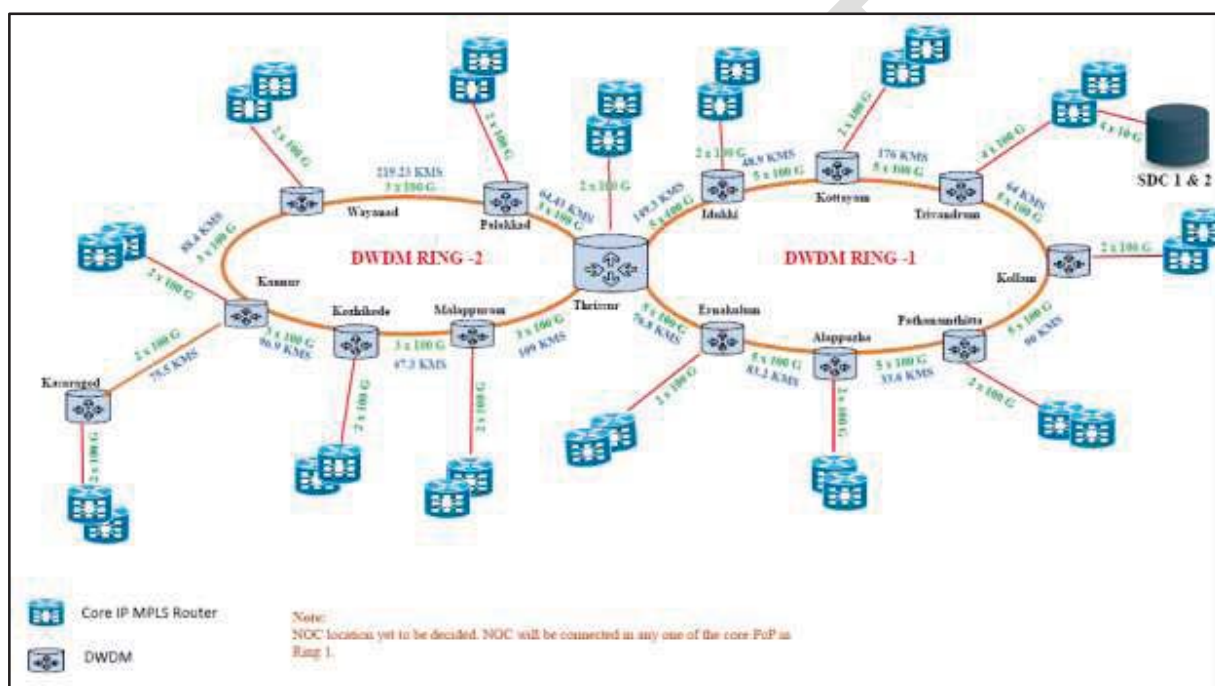


Figure 2: Core Ring

Aggregation Ring

1. Each district will have an aggregation ring
2. The Aggregation rings shall be constructed using 48 Core Optical Fibre Cables
3. Aggregation layer will deploy high end scalable routers and should act as service edge layer for insertion of any kind of services (native L2, L3, MPLS VPN, Multicast etc).. Aggregation Layer will aggregate traffic from pre-aggregation and will be connected to core router.
4. Ring shall utilize a 40 Gigabit Ethernet / optical technology

Pre- Aggregation Ring

1. The PA ring shall be constructed using a 48 Core Optical Fibre Cables
2. The ring shall utilize a 20 Gigabit Ethernet / optical technology
3. Pre- Aggregation layer will deploy high end scalable routers and should act as service edge layer for insertion of any kind of services (native L2, L3, MPLS VPN, Multicast etc). The capacity will be multiples of 10G which can be further scaled as the traffic grows.

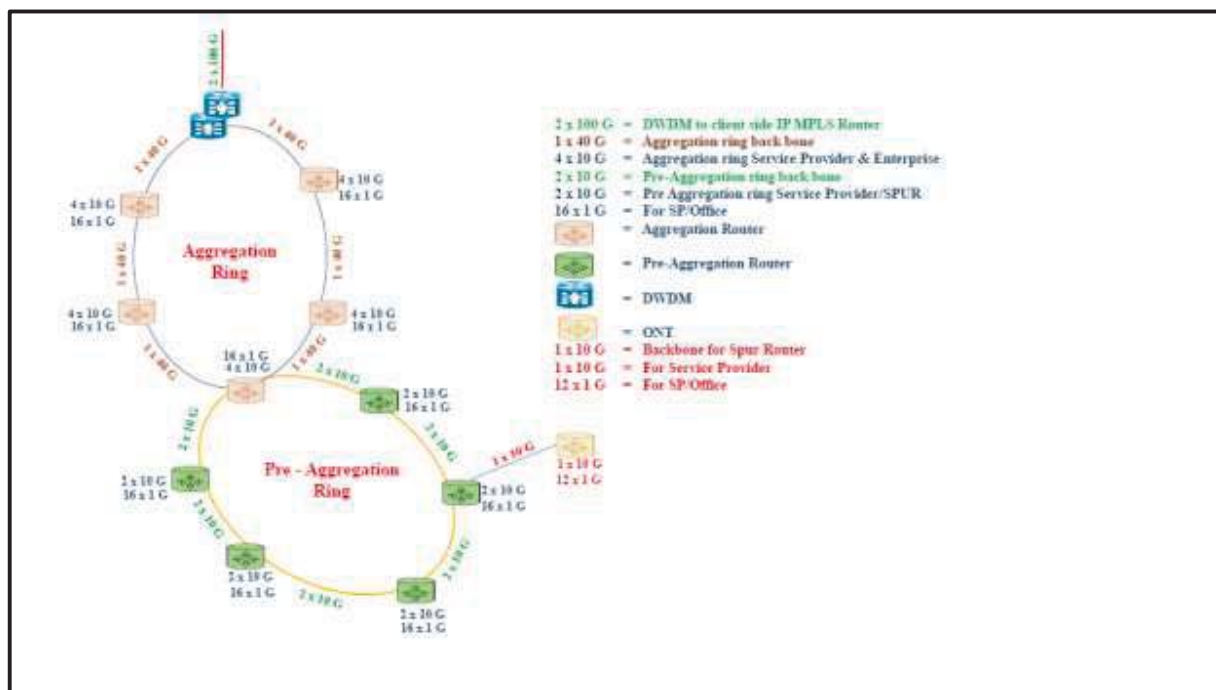


Figure 3: Aggregation/Pre-Aggregation/Spur Connections

Last Mile Connectivity

1. Horizontal connectivity to the Government and educational institutions shall be through a passive optical fibre network
2. It shall use a single-mode fibre connecting optical line terminal (OLT) through one or more passive optical splitters to multiple end points called optical network terminals (ONTs)
3. OLTs shall be placed at the PoPs of core network and ONTs at the Government and educational institutions. Optical splitter shall be placed at strategic locations decided after the survey

Network Operating Centre (NOC)

A Central IT infrastructure will be required to centrally monitor, control and manage the network. This comprises establishment of Network Operations Centre (NOC), development and deployment of Enterprise Management System (EMS) including SLA monitoring, Server performance monitoring, Network and Helpdesk Management System. The required solution shall be hosted in the servers procured for this project and placed at the NOC.

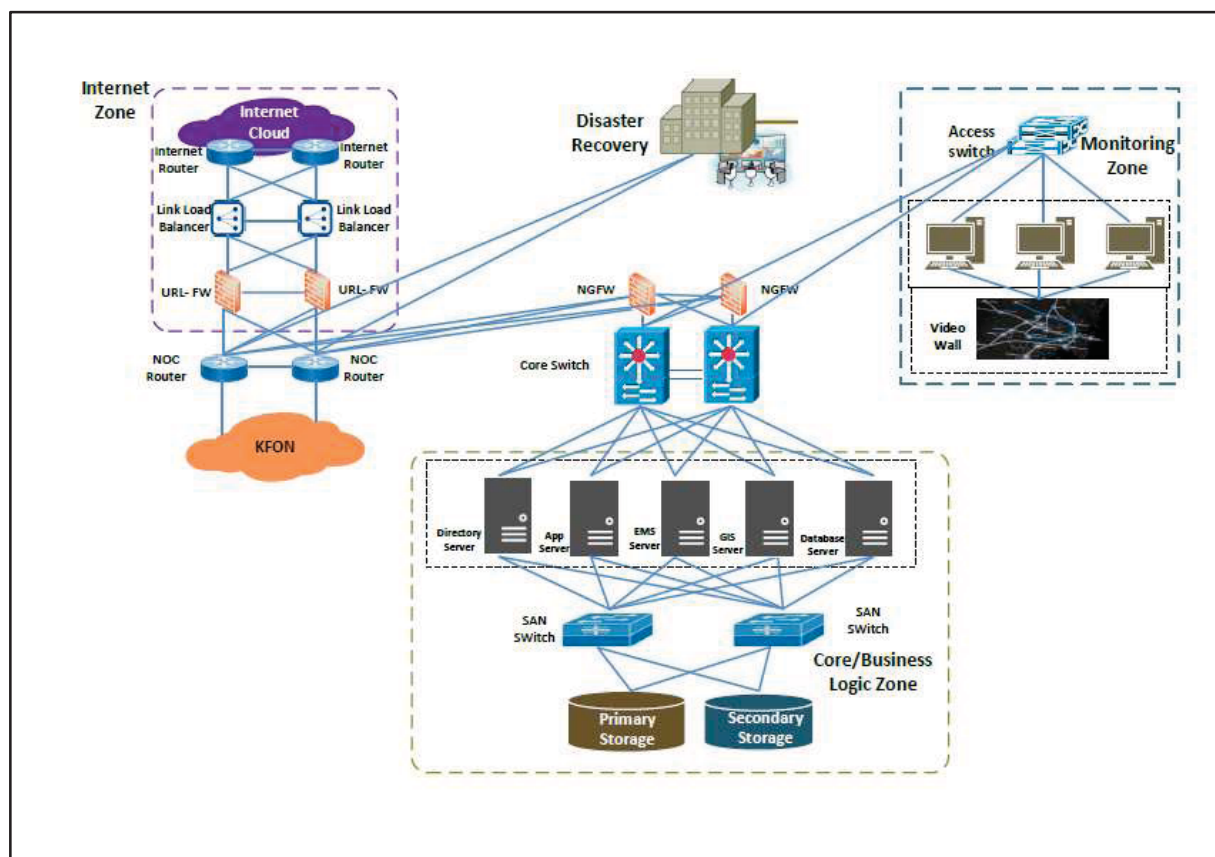


Figure 4: NOC Architecture

2.3 High-level scope of the project

SI No.	Item	Quantity
1.	NOC	1
2.	Core PoPs	14
3.	Aggregation PoPs	87
4.	Pre-Aggregation PoPs	194
5.	Spur PoPs	83
6.	End Offices	30,438
7.	OPGW Cable	3,416.49
8.	48F ADSS Cable – 100 Kmph	14,886
9.	48F ADSS Cable – 150 Kmph	10097
10.	24F ADSS Cable	10250
11.	12F ADSS Cable	7409
12.	48F Underground (UG) cable	675
13.	4F Drop Cable	6088

Table 3: Quantities tendered

3 Instructions to Bidders

3.1 Procurement under Kerala Fibre Optic Network

Managing Director, Kerala State IT Infrastructure Ltd. invites bids from eligible Bidders for the selection of an agency for the monitoring of the execution of

- Design, Implementation and Maintenance of Kerala Fibre Optic Network
 - Providing Reliable Communication and Data Acquisition Network to all Substations of 110kV and above Voltage level in Kerala
- a) Participating entities shall agree to adhere to the Terms & Conditions and Scope & Services mentioned in this tender.
- b) All the terms and conditions are to be read jointly as mentioned in the e-procurement website (<https://etenders.kerala.gov.in/>) and in this document.

3.2 General

- a) While every effort has been made to provide comprehensive and accurate background information, requirements and specifications, Bidders must form their own conclusions about the services required. Bidders and recipients of this RfP may wish to consult their own legal advisers in relation to this RfP.
- b) All information supplied by Bidders may be treated as contractually binding on the Bidders, on successful award of the assignment by the Authority on the basis of this RfP.
- c) Authority may cancel this public procurement at any time prior to a formal written contract being executed by or on behalf of the Authority.
- d) This RfP supersedes and replaces any previous public documentation and communications, and Bidders should place no reliance on such communications.

3.3 Due Diligence

Bidder is expected to examine all instructions, forms, terms and specifications in the Tender Document. The Bid should be precise, complete and in the prescribed format as per the requirement of the Tender Document. Failure to furnish all information required by the Tender Document or submission of a bid not responsive to the Tender Document in every respect will be at the Bidder's risk and may result in rejection of the bid.

3.4 Cost of Bidding

Bidder shall bear all costs associated with the preparation and submission of its Bid and the Authority shall in no event be held responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

3.5 Language of the Bid

The bids prepared by the Bidder and all subsequent correspondence and documents relating to the Bids exchanged by the Bidder and the Authority shall be written in English language. Any printed literature furnished by the Bidder, written in another language, shall be accompanied by an accurate English translation, in which case, for purposes of interpretation of the Bid, the English translation shall govern.

3.6 Pre-Bid Meeting & Clarifications

- a) The Authority, will host a Pre-Bid meeting for queries (if any) by the prospective bidders. The purpose of the pre-bid meeting is to provide a forum to the bidders to clarify their doubts / seek clarification or additional information, necessary for them to submit their Bid. The Authority reserves the right to hold or re-schedule the Pre-Bid meeting.
- b) The meeting will be held on the date and venue as specified in Bidding Data Sheet. The representatives of the bidders (limited to two) may attend the pre-bid meeting at their own cost.
- c) The Bidders will have to ensure that their queries for Pre-Bid meeting should reach the Authority by email (Excel File only) on or before last date for sending pre-bid queries mentioned in Bidding Data Sheet of this document by authorized representative of the Bidder with subject line: “Kerala Fibre Optic Network PMA pre-bid query”.
- d) The queries should necessarily be submitted in the following format:

#	Page no.	Section No.	Content/Clause of the RfP requiring clarification	Clarification Sought

Table 4: Format for pre-bid queries

- e) Queries submitted post the deadline mentioned in the e-tender website or which do not adhere to the above mentioned format may not be responded to. Authority shall not be responsible for ensuring that they have received the Bidder’s queries.
- f) Bidders are requested to submit the e-mail address, mobile no. of the authorized person and registered address for all communications.

3.6.1 Responses to Pre-Bid Queries and Issue of Corrigendum

- a) Authority shall provide timely response to the queries. However, Authority makes no representation or warranty as to the completeness or accuracy of any response made in good faith, nor does Authority undertake to answer all the queries that have been posed by the Bidders.
- b) At any time prior to the last date for receipt of bids, Authority may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the RfP document by a corrigendum.
- c) The Corrigendum (if any) & clarifications to the queries from all bidders will be posted only on the e-procurement portal of the Government of Kerala.
- d) Any such corrigendum shall be deemed to be incorporated into this RfP. In each instance in which provisions of the Corrigenda contradict or are inconsistent/ inapplicable with the provisions of the Tender Document, the provisions of the Corrigenda shall prevail and govern, and the contradicted or inconsistent/inapplicable provisions of the Tender shall be deemed amended accordingly.
- e) In order to provide prospective Bidders reasonable time for taking the corrigendum into account, Authority may, at its discretion, extend the last date for the receipt of Proposals.

3.7 Key Requirements of the Bid

3.7.1 Tender Fees

Bidder needs to pay tender fee as per Bidding Data Sheet for document processing through the e-procurement platform during bid submission.

3.7.2 Earnest Money Deposit (EMD)

- a) Bidders should submit the Bid Security as mentioned in the Bidding Data Sheet through the eprocurement platform of Government of Kerala within the stipulated time for bidding.
- b) The Bid Security of all unsuccessful bidders will be refunded through online transfer, on receipt of letter of acceptance from Successful Bidder along with security deposit.
- c) The Bid Security amount is interest free and will be refundable without any accrued interest on it.
- d) Bid Security shall be returned to the Successful Bidder upon signing of contract and submission of Performance Security.
- e) The Bid submitted without Bid Security, mentioned above, will be summarily rejected.
- f) The Bid Security may be forfeited:
 - If a Bidder withdraws its bid during the period of bid validity
 - If the Successful Bidder fails to sign the contract or submit Performance Security within the stipulated period.

3.7.3 Completeness of Response

- a) Bidders are advised to study all instructions, forms, terms, requirements, appendices and other information in the RfP documents carefully. Online submission of the bid / proposal shall be deemed to have been done after careful study and examination of the RFP document with full understanding of its implications.
- b) Failure to comply with the requirements of this paragraph may render the Proposal non-compliant and the Proposal may be rejected. Bidders must:
 - Comply with all requirements contained in this RfP;
 - Include all supporting documentations specified in this RfP;
 - All pages of the Bid must be numbered and duly signed by the Authorized Signatory accompanied by a power of attorney/Board Resolution.

3.7.4 Hand written documents, Erasures or Alterations

The offers containing erasures or alterations will not be considered. There should be no hand-written material, corrections or alterations in the offer. Filling up of the information using terms such as “OK”, “noted”, “as given in brochure/manual” is not acceptable and may lead to the dis-qualification of the Bid.

3.7.5 Bid Prices

- a) The Bidder shall indicate in the proforma prescribed, the unit rates and total bid prices for the equipment / services, it proposes to provide under the Agreement. Prices should be shown separately for each item as detailed in this Tender Document.
- b) It must be clearly understood that the Scope of Work is intended to give the Bidder an idea about the order and magnitude of the work and is not in any way exhaustive and guaranteed by the Authority. The Bidder shall carry out all the tasks in accordance with the requirement of the tender documents and with due diligence. It shall be the responsibility of the Bidder to fully meet all the requirements of the Tender Documents and to meet objectives of the Project.

3.7.6 Firm Prices

- a) Prices quoted in the bid must be firm and final and shall not be subject to any modifications, on any account whatsoever. The bid prices shall be indicated in Indian Rupees (INR) only.
- b) The Commercial Bid should clearly indicate the price quoted without any ambiguity / qualifications whatsoever and should include all applicable taxes, duties, fees, levies, and other charges as may be applicable, excluding GST (to be quoted in separate column in the commercial bid) in relation to the activities proposed to be carried out.
- c) Prices in any form or by any reason before opening the Commercial Bid should not be revealed, failing which the offer shall be liable for rejection.

3.7.7 Inspection of Site and sufficiency of Tender

- a) Bidder is expected to work out their own rates based on the detailed description of scope of work items, SLA conditions, etc. and should judiciously arrive at the commercials.
- b) The Bidder shall be deemed to have satisfied itself before Bid submission as to correctness and sufficiency of its Tender. The rates and prices quoted shall cover all its obligations under the contract necessary for proper completion of the services.
- c) If necessary, before submitting its Bid the Bidder should inspect and examine various sites and its surroundings and shall satisfy itself about form and nature of the Sites, means of access to the Sites, and in general, obtain all necessary information which may influence or affect Project implementation and operationalization. No extra charges consequent on any misunderstanding or otherwise shall be allowed.

3.7.8 Conditional bids by the bidders

The Bidder should abide by all terms and conditions specified in the Tender Document. Conditional offers shall be liable for dis-qualification.

3.7.9 Bid Validity Period

Bids shall be valid for a period as mentioned in the Bidding Data Sheet. A Bid valid for shorter period may be considered as non-responsive. In exceptional circumstances, at its discretion, Authority may solicit the Bidder's consent for an extension of the validity period. The request and the responses thereto shall be made in writing or email.

3.7.10 Variation of Quantity

- a) Resources requirement mentioned in the RfP is only indicative/approximate. Authority reserves the right to increase or decrease this requirement up to 25%. Payment shall be made against actual number of resources deployed.

3.8 Local Conditions

- a) Each Bidder is expected to become fully acquainted with the local conditions and factors, which may affect the performance of the contract and /or the cost.
- b) The Bidder is expected to know all conditions and factors, which may have any effect on the execution of the contract after issue of Letter of Intent as described in the bidding document. Authority shall not entertain any request for clarification from the Bidder regarding such local conditions.
- c) It is the Bidder's responsibility that such factors have been properly investigated and considered before submitting the proposal. No claim, what so ever, including that for financial adjustment to the contract awarded under the bidding document will be entertained by the Authority. Neither any change in the time schedule of the contract nor any financial adjustments arising there-of shall be permitted by the Authority on account of failure of the Bidder to know the local laws / conditions.

3.9 Tender Opening

Received bids will be opened online. Participated bidders can be present online through the Kerala e-procurement portal. Physical presence may not be required. However, participating bidders' authorized representatives can mark attendance online during bid opening.

3.10 Clarification of Bids

To assist in the scrutiny, evaluation and comparison of bids, Authority may, at its discretion, ask some or all Bidders for clarifications with regards to their Bid. The request for such clarifications and the response will necessarily be in writing (by letter/email). Failure of a Bidder to submit additional information or clarification as sought by Authority within the prescribed period will be considered as a non-compliance and the Bid may be evaluated based on the limited information furnished along with the Bids.

3.11 Right to accept any Bid and reject any or all Bids

Authority reserves the right to accept or reject any Bid, and to annul the tendering process and reject all Bids at any time prior to award of contract, without thereby incurring any liability to the affected Bidder(s) or any obligation to inform the affected Bidder(s) of the grounds for such action.

3.12 Modification and withdrawal of Bids

- a) The Bidder is allowed to modify or withdraw its submitted proposal online any time prior to the last date and time prescribed for receipt of bids, by giving a written notice to the Authority.
- b) Subsequent to the last date for receipt of bids, no modification of bids shall be allowed online.
- c) If any bidder withdraws his bid, at any stage after the last date and time of bid submission till the final evaluation or declaration of the Successful Bidder, it shall be declared a "defaulting bidder" and amongst other measures, EMD of such defaulting bidder shall be forfeited. In such situation, the tendering process shall be continued with the remaining bidders as per their ranking.
- d) If the bidder declines after being declared as Successful Bidder, it shall be declared as defaulting bidder and EMD of such defaulting bidder shall be forfeited and Authority reserves right to blacklist/debar any such bidder for next three (3) years from participating in any tender floated by Authority. In such situation, the tendering process shall be continued with the second highest score bidder matching the price of first bidder (if

lower). However, in-case of refusal of acceptance by the second bidder to match the price, Authority would carry out discussions with the subsequent bidders or annul the bidding process, as the case may be.

3.13 Notification of Award

Authority will notify the Successful Bidder via letter/email of its intent of accepting the Bid. The Successful Bidder shall be required to sign the LOI and return the same to the address and within the specified time period in the Bidding Data Sheet as a token of acceptance of the LOI.

3.14 Performance Security (PS)

As a condition precedent to execution of the Agreement, the Successful Bidder shall ensure submission of the requisite unconditional irrevocable Bank Guarantee, in the prescribed format within the time period prescribed in the Bidding Data Sheet as a Performance Security for the services to be performed under the resultant Agreement. The Bank Guarantee amount and its validity shall be equivalent to that mentioned in the Bidding Data Sheet. Performance Security may be subject to forfeiture as per the clauses mentioned in the Tender Document.

Bid Security of the Successful Bidder shall be returned on submission of PS by Successful Bidder after successful execution of the Agreement.

The Performance Security may be liquidated by the Authority as penalty / liquidated damages resulting from the PMA's failure to complete its obligations under the resultant Agreement. The Performance Security shall be returned by Authority to the Bidder within thirty (30) days of the term/expiration of the resultant Agreement after applicable deductions as per the Agreement, if any.

3.15 Signing of Contract

Subsequent to Authority notification to the Successful Bidder by way of a LOI, acceptance of the LOI and submission of the Performance Security, the Successful Bidder shall execute the Agreement with the Authority. Failure of the Successful Bidder to furnish the Performance Security or execute the agreement within the prescribed time shall cause the Bid Security of the Successful Bidder to be liquidated. In such event, the Authority may choose to negotiate with the next eligible Bidder. The Successful Bidder will be liable to indemnify the Authority for any additional cost or expense, incurred on account of failure of the Successful Bidder to execute the Agreement.

Notwithstanding anything to the contrary mentioned above, the Authority at its sole discretion shall have the right to extend the timelines for execution of Agreement on the request of the Successful Bidder, provided the same is bona fide.

The draft Agreement between the Authority and the Successful Bidder has been provided in this Tender Document.

3.16 Pre-Contract Integrity Pact

An "Integrity Pact" shall be signed between the Authority and the PMA. This is a binding agreement between Authority and PMA. Under this Pact, the PMA agrees with the Authority to carry out the assignment in a specified manner. The format of Pre-Contract Integrity Pact will be as per format given in the annexure. In case of a consortium, all members have to sign the pact.

The following set of sanctions shall be enforced for any violation by a Bidder of its commitments or undertakings under the Integrity Pact:

- Denial or loss of contracts;
- Forfeiture of the EMD and Performance Security;
- Liability for damages to the PMA; and
- Debarment of the violator by Government of Kerala for an appropriate period of time.

The Bidders are also advised to have a company code of conduct (clearly rejecting the use of bribes and other unethical behaviour compliance program for the implementation of the code of conduct throughout the company).

3.17 Concessions permissible under statutes

Bidder, while quoting against this tender, must take cognizance of all concessions permissible, if any, under the statutes and ensure the same is passed on to the Authority, failing which it will have to bear extra cost. In case Bidder does not avail concessional rates of any levies, the Authority will not take responsibility towards this. However, the Authority may provide necessary assistance, wherever possible, in this regard.

3.18 Terms and conditions of the Tender

Bidder is required to refer to the draft Master Service Agreement, provided in the Tender Document for all the terms and conditions (including project timelines) to be adhered by the Successful Bidder during Project implementation and Post implementation period. Please note that one needs to read the Master Service Agreement as a whole document; and the Annexures mentioned there-in may not correspond to the Tender Annexures. Please refer to the Interpretation Section of the Agreement for reference of the Annexures.

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4 Evaluation Framework

4.1 Two Stage Bid System

- a) Complete bidding process will be online (e-tendering) in two stage –bid system. All the notification and details terms and conditions regarding, this tender notice hereafter will be published on line on the website <https://etenders.kerala.gov.in/>
- b) Bidders can login to e-procurement –portal in secure mode only by signing through the Digital certificates.
- c) Bidder should submit all the required information / documentation, as specified in the Tender Document, in PDF format.
- d) Technical bids will be opened online on website <https://etenders.kerala.gov.in/> as per the timeline specified in e-tender website
- e) The rates should be quoted in the Commercial Bid format attached with the tender and uploaded online as per the instructions given on the web site <https://etenders.kerala.gov.in/>
- f) The Authority reserves the right to accept or reject any or all the tenders without assigning any reason.
- g) Wherever a specific form is prescribed in the RfP document, the Bidder shall use the form to provide relevant information. If the form does not provide space for any required information, space at the end of the form or additional sheets shall be used to convey the required information. For all other cases, the Bidder shall design a form to hold the required information.
- h) Authority reserves the right to ask for a technical elaboration/clarification in the form of a technical presentation from the Bidder on the already submitted Technical Bid at any point of time before opening the Commercial Bid. The Bidder shall furnish the required information to Authority and its appointed representative on the date asked for, at no cost to the Authority. The Authority may, at its discretion, visit the office of the Bidder anytime before the signing of Agreement.
- i) The Bidder's name, the Bid Price, the total amount of each Bid and other such details as the Tendering Authority may consider appropriate, will be announced and recorded by the Authority at the opening of bid.

The two stage-Bid to be submitted by the Bidder shall consist of minimum following:

Technical Bid	<ul style="list-style-type: none">• The Technical Bid shall be prepared in accordance with the requirements specified in this Tender and in the formats prescribed in the Tender Document.• Technical Bid should be submitted along with a certified true copy of a board resolution/power of attorney empowering authorized signatory to sign/act/execute documents binding the Bidder organization to the terms and conditions detailed in this proposal.• The authorized signatory of the bidder shall sign on all the statements, documents, certificates uploaded by them, owning responsibility for their correctness/ authenticity.• Technical Bid should not contain commercials of the Project, in either explicit or implicit form.• Conditional Technical Bid is liable for rejection.• Since the size of the Technical Bid is expected to be quite large, bidders are advised to
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	upload the technical documents well in advance and do not wait for last minute.
Commercial Bid	<ul style="list-style-type: none">• Forms and formats specified on the e-Tender website need to be scrupulously followed. Any deviation in it (without proper justification) may lead to disqualification of the Bid.• Price quotation accompanied by vague and conditional expressions such as "subject to immediate acceptance", "subject to confirmation", etc. will be treated as being at variance and shall be liable to be summarily rejected.

Table 5: Two stage Bidding system

Authority will not accept submission of a bid in any manner other than that specified in the Tender Document. Bids submitted in any other manner shall be treated as defective, invalid and rejected.

Bids must be direct, concise, and complete. Authority will evaluate Bidder's bid based on its clarity and completeness of its response to the requirements of the project as outlined in this Tender.

4.2 Bid Evaluation

- a) Initial Bid scrutiny will be held. Bid will be treated as non-responsive, if it is
 - Not submitted in as specified in the RfP document.
 - Received without the Letter of Authorization (Power-of-Attorney)
 - Found with suppression of details
 - Without complete information, subjective, conditional offers and partial offers submitted
 - Submitted without the documents requested in the checklist
 - Have non-compliance of any of the clause stipulated in the RfP
 - With lesser validity period.
- b) All responsive Bids will be considered for further processing as below.
- c) Authority may constitute a Tender Evaluation Committee and the Committee will prepare a list of responsive Bidders, who comply with all the Terms and Conditions of the RfP. This Committee according to the Evaluation process defined in this RfP document will consider all eligible bids for further evaluation. The decision of the Committee will be final in this regard.
- d) Tender Evaluation Committee will examine the bids to determine whether they are complete, whether any computational errors have been made, and whether the bids are generally in order.
 - a) Committee may conduct clarification meetings with each or any bidder to discuss any matters, technical or otherwise and may take any decision with regard to the Bid Document.
 - b) Proposal shall be opened in the presence of bidders representatives who intend to attend at their cost. The Bidders' representatives who are present shall sign a register giving evidence of their attendance.
 - c) Proposal document shall be evaluated as per the subsequent section.

4.3 Examination of Bid documents against Eligibility Criteria

The Bid document will be examined to determine whether the bidder meets the eligibility criteria, whether the proposal is complete in all respects, whether the documents have been properly signed and whether the bids are generally in order. Any bids found to be non-responsive for any reason or not meeting the minimum levels of the performance or eligibility criteria specified in various sections of this Bid Document will be rejected and will not be considered further.

4.4 Evaluation of document

A detailed evaluation of the bids shall be carried out in order to determine whether the bidders are competent enough and whether the technical aspects are substantially responsive to the requirements set forth in the RFP Document.

All supporting document submitted in support of Eligibility and Technical Evaluation Criteria should comply the following:

- a) Soft copies of supporting documents to be submitted online.
- b) Supporting document should clearly indicate value of the completed project, and the scope of work/ services should be clearly highlighted.
- c) Completion certificate should clearly indicate the value and duration of the project.
- d) In case the Bidder is having Non-Disclosure Agreement (NDA) with their client, no such experience will be counted (if agreement copy not submitted).
- e) Incomplete order copy submitted by the Bidder will not be considered for evaluation.
- f) In case of projects where order for recurring /Extension and subsequent order has been placed on the Bidder only the mentioned order value will be considered for evaluation.
- g) Bidders failing to comply any of the above, may result in rejection of their bid.

4.5 Eligibility Criteria

The bidder must possess the requisite experience, strength and capability in providing the services necessary to meet the requirements as described in the RFP document. The bidder must also possess the technical know-how, qualified resources and tools that would be required to successfully execute the services for PMA including conducting of Acceptance Testing, Quality and Quantity verification, validation of OFC survey, validation of DWDM, IP MPLS network architecture, certification of invoices submitted by SI etc. under KFON project in the State of Kerala. The bidder must also have the skill to understand the project plan submitted by the SI and as approved by KFON Ltd.

The bids must be complete in all respect and should cover the entire scope of work as stipulated in the RFP document. The invitation to proposal is open to all bidders who qualify the pre-qualification criteria as given below:

Sl. No	Minimum Criteria	Supporting Documents	Applicability
1.	The Sole Bidder or Lead Member, in case of consortium, should be registered in India under Companies Act / LLP Act 2008 and subsequent amendments thereto, registered under GST and operating in India for the last 5 (five) years	a) Certificate of incorporation & CIN b) Copy of GST registration certificate c) Copy of audited financial statements for the last 5 (five) financial years i.e., FY 2013-14, FY 2014-15, FY 2015-16, FY 2016-17 & FY 2017-18	Sole Bidder or Lead Member
2.	Consortium is allowed. The maximum number of members allowed in a consortium is Three (3) including Lead Member. In case of consortium, the applicant consortium shall have a valid agreement among the members. The agreement shall clearly specify the Lead member and other consortium member and outline each member's financial strengths, technical	Valid agreement on a Stamp Paper of appropriate value concluded among all the members of the consortium duly stamped, notarized and signed by the Authorized Signatories of the companies under consortium dated prior to the submission of Bid.	

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Sl. No	Minimum Criteria	Supporting Documents	Applicability
	strengths and the role and responsibility of each of the members of the consortium		
3.	Lead Member of the consortium should have project management experience in IT/ Telecom/ ICT implementation/ Consulting/ monitoring.	a) Copy of PO/Contract/ Agreement with client b) Completion Letter	Lead Member
4.	In case of a consortium, the Consortium Member, should be registered in India under Companies Act / LLP Act 2008 and subsequent amendments thereto registered under GST and operating in India for the last 2 (two) years	c) Certificate of incorporation & CIN d) Copy of GST registration certificate e) Copy of audited financial statements for the last 2 (Two) financial years i.e. FY 2016-17 & FY 2017-18	Consortium Member
5.	The Sole Bidder/Consortium shall have an average annual turnover of INR 15 Crores over the last three (3) Financial Years (FY 2015-16, FY 2016-17 and FY 2017-18). In case of Consortium, atleast 50% of the turnover criteria shall be met by the Lead Member and the remaining can be satisfied by the other Consortium partners.	Certificate from the Statutory Auditor stating the annual turnover for the last three (3) Financial Years and the average annual turnover. The certificate shall be signed and sealed along with the registration number of the Auditor	Sole Bidder or Lead Member And Consortium members
6.	The Lead Member /Sole Bidder should have a positive net worth as on date of submission of bid	Certificate from the Statutory Auditor stating the networth as on date for bid submission. The certificate shall be signed and sealed along with the registration number of the Auditor	Sole Bidder or Lead Member And Consortium members
7.	Bidder and Consortium partners shall not be blacklisted by any Central/State/UT Govt/PSU of India on the date of bid submission.	Self-Declaration Certificate (Certificate to be enclosed in the bid duly signed by the authorized signatory on its letter head)	Sole Bidder or Lead Member And Consortium members

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Sl. No	Minimum Criteria	Supporting Documents	Applicability
8.	A power of attorney / Board resolution in the name of person signing the bid	Original Power of attorney/ Board resolution copy	Sole Bidder or Lead Member
9.	A power of attorney / Board resolution in the name of person signing the consortium agreement	Original Power of attorney/ Copy of Board Resolution	Sole Bidder or Lead Member And Consortium members
10.	The Sole Bidder or Lead Member in case of consortium, shall be the single point of contact and shall be solely responsible for all the Terms & Conditions of the RFP	Self-certification duly signed by authorized signatory on company letterhead.	Lead Member /Sole Bidder

*Table 6: Eligibility Criteria***Note:**

- (i) Bidders are allowed to submit experience in terms of technical qualification of their holding (parent) company or subsidiary company only.
 - a) a 'holding company', in relation to one or more other companies, means a company of which such companies are subsidiary companies; and
 - b) a 'subsidiary company' in relation to any other company (that is to say the holding company), means a company in which the holding company— (a) controls the composition of the Board of Directors; or (b) exercises or controls more than one-half of the total share capital on its own.
- (ii) For International project, if the original client certificate and other documents are in language other than English, then a translated copy duly legalised by Indian embassy and Apostilled wherever applicable, shall be submitted with bid document.
- (iii) For projects where fee has been received in any currency other than Indian Rupees, then the foreign currency conversion rate available on Reserve Bank of India's portal as on the date of publication of the RFP document shall be used for conversion of amount in foreign currency to Indian Rupees equivalent.
- (iv) Projects executed for bidder's own or bidder's group of companies shall not be considered.

Consortium Criteria:

- a) The consortium bid submitted without valid Consortium Agreement shall be treated as non-responsive.
- b) The Sole/Lead Member and any of the consortium members shall not participate in more than one bid, in

which event such bids shall be summarily rejected.

- c) By submitting the Bid, the Bidder shall also be deemed to have acknowledged and agreed that in the event of a change in control of a Consortium Member or an Associate whose Technical Capacity and/ or Financial Capacity was taken into consideration for the purposes of short-listing and technically qualified under and in accordance with this RFP, the Bidder shall be deemed to have knowledge of the same and shall be required to inform the competent authority forthwith along with all relevant particulars about the same and the competent authority may, in its sole discretion, disqualify the Bidder or withdraw the work order from the PMA, as the case may be. In the event such change in control occurs after signing of the Agreement but prior to sign off of the project, it would, notwithstanding anything to the contrary contained in the Agreement, be deemed to be a breach of the Agreement, and the same shall be liable to be terminated without the competent authority being liable in any manner whatsoever to the Bidder. In such an event, notwithstanding anything to the contrary contained in the Agreement, the competent authority shall be entitled to forfeit and appropriate the Bid Security or Performance Bank Guarantee, as the case may be, as damages, without prejudice to any other right or remedy that may be available to the competent authority under the Bidding Documents and/ or the Agreement or otherwise.
- d) The award of contract shall be signed with the sole Bidder /Lead Member only and the sole Bidder / Lead Member shall be single Point of Contact for this Project. PBG shall be submitted by the sole Bidder / Lead Member.
- e) The payments for the said project shall be released only in the name of sole Bidder/Lead Member.

4.6 Technical Evaluation Criteria

Bidders who have qualified in the eligibility criteria would undergo Technical Evaluation as per the criteria as follows:

SI No.	Technical Evaluation Parameter	Marking Criteria		Supporting Documents Required
A	Past Experience	Max = 55; Min = 30		
A.1	Experience of projects involving Project Management / Third Party Audit /Acceptance Audit of OFC network projects in last Five (5) years as on bid submission date.	OPGW Cable	Marks	<ul style="list-style-type: none"> PO/Work orders clearly reflecting the quantum of the work Project Experience citation to be provided as per format given in the Annexure
		50-100 Km	1	
		100-200 Km	3	
		> 200 Km	5	
		ADSS Cable	Marks	
		100-500 Km	8	
		500-1,000 Km	10	
		>1,000 Km	15	
		Underground Cable	Marks	
		100-500 Km	6	
		500-1,000 Km	8	
		>1,000 Km	10	
A.2	Experience of projects involving Implementation/ Third Party Audit /Acceptance Audit of DWDM, IP/MPLS and GPON network comprising of at least 100 nodes in the last 10 (ten) years as on bid submission date.	IP MPLS Projects	Marks	
		2-3	6	
		4-5	8	
		>5	10	
		DWDM/OTN Projects	Marks	
		2-3	6	

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SI No.	Technical Evaluation Parameter	Marking Criteria		Supporting Documents Required
		4-5	8	
		>5	10	
		GPON Projects	Marks	
		2-3	1	
		4-5	3	
		> 5	5	
A.3	Experience of projects involving Implementation / Third Party Audit /Acceptance Audit of NOC in the last 10 (ten) years as on bid submission date.	No. of NOCs	Marks	
		1-2	6	
		2-4	8	
		> 4	10	
B.	Profiles of Key Resources	Profile Type	Max= 25; Min =15	Submission of detailed CV resources mentioned in the resource deployment criteria. CVs to be provided as per format given in the Annexure
		Team Lead	3 Marks	
		Warehouse In-Charge	2 Marks	
		OFC Engineers	5 Marks	
		NOC Team	5 Marks	
		PoP Team	5 Marks	
		GIS Expert	5 Marks	
C	Technical Presentation	Max = 10;		Presentation on proposed Understanding of Scope of Work, detailed process flow for each project related activities like NoC Implementation, Field Roll out (preferably made in MS Visio), Project Plan, Approach and methodology. Bidder shall submit documentation on the same along with bid submission

Table 7: Technical Evaluation Criteria

Note:

- i. Bidders are allowed to submit experience in terms of technical qualification of their holding (parent) company or subsidiary company only.
 - (a) a 'holding company', in relation to one or more other companies, means a company of which such companies are subsidiary companies; and
 - (b) a 'subsidiary company' in relation to any other company (that is to say the holding company), means a company in which the holding company— (a) controls the composition of the Board of Directors; or (b) exercises or controls more than one-half of the total share capital on its own.

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- ii. For International project, if the original client certificate and other documents are in language other than English than a translated copy duly legalized by Indian embassy and Apostilled wherever applicable, shall be submit with bid document.
- iii. For projects where fee has been received in any currency other than Indian Rupees, then the foreign currency conversion rate available on Reserve Bank of India's portal as on the date of publication of the tender document shall be used for conversion of amount in foreign currency to Indian Rupees equivalent.
- iv. Projects executed for Bidder's own or Bidder's group of companies shall not be considered.

4.7 Resource Deployment Criteria

PMA has to propose profiles of key resources as mentioned below and the same shall be evaluated as part of technical bid evaluation. Bidder shall submit detailed CV of the proposed team members and the same shall be evaluated as follows:

SI No.	Resource Profile	No. of Resources	Period									
1.	Project Manager/ Team Lead	1	Entire contract period									
2.	Warehouse In-charge	4	Entire contract period at the assigned warehouses of the SI									
3.	OFC Engineers	3 per district for 14 districts for monitoring of day to day laying and testing for both OPGW, ADSS and end institution commissioning	Day 1 requirement is 1 person per 14 districtis Resources deployment may be scaled gradually based on the progress of work by the SI. Authority shall intimate the PMA on scaling up/down of resources based on the progress of the work by SI.									
4.	NOC team	<div>Proposed team should have qualified manpower with required experience to verify and certify the equipment/technologies mentioned in the Annexure 14.</div> <table><tr><th>Sl. No.</th><th>Role</th><th>Total Man power</th></tr><tr><td>1</td><td>Technical specialist Network, Security</td><td>1</td></tr><tr><td>2</td><td>Technical specialist Server.</td><td>1</td></tr></table>	Sl. No.	Role	Total Man power	1	Technical specialist Network, Security	1	2	Technical specialist Server.	1	Team composition with detailed CV to be given by the Bidder at the time of Bidding
Sl. No.	Role	Total Man power										
1	Technical specialist Network, Security	1										
2	Technical specialist Server.	1										

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SI No.	Resource Profile	No. of Resources			Period
			Virtualization and storage		
		3	Technical specialist EMS, NMS, FMS and BSS	1	
		4	HVAC expert	1	
		4	BMS, electrical, Civil Infra expert	1	
			Total	5	
5.	PoP Team	Proposed team should have qualified manpower with required experience to verify and certify the equipment/technologies mentioned in the Annexure 14			Team composition and no. of teams with detailed CV to be given by the Bidder at the time of Bidding. Bidder should give the no. of teams required to verify and certify on an average 10% of the PoPs locations in a month
		SI. No.	Role		
		1	Network expert		
		2	Civil,Electrical expert		
6.	GIS expert	1			For the entire contract period and will be based out of KSITIL office initially and once NOC is live, will be based out of NOC

Table 8: Key Resource Deployment Criteria

- Resources requirement for OFC engineers mentioned in the RfP is only indicative/approximate. Authority reserves the right to increase this requirement up to 25% of the maximum requirement. Payment shall be made against actual number of resources deployed.
- PMA shall plan the deployment of OFC engineers and the NOC/PoP/end institutions teams based on the actual project progress by the SI. Authority reserves the right to deploy these engineers and teams to other districts based on project requirements.

SI No.	Resource Profile	Qualification	Max Marks	
1	Team Lead	B.E./B.Tech/MCA/M.Sc (Full time)	0.5	Detailed CV as per annexure along with copy of relevant certification, etc.
		10 or more years of experience Project Management/Monitoring experience in the area of OFC/WAN/ICT infrastructure	2.5	

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Sl No.	Resource Profile	Qualification	Max Marks	
2	Warehouse In-charge	B.E./B.Tech (Full time)/Diploma(Full time)/	0.5	
		5 or more years of experience in handling warehouse operations including maintaining stock records, monitoring of stock movement	1.5	
4	NOC Team CVs	Educational Qualification	0.5	
		Team should have members with experience of 5 or more years in MPLS, DWDM, Electrical, Civil,	4	
		Relevant certifications	0.5	
5.	PoP Team CVs	Educational Qualification	0.5	
		Team should have members with experience of 5 or more years in MPLS, DWDM, GPON, Electrical, Civil,	4	
		Relevant Certifications	0.5	
6.	GIS Expert	Diploma / Graduation / PG	1	
		Min 5 years of experience in GIS mapping of telecom network, Knowledge of GIS software products, GPS, total station, coordinate reference, etc.	4	
7.	OFC Engineer	Diploma/ITI/any Degree	1	
		Min. 2 years exp in laying & testing of OFC	4	

*Table 9: Qualifications of the Resources Deployed***Note:**

Only the resource profiles that fulfil the minimum qualification and experience requirements shall be considered for marking.

Successful Bidder shall submit detailed CVs of the OFC engineers to be deployed to the PMU. These resources shall be interviewed by KSITIL before deployment.

4.8 Evaluation of Commercial Bid

- Evaluation of bids shall be done on **Least Cost/Lowest Cost (L1) criteria**
- Bidders should obtain minimum 60 marks in the overall technical evaluation and should meet the cut off marks in each sub category, to qualify for opening of the Commercial Bid.** The evaluation will be carried out if Commercial bid are complete and computationally correct. Authority's evaluation in this regard shall be final and binding on the Bidder.
- Lowest Commercial proposal will be declared as L1.**

4.9 Rejection Criteria

Besides other conditions and terms highlighted in the Tender Document, bids may be rejected under following circumstances:

4.9.1 General rejection criteria

- a) Conditional Bids;
- b) If the information provided by the Bidder is found to be incorrect / misleading / fraudulent at any stage / time during the Tendering Process;
- c) Any effort on the part of a Bidder to influence the bid evaluation, bid comparison or contract award decisions; Bidder shall not approach Authority's officers from the time of the proposal opening till the time the Contract is awarded.
- d) Bids received after the prescribed time and date for receipt of bids;
- e) Bids without signature of person (s) duly authorized on required pages of the bid;
- f) Bids without power of attorney/ board resolution;
- g) Any other reasons mentioned in this RfP elsewhere.

4.9.2 Technical Rejection Criteria

- a) Technical Bid containing commercial details;
- b) Revelation of prices in any form or by any reason before opening the Commercial Bid;
- c) Failure to furnish all information required by the Tender Document or submission of a bid not substantially responsive to the Tender Document in every respect;
- d) Bidders not quoting for the complete scope of work as indicated in the Tender Documents, addendum (if any) and any subsequent information given to the Bidder;
- e) Bidders not complying with the technical and general terms and conditions as stated in the Tender Documents;
- f) Bidder not confirming unconditional acceptance of full responsibility of providing services in accordance with the scope of work and Service Level Agreements of this tender;
- g) Any other reasons mentioned in this RfP elsewhere.

4.9.3 Commercial Rejection Criteria

- a) Incomplete Price Bid;
- b) Price Bids that do not conform to the Tender's price bid format;
- c) Total price quoted by the Bidder does not include all statutory taxes and levies applicable;
- d) If there is an arithmetic discrepancy in the commercial Bid calculations, the Technical Committee shall rectify the same. If the Bidder does not accept the correction of the errors, its bid may be rejected;
- e) If there is discrepancy in numerical and words, prices in word shall prevail;

- f) If there is discrepancy in unit rates and total, unit rates shall prevail.

4.9.4 Fraud and Corrupt Practices

- i. The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Selection Process.
- ii. Notwithstanding anything to the contrary contained in this tender, the Authority shall reject a Proposal without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the — Prohibited Practices!) in the Selection Process. In such an event, the Authority shall, without prejudice to its any other rights or remedies, forfeit and appropriate the Bid Security or Performance Security, as the case may be, as mutually agreed genuine pre-estimated compensation and damages payable to the Authority for, inter alia, time, cost and effort of the Authority, in regard to the tender, including consideration and evaluation of such Bidder's Proposal.
- iii. Without prejudice to the rights of the Authority under Clause above and the rights and remedies which the Authority may have under the LoI or the Agreement, if an Bidder or Systems Implementation Agency, as the case may be, is found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Selection Process, or after the issue of the LoI or the execution of the Agreement, such Bidder shall not be eligible to participate in any tender or tender issued by the Authority during a period of < period, suggested 2 (two) > years from the date such Bidder, as the case may be, is found by the Authority to have directly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.
- iv. For the purposes of this Section, the following terms shall have the meaning hereinafter respectively assigned to them.

“Corrupt practice” means

- a) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Authority who is or has been associated in any manner, directly or indirectly with the Selection Process or the LoI or has dealt with matters concerning the Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Authority, shall be deemed to constitute influencing the actions of a person connected with the Selection Process); or
- b) save as provided herein, engaging in any manner whatsoever, whether during the Selection Process or after the issue of the LoI or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LoI or the Agreement, who at any time has been or is a legal, financial or technical consultant/ adviser of the Authority in relation to any matter concerning the Project;

- **“fraudulent practice”** means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process;
- **“Coercive practice”** means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any persons participation or action in the Selection Process;

“Undesirable practice” means

- a) establishing contact with any person connected with or employed or engaged by Authority with the objective of canvassing,
- b) lobbying or in any manner influencing or attempting to influence the Selection Process; or
- c) having a Conflict of Interest; and

“Restrictive practice” means

Forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Selection Process.

4.9.5 Conflict of Interest

The Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to be in a conflict of interest with one or more parties in the bidding process if including but not limited to:

- a. they have controlling shareholders in common; or
- b. they receive or have received any direct or indirect subsidy from any of them; or
- c. they have the same legal representative for purposes of this bid; or
- d. they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to material information about or improperly influence the Bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or
- e. A Bidder participates in more than one bid in this bidding process, either individually or as a partner in a joint venture/ consortium. This will result in the disqualification of all Bids in which it is involved; or
- f. a Bidder or any affiliated entity, participated as a Consultant in the preparation of the design or technical specifications of the works that are the subject of the Bid or involved in providing consultancy services to KSITIL.

5 Scope of Work

The Government of Kerala intends to setup a core Optical Fibre Cable Network leveraging the power infrastructure of Kerala State Electricity Board Limited and provide connectivity to 30,000+ government & educational institutions across the State to provide high-speed connectivity.

The implementation of project shall be done by the System Integrator (SI) selected through the open tender vide e-tender id e-tender id “2018_KSITI_209610_1” and with whom the Authority has executed the contract on 9 Mar 2019. The scope of work for the SI shall include Design, Supply, Installation, Integration, Testing and Commissioning of OFC through IP-MPLS Network, GPON Network and setting up of Network Operations Centre (NOC) and Operations & Maintenance and service provisioning of the created network for 7 years.

Authority intends to appoint agency, “**hereinafter known as PMA**”, which would be responsible to oversee the work being done by SI to **ensure 100% quality of work as well as quantity verification**. SI need to coordinate with PMA for getting the acceptance certification done and the schedules for the same need to be planned by the SI in consultation with the Authority. All records and testing output conducted by SI has to be verified and certified by PMA. PMA shall be responsible to conduct all the acceptance tests but not limited to, on the basis of acceptance test procedures defined in this document. **All the acceptance test reports must be duly certified by PMA before its submission to PMU / Authority for validation.**

PMA shall be broadly responsible for below responsibilities but not limited to:

1. Ensure adherence to standards, guidelines and procedures laid down by the Authority for the project.
2. Responsible for the project monitoring activities during implementation and till Go Live of the Project. This will involve review and certification of all the components and work performed by SI in line with the scope of work assigned to SI.
3. Responsibility of Quality Review of the work done by SI on day-to-day basis for all 100% sites. Certification and verification of the work will require visit to each site and PMA shall deploy its teams at all the sites. This deployment shall be scheduled in line with the site wise project plan / work plan details submitted by SI to the Authority.
4. PMA shall verify, validate and certify the As-Built Diagrams submitted by the SI.
5. PMA shall prepare a validation checklist before the start of the engagement and get it approved by PMU/Authority.
6. Preparation and uploading all data/reports/certificates on project management tool, if provided by the Authority and/or sending the same to the Authority officers at appropriate address as per pre-defined procedures.
7. Ensuring provisioning of manpower in line with the implementation schedule as requested by the Authority.
8. PMA shall do audit and inspection of material at stores maintained by SI and certify the invoices with all supporting documents before its submission to PMU / Authority for validation.
9. PMA shall verify and certify the inward and outwards movement of materials at SI’s warehouse.
10. PMA shall provide the daily activities progress report to the Authority/ PMU on daily basis. PMA shall capture all the work carried out by each team - (NOC/PoP) team, OFC engineers, Warehouse-in-charge, Project Manager and GIS Expert and shall also highlight any poor workmanship by the SI, risks like slow progress by the SI or any other issues.
11. PMA shall monitor the workmanship of SI and thereby ensure minimum wastage of fiber.
12. PMA shall be responsible for conducting regular training of its team on project activities and quality control measures. Reports along with videos/pictures of such trainings shall be submitted to the

Authority.

13. PMA shall prepare the measurement book (electronic format) and submit via PMS/ email.
14. Verify the route map and fiber route GIS data uploaded by SI in its GIS tool.
15. Conduct and approve all pre-defined tests for ensuring quality of work done by SI including:
 - a. End to End Testing – PoP to PoP, PoP to NOC, NOC to SDC, OLT to ONT, PoP to end institution, etc.

Field Acceptance Test – of OFC, OFC accessories, Joint chamber, route markers etc.

- b. End-to-End testing which means Complete Installation, Integration, Commissioning and Testing of the created network which shall include OTDR link test, Power On & Self-Testing, IP-MPLS ring fail over testing for both cases i.e. in case of path/equipment failure, As Build Diagram (ABD)/GIS reports with optical power loss budget), GPON equipment at end institution with State NOC and Final acceptance certificate.
16. Regularly update the project progress on KFON project management tool, which shall be supplied by the SI.
17. Review Weekly/ Monthly Progress Report submitted by SI for work done in the respective Districts and submit to the Authority.
18. PMA to ensure 100% quality and quantity verification of work as per the guidelines provided by the Authority.
19. PMA shall perform complete acceptance testing of the Active and Passive equipment as per the functional requirements and technical specifications provided by the Authority.
20. PMA shall perform Acceptance Testing of the Network Operation Center (NOC), POPs, OFC and end institutions.
21. PMA shall validate GIS co-ordinates of the entire OFC route captured by SI (including Equipment Site, Manhole, chambers, Jointing / Splicing, etc.).
22. PMA shall perform Acceptance testing on
 - a. IP-MPLS,DWDM link failover and fall back along with network convergence.
 - b. NOC and its DR failure and within NOC equipment fail-over (network, equipment, servers) and fall back.
 - c. Equipment fail-over testing wherever applicable.
23. Verification of SI's final deliverables including ABDs.
24. PMA shall upload geo-tagged photographic evidence to the central servers/tool maintained for project progress tracking regularly.
25. PMA will be responsible to verify the roadometer/ cable reading measurement performed by contractor to ascertain the route length where OFC has been laid. (in case the measurement needs to be taken in the field, which is inaccessible for the roadometer to operate, the GIS coordinates need to be taken to measure the length of the fiber that has been laid / installed in the field).
26. Review and certification of supply and implementation of all other components as involved in the project.

SI payment (material and services) shall be released after 100% quality & quantity certification by PMA, which will be further validated & approved by PMU / Authority.

Authority / PMU shall have the right to perform audit and technical examination of the work and the final bills of the SI including all supporting vouchers, abstract etc. If as a result of such audit and Technical examination, **any** sum is found to have been overpaid in respect of any work done by the SI (certified by PMA) under the contract or any work claimed by him to have been done by him under the contract and found not to have been executed, the SI shall be liable for refund of the amount of over payment and it shall be lawful for the Authority to recover the same from SI.

- i. The Authority shall be entitled to recover any sum overpaid.
- ii. Any sum of money due and payable to the SI (including security deposit returnable to him) under this contract may be appropriated by the Authority for the payment of a sum of money arising out or under any other contract made by the SI with the Authority.
- iii. The Authority shall also be entitled to recover damages as deemed fit from PMA in such cases.

5.1 Validation of Route Map

The PMA will conduct an independent assessment of the Route Map provided to them. The PMA needs to validate the route map submitted by the SI.

Deliverable:

The “*Route Map Review Report*” shall cover (but not limited to)

- Recommendations on the route map submitted by the SI
- Impact analysis of deviations (if any) given by the SI
- Component wise acceptance of the Route Map

Note:

- *The “Route Map” will be provided by the SI*
- *The PMA needs to make a presentation of the prepared report to the Authority/ PMU team.*
- *GIS coordinates will be taken by the SI during the laying, installation, commissioning of the OFC network. The Route Map will need to be validated in-line with the provided GIS coordinates.*

5.2 OFC Testing & Certification

The PMA will work in-line with the agreed execution schedule during the OFC laying / installation at the field level. The PMA needs to test and certify each section of the installed OFC at the field level. Once an identified route is completed by the SI, the PMA will test and certify that the OFC laying / installation is satisfactory.

Authority/ PMU shall provide the project plan to the selected PMA and PMA need to make its review / certification staff available for each site in line with the rollout plan. Certification for each completed site needs to be completed in parallel and in line with rollout plan of the SI. Field coordination with the SI needs to be done by the PMA. Policy level guidelines may be issued by the Authority.

The following need to be covered (but not limited to) to ensure quality of OFC laying / installation:

1. OFC Quality in line with Contractor tender requirements
2. OFC Laying / Installation Standards Compliance
3. OFC Splicing Standards Compliance
4. OFC, passive accessories installation compliance.
5. OFC Testing (OTDR & LSPM) for operation and maintenance.
6. Verification & validation of GIS data, as uploaded by contractor in the GIS tool.

Note:

- *Necessary testing equipment required to meet standards compliance will be provided by the contractor.*
- *The PMA will use the equipment to validate the reports submitted by the Contractor.*
- *PMA is advised to read the tender issued by the Authority for selection of Implementing Agency / Contractor to have a look at the tools that will be brought by contractor. If any additional tools etc. are required, the same need to be arranged by PMA at no additional cost to the Authority.*

- *After completion of the testing for each route, PMA need to submit the report in prescribed format to the Authority.*

5.3 Measurement & Inspection

i. Measurement:

The measurement books are to be prepared by SI PoP-wise and are to be certified by PMA. One hard bound copy (duly signed on each page by SI and PMA) will be handed over by PMA to PMU / Authority every month.

The measurements of various items of work shall be taken and recorded in the measurements Books. The measurements shall be taken and recorded by SI, which will be countersigned by the PMA. PMA shall be directly responsible for supervision of work and for accuracy of 100% of measurements. All the support in terms of tools, availability of manpower at sites and all other assistance etc. shall be provided by the SI. The Authority, without any prejudice, reserves the right to carry out any kind of inspection of the works being carried out by PMA and SI at any time to ascertain its quantity and quality.

Site Images (Photographs) for PoP locations and others shall be taken by SI through Digital Cameras during Acceptance Testing and verification of measurement book. The images should be minimum resolution of 1024 x 768 pixels. The images must display the date and time of capture of the image on its bottom right corner. The digital camera should also have the capability to record the GPS co-ordinates of the location and embed the co-ordinates (Latitude, Longitude and Altitude) as EXIF data in the image. No alteration, fabrication or makeover of any kind should be made to the Site images being submitted. Site images shall be captured at every 250 meters and at PoP site. The site images are to be captured in such a manner so that the object being captured is clearly visible and the surrounding areas are also identifiable or distinguishable. The photographs shall be printed in sizes 5" x 7" (matte) and attached along with the Field Acceptance Test Report. The site images, in soft copies, are to be maintained in separate folders / directories and nomenclature as per the PoP. The site images should be so arranged such that they are easily locatable and identifiable in the folder where they are stored. The site images are to be monthly recorded on a non-erasable, good quality Compact Disk and sent to Authority along with the Monthly Status Reports. The site images are to be uploaded and GIS co-ordinates are to be entered by SI in the project management tool and GIS tool. Printing of site images has to be arranged by the SI and PMA need to monitor and verify the same.

Method of measurement:

The measurement of the work shall be done activity-wise as and when the item of work is ready for measurement. The method of measurement of various items are enumerated as under:

a. Measurement of length of cable

The length of cables laid underground shall be measured by use of OTDR. The length should be cross-verified with the marking of lengths on the cables. The lengths shall be recorded in sheet provided in the measurement book.

b. Measurement of other items

The measurement/ numerical details of other items shall be recorded in the sheets provided for respective items viz.

- Termination of Cable in equipment room
 - The number of joints
 - Record splice loss details for each joint
- c. The PMA & SI shall sign all the measurement recorded in the measurement sheet/book. This will be considered as an acceptance by the PMA of measurements recorded in the MB by SI.
- d. Measurement of the work of cable for calculation of services portion will be taken equal to the route length on which the cable has been laid (as measured in the Rodometer) and not the total length of the cable laid.
- e. **Measurement Book (MB)**

The SI shall also maintain a Measurement Book for each PoP. This will be maintained as compilation of copies of the measurement sheets certified by PMA. This book is one of the primary records to be maintained by the SI carrying out the work during the course of execution of works. The SI shall remove all the defects pointed out by PMA in the Measurement Sheet. The PMA / SI or their authorized representatives shall also be at liberty to note their difficulties etc. in these Sheets. **The PMA certified hard-bounded measurement book with all supporting documents shall be submitted to PMU / Authority for validation at the time of payment request.**

5.4 Procedure for preparation, processing and payment of SI bill for works

- i. For claiming the payment on successful completion of the milestones defined in payments Section of SI RfP, the SI shall prepare the bill along with PoP wise testing and acceptance document of all the works certified by PMA. The final bill shall be prepared as per measurements of all items involved in executed work as defined in milestone.
- ii. The PMA shall scrutinize the works entrusted and accord necessary certificates stating that the work has been executed satisfactorily in accordance with Specification and terms and conditions of the contract. The PMA shall certify the quantities of items of work done by SI with reference to measurement recorded in the measurement book and Acceptance Testing procedure as defined by the Authority.

5.5 Sub-Standard Works

The SI is required to execute all works satisfactorily and in accordance with the Specification. If certain items of work are executed with unsound, imperfect or unskilled workmanship or with materials of any inferior description or that any materials or articles provided by him for execution of work are unsound or of a quality inferior to that contracted for or otherwise not in accordance with the contract (referred to as substandard work hereinafter), the Authority shall make a demand in writing specifying the work, materials or articles about which there is a complaint by PMA / PMU. Payments can only be released on compliance with the quality standards. If authority identifies such substandard work done by the SI,

which was not brought to Authority's notice by the PMA, for more than 2 occasions in a district, Authority reserves the right to ask the PMA to replace those resources in that district from the project and shall also be entitled for seek damages from the PMA.

5.6 Timely Action by PMA

- i. Timely reporting and action, to a great extent, can prevent occurrence of sub-standard work, which will be difficult or impossible to rectify later on. It is incumbent on the part of PMA for supervision of work to point out the defects in work in time during progress of the work. The PMA responsible for supervision of work shall without any loss of time submit a report of occurrence of any sub-standard work to the Authority besides making an entry in the site order book. A notice in respect of defective work shall be given to the SI in writing during the progress of work asking the SI to rectify/replace/remove the sub-standard item of work and also definite time period within which such rectification/removal/replacement has to be done. After expiry of the notice period, if the SI fails to rectify/ replace/ remove the sub-standard items, the defects shall be rectified/replaced/removed by the Authority, at its sole discretion, through some other agency at the risk and cost of the SI.
- ii. Non-reporting of the sub-standard work in time on the part of PMA shall not in any way entitle the SI to claim that the defects were not pointed out during execution and as such the SI cannot be absolved of the responsibility for sub-standard work and associated liabilities. Authority shall be entitled to recover damages as deemed fit from PMA in such cases.

5.7 Quality Control of Works

- i. The importance of quality of Fiber optic networks cannot be over-emphasized. The quality and availability of long distance media and efficiency of the reliable media connectivity between terminal equipment depends upon quality of optic fiber cable plant. The quality of fiber optic cable plant depends upon the quality of individual items of work involved viz. laying, Protection, Jointing of cables and Terminations in equipment room and also on documentation of cable network. The work shall be carried out strictly in accordance with Specifications laid down to achieve the requisite quality objective.
- ii. The Authority shall be the final judge of the quality of the work and the satisfaction of the Authority in respect thereof as set forth in the contract document. Laxity or failure to enforce compliance with the contract documents by the Authority and/ or its representative shall not manifest a change or intent of waiver, the intention being that, notwithstanding the same, the SI shall be and remain responsible for complete and proper compliance with the contract documents and the specifications there in. The representative of the Authority has the right to prohibit the use of men and any tools, materials and equipment which, in his opinion, do not produce the required work or performance meet the requirement of the contract documents.
- iii. It is imperative that the PMA is fully conversant with the construction practices and shall be fully equipped to monitor the work in accordance with the specifications. The PMA is expected and bound to ensure quality in construction works in accordance with specifications laid down. The PMA shall engage adequate and experienced supervisors to ensure that work is carried out as per specifications, with due diligence and in a professional manner. A three stage testing process will be incorporated as follows:

- a. The first level of testing shall be carried out by the SI. Once the SI is confirmed about the quality & quantity assurance of their work and material, then it will offer it to PMA along with test results and supporting documents.
- b. The PMA shall carry out the second level of testing and certify the test results.
- c. All PMA certified test reports, Measurement book, invoices with supporting documents shall be submitted to PMU / Authority for validation.
- iv. In addition to Acceptance Testing being carried out by PMA, all works at any times shall be open to inspection of PMU / Authority. The SI shall be bound, if called upon to do so, to offer the works for inspection without any extra payment.

5.8 Quality Control of material supplied by SI

PMA has to ascertain that all the material being supplied by SI for works being carried out are in compliance with the required standard and quality and as per Quality Assurance Plan. Any instance of violation by SI shall be immediately reported to the PMU / Authority by PMA.

5.9 Inspection and Testing

- i. PMA shall have all requisite equipment/devices to carry out the required tests.
- ii. PMA shall also have devices to take geo-tagged photographs and video of the work in progress.
- iii. Prior notice of at least 15 days should be given to PMA by SI for making the representative of PMA available for observing the factory tests. Any cost of pertaining to making available the PMA representative at the necessary site shall be solely borne by PMA and non-chargeable to the Authority.
- iv. All tests conducted by SI must be certified by PMA.
- v. PMA shall verify and validate the BoQ approved post survey and the quantity installed.
- vi. Should any inspections or tests indicate that specific item does not meet Specification requirements, the appropriate items shall be replaced, upgraded, or added by the SI as necessary and as applicable to correct the noted deficiencies at no cost to the Authority. After correction of a deficiency, all necessary retests shall be performed to verify the effectiveness of the corrective action.
- vii. Deliveries shall not be shipped until all required inspections and tests have been completed and all deficiencies have been corrected to comply with this specification and approved for shipment by the PMU or Authority.
- viii. Acceptance or waiver of tests will not relieve the SI from the responsibilities to furnish material and works in accordance with the specifications and to the Authority's satisfaction.
- ix. Unless otherwise specified in this Contract, selection of test samples, number of specimens and acceptance of results shall be in accordance with the terms of the relevant Standards and Codes. Where no terms exist, Authority/PMU/PMA shall instruct details in advance of the inspection and

tests in response to the request of the SI.

- x. PMA shall comply with various instructions / guidelines issued by Authority relating to testing and acceptance of the deliverables of the SI.

5.10 Optical Fiber Identification

- i. Individual optical fibers within the fiber units shall be identifiable in accordance with EIA/TIA 598 or IEC 60304 or Bellcore GR-20 color coding scheme. The actual coloring scheme shall be mentioned by the SI in Data Requirement Sheet and the same shall be finalized during the detailed engineering in consultation with the PMA and Authority.
- ii. Coloring utilized for color coding optical fiber shall be integrated into the fiber coating and shall be homogenous. The color shall not bleed from one fiber to another and shall not fade during fiber preparation for termination of splicing. Each fiber cable shall have traceability of each fiber back to the original fiber manufacturer's fiber number and parameters of the fiber.

5.11 Testing Methodology

i. Acceptances Tests

- a. The SI works shall be deemed to have been completed only after the same has been certified by PMA as per the process mentioned in this Agreement and after it has been informed by PMA to the PMU / Authority for validation. The various testing will be undertaken by SI in the presence of PMA. SI may conduct its own test prior for self-assessment before asking for tests to be conducted in the presence of PMA. Certificate will be issued by PMA representative after successful completion of testing (for each milestone). PMA shall certify these test results and submit the same to PMU / Authority for validation and subsequent submission to Authority for approval.
- b. The SI, after having satisfied himself of completion of work, from equipment at NOC, PoP to equipment at end institutions, shall offer the work to PMA for conducting Testing. The work shall be offered for Inspection as soon as link to PoP is complete.
- c. If the measurements (of length of OFC laid) taken by PMA are found to be lesser than the measurements recorded by the SI responsible for recording the measurements, the measurement taken by PMA shall prevail without prejudice to any punitive action against the SI as per provisions of the contract and the testing officer of SI recording the measurements.
- d. The SI shall be obligated to remove defects/deficiencies pointed out by the PMA without any additional cost. The Authority does not take any responsibility of return of defective used items / items previously accepted by SI.
- e. Factory Acceptance Test: Factory Acceptance Tests shall be conducted as per relevant Standards and Codes on randomly selected final assemblies of selected equipment/cables/PLB HDPE ducts etc. to be supplied. These tests shall be carried out in the presence of the PMA unless waiver in writing for witnessing by the Authority is intimated to the SI. Factory acceptance testing shall be carried out on OFC and related accessories, all active and passive equipment, Test Equipment, installation accessories and all other items to be supplied unless factory testing and inspection has been waived off by the Authority.

Equipment shall not be shipped to the Authority until required factory tests are completed satisfactorily, all variances are resolved, and the Authority has issued Dispatch Clearance, which may be issued after completion of FAT by the Authority or PMA deputed for carrying out the FAT. Successful completion of the factory tests and the Authority approval to ship shall in no way constitute final acceptance of the system or any portion thereof.

The Factory Acceptance Test (FAT) shall demonstrate the Technical characteristics of the Fiber Optic cable & associated accessories, active equipment in relation to this specifications and approved drawings and documents. The list of factory acceptance tests shall be supplemented by the SI's standard FAT testing program. In general the FAT for other items shall include at least: Physical verification, demonstration of Technical characteristics, various operational modes, functional interfaces, alarms and diagnostics etc. For Test equipment, FAT shall include supply of proper calibration certificates, demonstration of equipments satisfactorily etc.

There shall be no factory splice allowed within a continuous length of cable. Only one continuous cable length shall be provided on each drum. The lengths of the cable to be supplied on each drum shall be standard or as determined by a "cable drum schedule" prepared by the SI as the route survey done by survey agency appointed by Authority.

- f. Scope of Acceptance Testing:** It is essential to verify the integrity and the capability of the Optical Fiber Cable and to assess its readiness for intended services. This scope defines the methodology for cable and accessories. The purpose of acceptance and testing is to verify integrity of measurement and quality of work done.

ii. Fiber Optic cable link testing:

- a.** Fiber continuity and link attenuation (Bi-directional) between FODP connectors at two ends for each fiber at 1310 and 1550 nm by OTDR
- b.** Fiber continuity and link attenuation (Bi-directional) between FODP connectors at two ends for each fiber at 1310 and 1550 nm by Power meter & Laser source
- c.** Average fiber attenuation and average splice loss in the link including FODP
- d.** Proper termination and labelling of fiber and fiber optic cables at FODP
- e.** Data loss test and ensuring that the same is within the acceptable limits

- iii. Termination arrangement at PoP location:** The fibers of the cable shall be spliced to the pigtails for connection to the optical line systems. Pigtails shall be duly terminated at the FDMS (fiber distribution management system).

iv. Field Acceptance Test

- a.** The field installation test shall be performed for all equipment at each location. If any equipment has been damaged or for any reason does not comply with this Specification, PMA need to highlight the same and SI shall provide and install replacement parts at its own cost and expense.
- b.** As per Technical requirements, the Acceptance Test is required to be carried out for all 48 Fibers in each cable section.

- c. The OF cable sections shall be identified on ABDs attached with the Acceptance Test Report and in the GIS tool.
- d. Testing shall be done in each OF cable section for two wavelengths viz. 1310 nm and 1550 nm using power meter and source. OTDR traces would be obtained for each OF Cable sections to measure and record the splice loss wherever applicable.
- e. A minimum length of 2.0 km shall be maintained for all the OF cable between splices except as directed by the PMA / PMU / Authority for any intermediate T-offs.
- v. **End to End Testing of Optical Fiber Cable Route from PoP to PoP and PoP to end office**

This document defines the procedure to be adopted for end to end testing of the OF cable route from PoP to PoP and PoP to end office.

- a. The End to End testing from PoP to PoP shall be carried out using Power meter/source and with OTDR after splicing OF cable.
- b. The average attenuation (dB/Km) for cable shall be recorded.
- c. End to end Testing shall be done in one direction only for the two wavelengths i.e. 1310 nm & 1550 nm from PoP to PoP side using Power meter and source. The Fiber connected to each port of the OTN shall also be tested using the OTDR and the traces obtained shall be recorded for future reference.
- d. The SI shall be responsible for co-ordination with PMA for conducting this test.
- e. After carrying out this test, the respective PoP/end institution shall be detected in the NMS of NOC and shown as active at the NOC implemented by the SI. SI shall share the list of PoPs/end institutions in each district which have gone active.

5.12 Commissioning Certificate

- i. SI shall be eligible to apply for Commissioning Certificate (issued by PMA) of a milestone after successful completion of End to End testing of a milestone.
- ii. The End to End Testing Report has to be submitted for obtaining the Commissioning Certificate.
- iii. The Authority, without any prejudice, reserves the right to carry out any kind of inspection of the works being carried out by PMA and SI at any time to ascertain its quantity and quality.
- iv. Testing will also be done for NOC, NMS and all other components supplied by the SI as per the guidelines issued by the Authority in this regard from time to time.

5.13 Go-Live

Completion certificate will be given in as per the below stage:

- a. Core Ring Go-Live/ Completion certificate: This would include end-to-end completion of 100% work (OFC, PoP, end institutions and NOC) in Core Ring. The Go-Live certificate shall be issued for Core Ring when the electronics for all the end institutions covered under Core Ring are commissioned, discovered in NMS at NOC, end-to-end Acceptance Test certificate has been issued for OFC infrastructure and electronics and all end offices are able to access the e-governance applications hosted on State Data Centre. Only upon completion of all works as required to be done by SI as per project requirement, Completion Certificate or Go-Live Certificate shall be released. Authority shall accept the Go-Live certificate only after validation of all PMA certified documents and test results required for the same.
- b. Aggregation Go-Live/ Completion certificate for each district: This would include end-to-end completion of 100% work (OFC, PoP and end institutions) in the respective Aggregation Ring for a district. The Go-Live certificate shall be issued for Aggregation Ring of a district when the electronics for all the end institutions covered under Aggregation Ring of that district are commissioned, discovered in NMS at NOC, end-to-end Acceptance Test certificate has been issued for OFC infrastructure and electronics and all end offices are able to access the e-governance applications hosted on State Data Centre. Only upon completion of all works as required to be done by SI as per project requirement, Completion Certificate or Go-Live Certificate shall be released. Authority shall accept the Go-Live certificate only after validation of all PMA certified documents and test results required for the same.
- c. Pre-Aggregation Go-Live/ Completion certificate: This would include end-to-end completion of 100% work (OFC, PoP and end institutions) in the respective Pre-Aggregation Ring for a district. The Go-Live certificate shall be issued for Pre-Aggregation Rings of a district when the electronics for all the end institutions covered under the Pre-Aggregation Rings of a district are commissioned, discovered in NMS at NOC, end-to-end Acceptance Test certificate has been issued for OFC infrastructure and electronics and all end offices are able to access the e-governance applications hosted on State Data Centre. Only upon completion of all works as required to be done by SI as per project requirement, Completion Certificate or Go-Live Certificate shall be released. Authority shall accept the Go-Live certificate only after validation of all PMA certified documents and test results required for the same.
- d. Spur Go-Live/ Completion certificate: This would include end-to-end completion of 100% work (OFC, PoP and end institutions) in the respective Spurs for a district. The Go-Live certificate shall be issued for Spurs of a district when the electronics for all the end institutions covered under the Pre-Aggregation Rings of a district are commissioned, discovered in NMS at NOC, end-to-end Acceptance Test certificate has been issued for OFC infrastructure and electronics and all end offices are able to access the e-governance applications hosted on State Data Centre. Only upon completion of all works as required to be done by SI as per project requirement, Completion Certificate or Go-Live Certificate shall be released. Authority shall accept the Go-Live certificate only after validation of all PMA certified documents and test results required for the same.
- e. NOC Go-Live/Completion Certificate: This would include 100% active, Non- IT components (civil, electrical, etc) and all associated applications. The list of items at NOC is given as an Annexure to the RfP. Only upon completion of all works as required to be done by SI as per project requirement, Completion Certificate or Go-Live Certificate shall be released. Authority shall accept the Go-Live certificate only after validation of all PMA certified documents and test results required for the same.

- f. Project Go-Live/ Completion certificate: end-to-end completion of 100% Rings (OFC, PoPs, end institutions and NOC) in State.

5.14 Inventory Audit & Reconciliation

- i. PMA shall certify the inventory related entries done by SI.
- ii. PMA shall deploy dedicated manpower at all SI stores.
- iii. PMA shall be responsible for regular audit of stores and warehouses maintained by SI. Any discrepancy in the store records have to be communicated to PMU.
- iv. PMA shall inform SI 48 hours in advance for the store audit so that SI can be ready with all necessary documents and personnel required to facilitate the audit.

[The Indicative Acceptance Testing formats are provided as an annexure in the RFP. The testing formats shall be finalized as per mutually agreed terms with Authority.]

The SI and PMA have to adhere to the engineering instructions and OFC constructions practices provided as an annexure in the RfP.]

5.15 Project Monitoring Support (during project implementation phase)

The project monitoring agency shall provide the required support to the Authority in monitoring, supervising & managing the various activities to be conducted by the Contractor.

The Project Monitoring activities herein would broadly include the following:

- Escalate Technical & Functional issues to the Authority on any delay in achievement of milestones by Contractor & assist in timely resolution of the issues
- Support the Authority in preparation of Change Request for the project, if required
- Support the Authority in giving sign-offs achieved milestones by Contractor.

6 Project Deliverable and Timelines

The PMA shall be responsible to ensure the timely completion of the project as per the approved plan and flag issues to Authority / PMU proactively wherever delay is anticipated if it fails to resolve the same. The PMA shall be responsible for certifying and submitting the test results with supporting documents to Authority / PMU for their validation and then subsequent submission to Authority. Similarly, the invoices submitted by the SI at different milestones shall be verified 100% by the PMA and submitted to Authority / PMU for validation and subsequent submission to Authority for approval.

PMA would be bound by stipulated time schedule and Damages, focusing on timely completion of audit and certification processes as well as the verification by Authority / PMU. PMU / Authority reserves the right to verify the reports being submitted to ascertain their accuracy.

Project Timelines /Schedule for Completion of Task

S. No.	Milestone / Deliverable	Timelines
1.	Verification of As-Built Drawings	C + 1 week
2.	NOC Go-Live Report - Verification, Testing & Certification of all Civil, Electrical, IT & Non-IT components in NOC	C + 4 weeks
3.	Monitoring of OFC laying and link testing	C + 1 week
4.	PoP Go-Live Report – Verification, Testing & Certification of all Civil, Electrical, IT & Non-IT components in PoP	C + 1 week
5.	Core Ring Go-Live Report - Testing & Certification Reports for Core Ring & Associated Institutions : 1) OFC Testing & Certification Report 2) Electronics & Network Equipment Testing & Certification Report 3) PoP Testing & Certification Report 4) Institution Testing & Certification Report	C + 4 weeks
6.	Aggregation Ring Go-Live - Testing & Certification Reports for Aggregation Rings & Associated institutions: 1) OFC Testing & Certification Report 2) Electronics & Network Equipment Testing & Certification Report 3) PoP Testing & Certification Report 4) Institution Testing & Certification Report	C + 4 weeks
7.	Pre-Aggregation Rings Go-Live - Testing & Certification Reports for Pre-Aggregation Rings & Associated institutions: 1) OFC Testing & Certification Report 2) Electronics & Network Equipment Testing & Certification Report 3) PoP Testing & Certification Report 4) Institution Testing & Certification Report	C + 4 weeks
8.	Spur Go-Live Report - Testing & Certification Reports for Spur & Associated institutions : 1) OFC Testing & Certification Report 2) Electronics & Network Equipment Testing & Certification Report 3) PoP Testing & Certification Report 4) Institution Testing & Certification Report	C + 4 weeks

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S. No.	Milestone / Deliverable	Timelines
9.	Project Go-Live Report	C + 1 week
PROJECT MONITORING SUPPORT		
8.	Project MonitoringSupport	Entire Project Duration

Table 10: Project timelines

Note:

- C = Submission / Completion of respective work by the SI
- The timelines provided are for submission of the deliverables and need to be strictly adhered to by the Bidders. The Bidder is advised to plan the activities in parallel to avoid any delay in the project.
- The Bidder shall have to present any/all of the above reports in the form of PowerPoint presentations if requested by the Authority.
- Bidder is advised to carefully go through the implementation schedule and timelines provided in the SI's tender separately and plan their activities in conjunction with the timelines and execution schedule mentioned therein.

7 Resources to be Deployed

- i. PMA shall establish project office within 30 days of award of the contract.
- ii. PMA shall deploy their resources in consultation with the PMU/Authority.
- iii. PMA shall deploy Project/Team Lead and other field team members to coordinate with the SI as per the minimum qualification criteria mentioned in this section. Attendance report of these resources have to be submitted to the PMU on monthly basis.
- iv. The resources as proposed by the Bidder as per Resource Deployment Criteria of the Technical Evaluation Criteria must be deployed by the PMA.
- v. The PMA shall carry out all necessary activities during execution of the work and all along thereafter as may be necessary for proper fulfilling of the obligations under the contract.
- vi. PMA will deploy its resources on all sites as per the scope of work.
- vii. Adequate training, required to carry out the activities mentioned in the scope of work above, shall be provided by PMA to all deployed resources.
- viii. PMA resources is entitled up to seven(7) working days of sick leave(SL)/casual leave(CL) from 1 January every year. However PMA needs to ensure that none of the activities will get impacted due to absence of employees.
- ix. Boarding, lodging, transportation and all other expenses of the deployed resources are to be borne by PMA.
- x. Authority shall be at liberty to object to and require the PMA to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by Authority to be undesirable. Such person shall not be employed again at works site without the written permission of Authority and the persons so removed shall be replaced with in a week's time by competent substitutes.
- xi. Bidder has to ensure that the field staff deployed by them are insured against any electrical shocks, accident or such incidents.

8 Payment Schedule

The payment cycle for the Successful Bidder would start from the date of signing of contract. The payment to be made to the Successful Bidder shall be subject to the performance of the consulting agency on the SLAs (Service Level Agreements) defined in this tender document.

Payment to the Successful Bidder shall be made as per the table given below.

S. No.	Milestone / Deliverable	Payment Terms
1.	Deployment of full-time manpower	70% of quoted rates as quarterly payment. Remaining 30% upon Go-Live of the respective milestone
2.	NOC Go-Live Report - Testing & Certification of Network Operating Centre	70% payment upon acceptance of the NOC Go-Live report by the Authority. Remaining 30% shall be made after acceptance of Project Go-Live report by Authority
3.	PoP Go-Live Report - Testing & Certification of each PoP including its integration with NOC	70% payment upon acceptance of Go-Live reports of PoPs completed in a month by the Authority. Remaining 30% upon Go-Live of the respective Ring

Table 11: Payment Schedule

All payments shall be released after verification of deliverables/milestones by PMU and sign-off by Authority. Authority shall make all efforts to make the payment within 45 days of receipt of the invoice from the PMA.

9 Draft Agreement

AGREEMENT

This Master Services AGREEMENT (hereinafter the “Agreement”) is made at _____, Thiruvananthapuram, Kerala, on this ____ day of _____, 2019

BETWEEN

Kerala State Information Technology Infrastructure Ltd., Thiruvananthapuram, Kerala hereinafter referred to as “Authority” (which expression unless repugnant to the context therein shall include its administrator and permitted assignees) of the FIRST PART;

AND

-----, a company registered under the Companies Act, 1956, having its registered office at -----
-----, hereinafter referred to as “Project Monitoring Agency” or “PMA”, (which expression unless repugnant to the context therein, shall include its successors, administrators, executors and permitted assignees), of the SECOND PART **WHEREAS:**

- i. Authority is desirous to select reputed consultancy firm having experience of providing consultancy / monitoring / testing services for Optical Fiber Cable (OFC) implementation projects.
- ii. In furtherance of the same, Authority undertook the selection of a reputed consulting firm to provide monitoring & testing for implementation of Kerala Fibre Optic Network and Reliable Communication & Data Acquisition Network in vide Request for Proposal (RfP)xxxxx, dated xxxx, 2019.
- iii. Authority has accepted the Proposal of [name of the selected Bidder] for the provision and execution of the said works for the sum of INR/- (**Indian Rupees only**), including all levies, duties and taxes including GST upon the terms laid out in the Agreement. The Contract Value is inclusive of GST and is as per the Commercial bid submitted by However, GST shall be paid as per the prevailing rate as per invoice date.
- iv. Thereby, has been selected as the PMA for Kerala Fibre Optic Network and Reliable Communication & Data Acquisition Network, vide LOI reference Number No.....

Now it is hereby agreed to by and between the parties as under:

9.1 Terms and Conditions to this Agreement

9.1.1 Definitions

In this Contract, the following terms shall be interpreted as indicated:

- i. **“Applicable Laws”** includes all applicable statutes, enactments, acts of legislature or laws, ordinances, rules, by-laws, regulations, notifications, guidelines, policies, directions, directives, requirement or other governmental restriction and orders or judgments of any Governmental

authority, tribunal, board, court or other quasi-judicial authority or other governmental restriction or any similar form of decision applicable to the relevant Party and as may be in effect on the date of execution of Agreement and during the subsistence thereof, applicable to the Project;

- ii. “Contract / Agreement” means the Agreement entered into between the PMA and the Authority as recorded in the Contract form signed by the Authority and the PMA including all attachments and Annexes thereto, the RFP and all Annexes thereto and the agreed terms as set out in the bid, all documents incorporated by reference therein and amendments and modifications to the above from time to time;
- iii. “Total Contract Value” means the price payable to the PMA under this Contract for the full and proper performance of its contractual obligations;
- iv. “Deliverables” means the products, infrastructure, licenses and services agreed to be delivered by the PMA in pursuance of the Contract as elaborated in the RFP and includes all documents related to the user manual, technical manual, designs, process documentations, the artefacts, the training materials, process and operating manuals, service mechanisms, policies and guidelines, inter alia payment and/or process related etc. and all their respective modifications;
- v. “Effective Date” means the date on which the Contract is executed by both the Parties
- vi. “End-to-End Connectivity” means complete Design, Supply, Installation, Integration, Commissioning and Testing of the created network (duly approved by the agency appointed by Authority) which shall include OTDR link test, Power On & Self-Testing, IP-MPLS/DWDM ring fail over testing for both cases i.e. in case of path/equipment failure, As Build Diagram (ABD reports), GPON equipment at end institutions with NOC and Final acceptance certificate;
- vii. “OEM” or “Original Equipment Manufacturer” means the original manufacturer and owner of the Intellectual Property Rights of any Software or Equipment to be used in the Project and to which Authority has been granted license to use.
- viii. “Performance Bank Guarantee” or “Contract Performance Guarantee” shall mean the guarantee provided by a Scheduled Commercial Bank/ Nationalized Bank to Authority by the Successful Bidder.
- ix. “Project” means Project for Design, Supply, Installation, Integration, Testing, Commissioning of OFC, IP-MPLS Network, GPON Network and Network Operations Centre (NOC) including Operations & Maintenance and facilitating service provisioning of the created network for the period of 7 years on turnkey basis as per the terms and conditions laid in the SI RFP and provision of Services in conformance to SLA;
- x. “Project Go-Live” means the date when all the systems covered under this Project are installed, integrated, commissioned, discovered in NMS at NOC, end-to-end Acceptance Test certificate has been issued for OFC infrastructure and electronics and all end offices are able to access the e-governance applications hosted on State Data Centre;
- xi. “Authority” means Kerala State Information Technology Infrastructure Limited represented by its Managing Director;
- xii. “PMA’s Team” means the Successful Bidder selected through this tender along with all of its

partners, who have to provide goods & services to the Authority under the scope of this RFP / Contract. This definition shall also include any authorized service providers/partners/agents and representatives or other personnel employed or engaged either directly or indirectly by the PMA for the purposes of this PMA / Contract;

xiii. "Project Store" locations as provided by the SI to store the material as required in the State;

xiv. "Request for Proposal/ (RFP)" means the documents containing the general, technical, functional, commercial and legal specifications for the implementation of the Project including different Annexures and includes the clarifications, explanations, minutes of the meetings, corrigendum(s) and amendment(s) issued from time to time during the bidding process and on the basis of which bidder has submitted its Proposal

xv. "Tender" or "Tender Document" means PMA RFP;

xvi. "Timelines" means the duration of the contract as described in the RFP;

9.2 Interpretations

In this RFP, unless otherwise specified:

- i. Unless otherwise specified, a references to clauses, sub-clauses, or Section is a reference to clauses, sub-clauses, or Section of this RFP including any amendments or modifications to the same from time to time.
- ii. Words denoting the singular include the plural and vice versa and use of any gender includes the other genders.
- iii. References to a "company" shall be construed so as to include any company, corporation or other body corporate, wherever and however incorporated or established
- iv. Words denoting to a "person" shall be construed to include any individual, partnerships, firms, companies, public sector units, corporations, joint ventures, trusts, associations, organizations, executors, administrators, successors, agents, substitutes and any permitted assignees or other entities (whether or not having a separate legal entity). A reference to a group of persons is a reference to all of them collectively, to any two or more of them collectively and to each of them individually
- v. A reference to any statute or statutory provision shall be construed as a reference to the same as it may have been, or may from time to time be, amended, modified or re-enacted
- vi. Any reference to a "day" (including within the phrase "working day") shall mean a period of 24 hours running from midnight to midnight
- vii. References to a "working day" shall be construed as a reference to a day (other than a Sunday) on which Authority office is generally open for business
- viii. References to times are to Indian Standard Time.
- ix. Reference to any other document referred to in this RFP is a reference to that other document as

amended, varied, novated or supplemented at any time.

- x. All headings and titles are inserted for convenience only, they are to be ignored in the interpretation of this Contract.
- xi. Unless otherwise expressly stated, the words "herein", "hereof", "hereunder" and similar words refer to this RFP as a whole and not to any particular Section or Annexure and the words "include" and "including" shall not be construed as terms of limitation.
- xii. The words "in writing" and "written" mean "in documented form", whether electronic or hard copy, unless otherwise stated.
- xiii. Any reference at any time to any agreement, deed, instrument, license or document of any description shall be construed as reference to that agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or novated at the time of such reference.
- xiv. Unless otherwise stated, any reference to any period commencing "from" a specified day or date and "till" or "until" a specified day or date shall include either such days or date

9.3 Documents forming part of Agreement

The following documents shall be deemed to form and be read and constructed as part of the Agreement viz.:

- i. This Agreement;
- ii. The Letter of Intent;
- iii. The RFP;
- iv. The Proposal and any other documents submitted by the PMA to the extent accepted by the Authority;

Arbitration

Authority and the Successful Bidder shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract. If, after thirty (30) days from the commencement of such informal negotiations, Authority and the Successful Bidder have been unable to amicably resolve the dispute, either party may require that the dispute be referred for resolution to The Managing Director, Kerala State Information Technology Infrastructure Ltd. , Thiruvananthapuram, as single party Arbitrator in accordance with the Arbitration and Conciliation Act, 1996. Decision of arbitrator shall be final and binding to all parties.

All Arbitration proceedings shall be held at Thiruvananthapuram,, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be in English.

9.4 SLA & Damages

- i. Service Level Agreement (SLA) is the contract between the Authority and the PMA. SLA defines

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the terms of the PMA's responsibility in ensuring the timely delivery of the deliverables and the correctness of the same based on the agreed Performance Indicators as detailed in the Agreement. This section defines various Service Level Indicators which will be considered by the Department in the Service Level Agreement with PMA. The PMA has to comply with all Service Level Agreements (SLAs) defined below to ensure adherence to project timelines, quality and availability of services. Noncompliance with the SLA attracts damages.

S. No.	Service	Expected Service level	Damages level in case of breach of the expected service level
1.	Deployment of the PMA team during the contract period after signing the contract with the Authority.	<ul style="list-style-type: none">• full time during the contract period - Project Manager• Full time during the contract period - Warehouse In-Charge• Full time during the contract period - GIS Expert• For NOC team experts & PoP team experts during the contract period as & when required• For OFC engineers full time during the contract period	<ul style="list-style-type: none">• INR 10,000 per day to be made in case the Project Manager, Warehouse In-Charge, GIS Expert, experts for PoP team and NOC team are not made available onsite as per the expected service level.• INR 5,000 per day to be made in case the OFC engineers are not made available onsite as per the expected service level.
2.	Completion of Field Acceptance Testing of OFC laid	Perform the Acceptance Testing within one week of SI's 'offer for commissioning'	INR 1,000 per day to be made in case expected service level is not met.
3.	Completion of Acceptance Testing of NOC	Perform the End to End Testing and fail over within four weeks of SI's 'offer for commissioning'	INR 1,000 per day to be made in case expected service level is not met.
4.	Completion of Acceptance Testing of PoP	Perform the End to End Testing and fail over within one week of SI's 'offer for commissioning'	INR 1,000 per day to be made in case expected service level is not met.
5.	Completion of Acceptance Testing of Core Ring	Perform the End to End Testing and fail over within four weeks of SI's 'offer for commissioning'	INR 1,000 per day to be made in case expected service level is not met.
6.	Completion of Acceptance Testing of Aggregation Ring	Perform the End to End Testing and fail over within two weeks of SI's 'offer for commissioning'	INR 1,000 per day to be made in case expected service level is not met.
7.	Completion of Acceptance Testing of Pre-Aggregation Ring	Perform the End to End Testing and fail over within two weeks of SI's 'offer for commissioning'	INR 1,000 per day to be made in case expected service level is not met.
8.	Completion of Acceptance Testing of Spur	Perform the End to End Testing and fail over within two weeks of SI's 'offer for commissioning'	INR 1,000 per day to be made in case expected service level is not met.
9.	Daily activity and status report	Provide daily activities report and the status in 2 days	INR 1,000 per day from 3 rd day to be made in case expected service level is not met.

Table 12: Service Level Agreement

ii. Incase the PMA

- a. verifies and certifies the mistakes/poor workmanship committed by SI or
- b. commits incorrect validations/testing/acceptance of SI deliverables

Penalty of minimum INR 10,000 and maximum of actual loss or damage suffered by Authority shall be levied from the PMA. The team/manpower involved in the incident from the PMA side shall be replaced from the project. Manpower deployment SLA shall be applicable. However, PMA shall ensure minimum one week's handover time between the replaced resource and the replacing resource.

- iii. The PMA shall perform its obligations under the agreement entered into with the Authority, in a professional manner. In the event of failure of maintaining the SLA, damages shall be imposed on basis of the cost of concerned services as mentioned in SLA and would be levied subject to a maximum of 10% of the total contract value. Authority may recover such amount of damages from any payment being released to the PMA, irrespective of the fact whether such payment is relating to this contract or otherwise. Beyond 10% of the total contract value, the Authority has the right to terminate the contract or a portion or part of the work thereof.
- iv. If any act or failure by the PMA under the agreement results in failure or inoperability of systems and if the Authority has to take corrective actions to ensure functionality of its property, the Authority reserves the right to impose damages, which may be equal to the cost it incurs or the loss it suffers for such failures.
- v. Authority may impose damages to the extent of damage to its any equipment, if the damage was due to the actions directly attributable to the staff of PMA.
- vi. The Authority shall implement all damage clauses after giving due notice to the PMA.
- vii. If the PMA fails to complete the due performance of the contract in accordance with the specification and conditions of the offer document, the Authority reserves the right either to cancel the order or to recover a suitable amount as deemed reasonable as Liquidated Damage for non-performance.

Note: Damages shall not be levied on the PMA in the event of force Majeure effecting the SLA which is beyond the control of the PMA.

9.5 Representations & warranties

In order to induce the Authority to enter into this Contract, the PMA hereby represents and warrants as of the date hereof, which representations and warranties shall survive the term and termination hereof, the following:

- i. That the PMA is not involved in any major litigation or legal proceedings, pending, existing, and potential or threatened, that may have an impact of affecting or compromising the performance or delivery of Services under this Contract.
- ii. That the representations and warranties made by the PMA in the proposal or made in this contract are and shall continue to remain true and fulfill all the requirements as are necessary for executing the obligations and responsibilities as laid down in the Contract and the Tender and unless the Authority specifies to the contrary, the PMA shall be bound by all the terms of the Proposal and the contract through the term of the contract.

- iii. That the PMA has the professional skills, personnel and resources/authorizations that are necessary for providing all such services as are necessary to fulfill the Scope of Work stipulated in the Tender and this Contract.
- iv. That there shall not be any privilege, claim or assertion made by a third party with respect to right or interest in, ownership, mortgage or disposal of any asset, property, movable or immovable as mentioned in any Intellectual Property Rights, licenses and permits.
- v. That the PMA shall use such assets of the Authority as the Authority may permit for the sole purpose of execution of its obligations under the terms of the Proposal, Tender or this Contract. The PMA shall however, have no claim to any right, title, lien or other interest in any such property, and any possession of property for any duration whatsoever shall not create any right in equity or otherwise, merely by fact of such use or possession during or after the term hereof.
- vi. That the PMA shall procure all the necessary permissions and adequate approvals and licenses for use of various software and any copyrighted process/product free from all claims, titles, interests and liens thereon and shall keep the Authority indemnified in relation thereto.
- vii. That the execution of the Services and the Scope of work herein are and shall be in accordance and in compliance with all applicable laws.
- viii. That all conditions precedent under the Contract has been satisfied.
- ix. That neither the execution and delivery by the PMA of the Contract nor the its compliance with or performance of the terms and provisions of the Contract (i) will contravene any provision of any Applicable Law or any order, writ, injunction or decree of any court or Governmental Authority binding on the PMA, (ii) will conflict or be inconsistent with or result in any breach of any or the terms, covenants, conditions or provisions of, or constitute a default under any Contract, Contract or instrument to which the PMA is a party or by which it or any of its property or assets is bound or to which it may be subject or (iii) will violate any provision of the Memorandum and Articles of Association of the PMA.
- x. That the PMA certifies that all registrations, recordings, filings and notarizations of the Contract and all payments of any tax or duty, including without limitation stamp duty, registration charges or similar amounts which are required to be effected or made by the PMA which is necessary to ensure the legality, validity, enforceability or admissibility in evidence of the Contract have been made.
- xi. That the PMA owns, has license to use or otherwise has the right to use, free of any pending or threatened liens or other security or other interests all its Intellectual Property Rights, which are required or desirable for performance of its services under this contract and regarding the same the PMA does not, so far as the PMA is aware, in carrying on its business and operations, infringe any Intellectual Property Rights of any person. So far as the PMA is aware, none of the Intellectual Property Rights, owned or enjoyed by the PMA or which the PMA is licensed to use, which are material in the context of PMA's business and operations for the performance of this contract are being infringed nor, so far as the PMA is aware, is there any infringement or threatened infringement of those Intellectual Property Rights licensed or provided to the PMA by any person. All Intellectual Property Rights (owned by the PMA or which the PMA is licensed to use) required by the PMA for the performance of the contract are valid and subsisting. All actions (including registration, payment of all registration and renewal fees) required to maintain the same in full force and effect have been

taken thereon and shall keep the Authority and KSEBL indemnified in relation thereto.

- xii. That time is the essence of the Contract and hence the PMA shall at all times maintain sufficient manpower, resources, and facilities, to provide the Services in a workman like manner on a timely basis.
- xiii. That its security measures, policies and procedures are adequate to protect and maintain the confidentiality of the Confidential Information.
- xiv. That in providing the Services or deliverables or materials, neither PMA nor its agent, nor any of its employees, shall utilize information which may be considered confidential information of, or proprietary to, any prior employer or any other person or entity;

9.6 Duration of the contract

The Contract shall be valid for a period of 24 months or Project Go-Live whichever is latest subject to maximum period of 30 months from the date of signing of contract.

The Authority shall reserve the sole right to grant any extension to the term above mentioned and shall notify in writing to the PMA, at least 3 months before the expiration of the term thereof, whether it shall grant the PMA an extension of the term. The decision to grant or refuse the extension shall be at the Authority's discretion. Accordingly, the Performance Bank Guarantee shall be extended up to extended period of the Contract.

Where the Authority is of the view that no further extension of the term be granted to the PMA, the Authority shall notify the PMA of its decision at least 3 (three) months prior to the expiry of the Term. Upon receipt of such notice, the PMA shall continue to perform all its obligations here under, until such reasonable time beyond the Term of the Contract within which, the Authority shall either appoint an alternative PMA or create its own infrastructure to operate such Services as are provided under this Contract. However, the Authority shall make payment for work executed for the extended period post contract expiry.

9.7 Damage to property and injury to personnel

9.7.1 The PMA shall indemnify and keep indemnified the Authority against all losses and claims for injuries or damage to any person or any property whatsoever which may arise out of or in consequence of the execution of the Contract and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto.

9.7.2 The Authority shall not be liable for damage or compensation payable as per provision of any law/act in respect or consequence of any accident or injury to any workmen or other person in the employment of the PMA. The PMA shall have to pay all claims, demands, proceedings costs, charges and expenses whatsoever in respect there of or in relation there to.

9.7.3 In the event of any accident and/or injury, in respect of which compensation may become payable under the Workman's Compensation Act-VIII of 1923 including all amendments thereof, Authorized officer of the Authority shall have full powers to retain out of any sums payable/becoming payable to the PMA, any sum as may be deemed sufficient to meet such liability on receipt of award of compensation from the competent authority under the said act, and the same shall be adjusted from this amount. Any

shortfall shall be recovered and any excesses shall be refunded. The opinion of the authorized officer of the Authority shall be final in regard to all matters arising under this clause.

9.7.4 In case it is found that any theft or damage has occurred to the property or premises of the Authority due to negligence of personnel in performing their duty and/or absence from the place of duty and/or not providing substitute by the PMA or any other reason, the cost of all such losses or damages as assessed by the Authority shall be recovered from the PMA's bill or from their Security Deposit/ Contract Performance Guarantee or in any other manner, as may be deemed fit.

9.7.5 In case any personnel of the PMA is implicated in any law suit or is injured by any person or group of persons, agitating mob, etc. during the course of performing his/her duty/their duties for the Authority, it shall be the sole responsibility of the PMA to defend its personnel in the court of law or to extend all medical and financial help, etc. without charging any cost to the Authority.

9.7.6 The Authority shall be indemnified by the PMA for lapses or other mischief's etc. by its personnel.

9.7.7 Claims arising due to "any activity" shall be liable for adjustment from amount payable to PMA from its bills.

9.8 Necessary Compliances

9.8.1 The PMA shall provide and be responsible for payment of wages, salaries, and other statutory privileges and facilities as applicable to its personnel as per relevant and applicable labour law/rules/regulations and orders of the Central/State Government or local authorities or other authorities as are in force from time to time.

9.8.2 The PMA shall ensure all its employees are covered under national Accidental Insurance and National Life Insurance (Govt. of India Schemes).

9.8.3 All personnel engaged under this Contract by the PMA shall be employees of PMA. The Authority shall not have any liability/responsibility to absorb the persons engaged by the PMA and/or extend any type of recommendation, etc. for obtaining any job with the Authority or elsewhere.

9.8.4 The PMA shall at the time of execution of the Contract have PF code number obtained from authorities concerned under the Employee's Provident Fund and Miscellaneous Provisions Act, 1952 and remit contributions in respect of the employees employed by him to the PF office concerned every month or obtain the same within a month after the agreement for the concerned employees.

9.8.5 The PMA shall maintain all records/registers as required to be maintained under various applicable labour laws and other statutory laws in force and as amended from time to time, mentioned above and produce the same before the Statutory Authorities as well as the Authority as per the time period defined by the Authority.

9.8.6 The PMA shall also submit periodical reports on various labour laws such as Contract labour (Registration & Abolition) Act-1970, Employees Provident Fund Act etc., under intimation to maintain the designation of the principal employer.

9.8.7 The PMA shall be responsible for payment of overtime wages to his workmen, if any, in case they are required to work beyond the prescribed hours under laws. PMA shall deploy adequate number of

persons for execution of the Contract regulating their working hours and weekly off within the statutory limit.

9.8.8 The PMA shall in the event of his workman / employees sustain any injury or disablement due to an accident or any other cause arising out of and in the course of his employment, provide necessary medical treatment and pay compensation, if any, required under the Workmen's Compensation Act, 1923 and other applicable laws.

9.8.9 If any of the persons engaged by the PMA misbehaves with any officials of the Authority/SI or commits any misconduct in connection with the property of the Authority or suffers from any serious communicable diseases, the PMA shall be liable to replace them immediately.

9.8.10 The PMA should comply with all the applicable laws in force and effect for the time being, including being, registered under the various applicable labour laws.

9.9 Events of Default by the PMA

The failure on the part of the PMA to perform any of its obligations or comply with any of the terms of this contract shall constitute an Event of Default on the part of the PMA. The events of default as mentioned above may include inter-alia the following:

- i. The PMA commits a breach of any of the terms and conditions of the bid.
- ii. The PMA has failed to perform any instructions or directives issued by the Authority, which it deems proper and necessary to execute the scope of work under the Contract.
- iii. The PMA has failed to adhere to any of the SLAs and such SLA has not been complied with even after a period of 30 days from the date by which such SLA was to be complied with.
- iv. The PMA has failed to adhere to any of the milestones as laid down in the Contract, or if the PMA has fallen short of matching such standards/targets as Authority may have designated with respect to any task necessary for the execution of the scope of work under this Contract. The above mentioned failure on the part of the PMA may be in terms of failure to adhere to timelines, specifications, requirements or any other criteria as defined by Authority;
- v. The PMA has failed to remedy a failure to perform its obligations in accordance with the specifications issued by the Authority, despite being served with a default notice which laid down the specific deviance on the part of the PMA to comply with any stipulations or standards as laid down by the Authority;
- vi. The PMA has failed to conform to any of the Service/Facility Specifications/standards as set out in the scope of work of this Tender document or has failed to adhere to any amended direction, modification or clarification as issued by the Authority during the term of this Contract and which the Authority deems proper and necessary for the execution of the scope of work under this Contract;
- vii. The PMA has failed to demonstrate or sustain any representation or warranty made by it in this Contract, with respect to any of the terms of its Proposal, the Tender and this Contract
- viii. There is a proceeding for bankruptcy, insolvency, winding up, liquidation, voluntarily or otherwise

or there is an appointment of receiver, liquidator, assignee, or similar official against or in relation to the PMA.

- ix. The PMA has failed to comply with or is in breach or contravention of any applicable laws.

9.10 Termination Clause

9.10.1 Right to Terminate the Process

Authority reserves the right to terminate the contract placed on the PMA and recover expenditure incurred by Authority in case of any of the events mentioned in Clause 6.12 above.

- i. Authority reserves its right to terminate the Contract in the event of delay and forfeit the Performance Security as liquidated damages for the delay if deductions on account of liquidated damages exceed more than 10% of the total contract price.
- ii. In case the PMA fails to deliver the services as stipulated in the delivery schedule, Authority reserves the right to procure the same or similar services from alternate sources at the risk, cost and responsibility of the PMA.
- iii. After award of the contract, if the PMA does not perform satisfactorily or delays execution of the contract, Authority reserves the right to get the balance contract executed by another party of its choice by giving one-month notice for the same. In this event, the PMA is bound to make good the additional expenditure, which Authority may have to incur in executing the balance contract. This clause is applicable, if for any reason, the contract is cancelled.
- iv. Where there has been an occurrence of such defaults inter alia as stated above, the Authority shall issue a notice of default to the PMA, setting out specific defaults / deviances / omissions and providing a notice of Thirty (30) days to enable such defaulting party to remedy the default committed.
- v. In the event of Authority shall give 30 days' notice to the PMA of its intention to terminate the Contract and shall so terminate the Contract unless the PMA initiates remedial action acceptable to the Authority during the 30 days' notice period.
- vi. Where despite the issuance of a default notice to the PMA by the Authority and the PMA fails to remedy the default to the satisfaction of the Authority, the Authority may, where it deems fit, issue to the defaulting party another default notice or proceed to adopt such remedies as may be available to the Authority.
- vii. Authority reserves the right to recover any dues payable by the PMA from any amount outstanding to the credit of the PMA, including the pending bills and/or invoking the bank guarantee under this contract.

9.11 Consequences of Termination

- i. In the event of termination of the Contract due to any cause whatsoever, [whether consequent to the stipulated term of the Contract or otherwise], Authority shall be entitled to impose any such obligations and conditions and issue any clarifications as may be necessary to ensure an efficient transition and effective business continuity of the Service(s) which the Vendor shall be obliged to

comply with and take all available steps to minimize loss resulting from the termination/breach, and further allow the next successor Vendor to take over the obligations of the erstwhile Vendor in relation to the execution/continued execution of the scope of the Contract.

- ii. Nothing herein shall restrict the right of Authority to invoke the Performance Guarantee and other guarantees, securities furnished, enforce the Deed of Indemnity and pursue such other rights and/or remedies that may be available to Authority under law or otherwise.
- iii. The PMA shall not be entitled for compensation to any loss which they may incur in this regard.
- iv. In case any loss or damage occurs to the property/ items/ materials/ equipment etc. of the Authority/SI, due to any act of PMA or its personnel, the Authority shall have the right to recover from the PMA the value of all such property/ items/ materials/ equipment etc.
- v. The termination here of shall not affect any accrued right or liability of either Party nor affect the operation of the provisions of the Contract that are expressly or by implication intended to come into or continue in force on or after such termination.

9.12 Liquidated Damages

- i. Notwithstanding Authority right to cancel the order, liquidated damages for any delay in execution at 1% (One percent) of the incomplete portion of order value per week will be charged for every week's delay in the specified delivery schedule subject to a maximum of 10% of the value of the order value.
- ii. Damages shall be capped to maximum of 10% of total Contract Value. Beyond 10% of total Contract Value, the Authority has the right to terminate the contract or a portion or part of the work thereof. The Authority shall give 30 days' notice to the PMA of its intention to terminate the Contract and shall so terminate the Contract unless the bidder initiates remedial action acceptable to the Authority during the 30 days' notice period.
- iii. Authority reserve its right to recover these amounts by any mode such as adjusting from any payments to be made by Authority to the PMA. Liquidated damages will be calculated on milestone basis.
- iv. Subject to clause for Force Majeure, if the PMA fails to complete the services under Project scope of work before the scheduled completion date or the extended date or if the PMA repudiates the contract before completion of the work, the Authority, at its discretion, may without prejudice to any other right or remedy available to it under the contract, recover a maximum of 12 percent of the total Contract Value from the PMA, as Liquidated Damages (LD). In case it leads to termination, Authority shall give thirty days' notice to the PMA of its intention to terminate the contract and shall so terminate the contract unless during the thirty days' notice period, the PMA initiates remedial action acceptable to the Authority.
- v. Authority may without prejudice to its right to affect recovery by any other method, deduct the amount of liquidated damages from any money belonging to the PMA in its hands (which includes the Authority right to claim such amount against PMA's Bank Guarantee) or which may become due to the PMA. Any such recovery or liquidated damages shall not in any way relieve the PMA from any of its obligations to complete the work or from any other obligations and liabilities under the

Contract.

9.13 Dispute Resolution Mechanism

The Bidder and the Authority shall endeavor their best to amicably settle all disputes arising out of or in connection with the Contract in the following manner:

- i. The Party raising a dispute shall address to the other Party a notice requesting an amicable settlement of the dispute within seven (7) days of receipt of the notice.
- ii. Matter will be referred for negotiation between Officer nominated by Authority and the Authorized Official of the PMA. The matter shall then be resolved between them and the agreed course of action documented within a further period of 15 days.
- iii. In case any dispute between the Parties does not settle by negotiation in the manner as mentioned above, the same may be resolved exclusively by arbitration and such dispute may be submitted by either party for arbitration within 20 days of the failure of negotiations. Arbitration shall be held in Thiruvananthapuram and conducted in accordance with the provisions of Arbitration and Conciliation Act, 1996 or any statutory modification or re-enactment thereof. Each Party to the dispute shall appoint one arbitrator each and the two arbitrators shall jointly appoint the third or the presiding arbitrator.
- iv. The Arbitration Notice should accurately set out the disputes between the parties, the intention of the aggrieved party to refer such disputes to arbitration as provided herein, the name of the person it seeks to appoint as an arbitrator with a request to the other party to appoint its arbitrator within 45 days from receipt of the notice. All notices by one party to the other in connection with the arbitration shall be in writing and be made as provided in this tender document.
- v. Each Party shall bear the cost of preparing and presenting its case, and the cost of arbitration, including fees and expenses of the arbitrators, shall be shared equally by the Parties unless the award otherwise provides. The PMA shall not be entitled to suspend the Service/s or the completion of the job, pending resolution of any dispute between the Parties and shall continue to render the Service/s in accordance with the provisions of the Contract/Agreement notwithstanding the existence of any dispute between the Parties or the subsistence of any arbitration or other proceedings.

9.14 Force Majeure

9.14.1 Force Majeure is herein defined as any cause, which is beyond the control of the PMA or Authority as the case may be, which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affect the performance of the contract, such as:

- i. Natural phenomenon, including but not limited to floods, droughts, earthquakes and epidemics.
- ii. Acts of any government, including but not limited to war, declared or undeclared priorities, quarantines and embargos.
- iii. Terrorist attack, public unrest in work area provided either party shall within 10 days from occurrence of such a cause, notifies the other in writing of such causes. The bidder or Authority shall not be liable for delay in performing his/her obligations resulting from any force majeure cause as

referred to and/or defined above. Any delay beyond 30 days shall lead to termination of contract by parties and all obligations expressed quantitatively shall be calculated as on date of termination. Notwithstanding this, provisions relating to indemnity, confidentiality survive termination of the contract.

9.14.2 The Parties shall bear any cost incurred due to Force Majeure Event on their own and shall have no claim on account of such event against the other party.

9.14.3 The obligations of the Party claiming to face Force Majeure Event shall remain suspended till such Force Majeure event persists, and the contract term shall be extended by a period for which such Party was not able to perform/discharge its obligations due to a Force Majeure event; provided that immediate due notice of occurrence of such Force Majeure Event has been given by the Party to the other; provided further that the Authority shall be entitled to terminate this Agreement if a Force Majeure Event subsists for a period of 3 months continuously.

9.15 Right of Monitoring, Inspection and Periodic Audit

Authority reserves the right to inspect and monitor / assess the progress / performance at any time during the course of the Contract, after providing due notice to the PMA. The Authority may demand, and upon such demand being made, the PMA shall provide with any document, data, material or any other information required to assess the progress of the project.

Authority shall also have the right to conduct, either itself or through any another agency as it may deem fit, an audit to monitor the performance by the PMA of its obligations/functions in accordance with the standards committed to or required by the Authority and the PMA undertakes to cooperate with and provide to the Authority/ any other Consultant/ Agency appointed by the Authority, all documents and other details as may be required by them for this purpose. Any deviations or contravention identified as a result of such audit/assessment would need to be rectified by the PMA failing which the Authority may, without prejudice to any other rights that it may have, issue a notice of default.

9.16 Information Security

The PMA shall not carry and/or transmit any material, information, layouts, diagrams, storage media or any other goods/material in physical or electronic form, which are proprietary to or owned by the Authority, out of premises, without prior written permission from the Authority.

The PMA shall, upon termination of this agreement for any reason, or upon demand by Authority, whichever is earliest, return any and all information provided to the PMA by Authority, including any copies or reproductions, both hard copy and electronic.

9.17 Authority's Obligations

Authority representative shall interface with the PMA, to provide the required information, clarifications, and to resolve any issues as may arise during the execution of the Contract.

Authority shall ensure that timely approval is provided to the PMA, where deemed necessary, which should include diagram / plans and all specifications related to services required to be provided as part of the Scope of Work.

9.18 Confidentiality

- i. As used herein, the term —Confidential Information means any information, including information created by or for the other party, whether written or oral, which relates to internal controls, computer or data processing programs, algorithms, electronic data processing applications, routines, subroutines, techniques or systems, or information concerning the business or financial affairs and methods of operation or proposed methods of operation, accounts, transactions, proposed transactions or security procedures of either party or any of its affiliates, or any client of either party, except such information which is in the public domain at the time of its disclosure or thereafter enters the public domain other than as a result of a breach of duty on the part of the party receiving such information. It is the express intent of the parties that all the business process and methods used by the Bidder in rendering the services hereunder are the Confidential Information of the Bidder.
- ii. The PMA must maintain absolute confidentiality of the documents/ maps/ tools collected in any form including electronic media and any other data/information provided to him for the execution of the work. The Bidder should not use the Project data for any purpose other than the scope of work specified in the document and added/ amended before signing the contract. The PMA must remove/ destroy the entire data from his custody after completion of the contract period. If at any stage it is found that the bidder is using the data provided by the client any time during the contract execution or after completion of the contract for any other purposes, stringent legal action will be initiated as per applicable law of land and the contract will be terminated without assigning any reasons.
- iii. The PMA shall not disclose to any one, any information marked as confidential and communicated or made available or accessible by the firm during execution of the work. The PMA s shall note that the confidential information will be used only for the purposes of this tender and shall not be disclosed to any third party for any reason what so ever.
- iv. At all-time of the performance of the services, the PMA shall abide by all applicable security rules, policies, standards, guidelines and procedures. The Bidder should note that before any of its employees or assignees is given access to the Confidential Information, each such employee and assignees shall agree to be bound by the term of this tender and such rules, policies, standards, guidelines and procedures by its employees or agents.
- v. The PMA should not disclose to any other party and keep confidential the terms and conditions of this Contract agreement, any amendment hereof, and any Attachment or Annexure hereof.
- vi. The PMA shall not, without prior written consent from Authority, disclose/share/use the bid document, contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Authority, in connection therewith, to any person other than a person employed by the bidder in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only as far as may be necessary for purposes of such performance.
- vii. The PMA shall not, without prior written consent of Authority, make use of any document or information made available for the project, except for purposes of performing the Contract.
- viii. The PMA shall be obliged to implement any proposed changes once approval in accordance with Article above has been given, with effect from the date agreed for implementation
- ix. The PMA shall, upon termination of this agreement for any reason, or upon demand by Authority, whichever is earliest, return any and all information provided to the PMA by Authority, including any copies or reproductions, both hard copy and electronic.
- x. The obligations of confidentiality under this section shall survive rejection of the contract

9.19 Indemnity

The PMA shall execute and furnish to the Authority, a Deed of Indemnity in favor of the Authority, his successors or assignees, its employees and officers in a form and manner acceptable to Authority, indemnifying Authority from and against any costs, losses, damages, expenses, claims including those from third parties owing infringement or misappropriation of a patent, copyright, trademark and trade secret, arising or incurred inter- alia during and after the Contract period arising out of:

- i. Negligence or wrongful act or omission in connection with or incidental to this Contract; or

- ii. Any breach of any of the terms the Successful Bidder's Proposal as agreed, the Tender and this Contract by the PMA or its team.
- iii. The indemnity shall be to the extent of 100% of total contract value in favour of Authority.

9.20 Continuance of the Contract

Notwithstanding the fact that settlement of dispute(s) (if any) under arbitration may be pending, the parties hereto shall continue to be governed by and perform the work in accordance with the provisions under the Scope of Work to ensure continuity of operations.

9.21 Limitation of the Bidder's (PMA) Liability towards Authority

- i. Except in case of gross negligence, willful misconduct, breach of Application Laws, breach of representations & warranties and breach of indemnity provisions on the part of the PMA or on the part of any person or company acting on behalf of the PMA in carrying out the Services, the PMA, with respect to damage caused by the PMA to Authority's property, shall not be liable to Authority
 - a) For any indirect or consequential loss or damage; and
 - b) For any direct loss or damage that exceeds the total payments payable under this contract to the PMA hereunder.
- ii. This limitation of liability shall not affect the PMA's liability, if any, for direct damage to Third Parties resulting in bodily injury, death or damage to physical property caused by the PMA or any person or firm/company acting on behalf of the PMA in carrying out the Services. Notwithstanding anything stated to the contrary in the RFP, limitation of liability, including for direct damage to Third Parties, shall be to the extent of 100% of the total contract value of the project calculated up to and as on the date when such section / clause is required to be invoked.

9.22 Conflict of interest

The Bidder shall disclose to Authority in writing, all actual and potential conflicts of interest that exist, arise or may arise (either for the Vendor or Bidder's team) in the course of performing the Service(s) as soon as practical after it becomes aware of that conflict.

Lead/Sole bidder or any of the consortium members must not directly/indirectly involve/participate with SI in implementation of the Project in any form.

9.23 Severance

In the event any provision of the Contract is held to be invalid or unenforceable under the applicable law, the remaining provisions of this Contract shall remain in full force and effect.

9.24 Governing Language

The Agreement shall be written in English language. Subject to below Clause, such language versions of the Agreement shall govern its interpretation. All correspondence and other documents pertaining to the Contract that are exchanged by parties shall be written in English language only.

9.25 “No Claim” Certificate

The PMA shall not be entitled to make any claim, whatsoever against Authority, under or by virtue of or arising out of, the contract, nor shall Authority entertain or consider any such claim, if made by the PMA after it has signed a —No claim certificate in favour of Authority in such form as shall be required by it after the work is finally accepted.

9.26 Publicity

The PMA shall not make or permit to be made a public announcement or media release about any aspect of this Contract unless the Authority first gives its written consent to the PMA.

9.27 Waiver

- i. Any waiver of any provision of this Contract is ineffective unless it is in writing and signed by the Party waiving its rights.
- ii. A waiver by either Party in respect of a breach of a provision of this Contract by the other Party is not a waiver in respect of any other breach of that or any other provision.
- iii. The failure of either Party to enforce at any time any of the provisions of this Contract shall not be interpreted as a waiver of such provision.

9.28 Modification

Any modification of the Contract shall be in writing and signed by an authorized representative of each Party.

9.29 Taxes

- i. The PMA shall be responsible for payment of all taxes, duties, statutory/local levies arising as a result of commercial transactions under this Contract. Authority shall not be responsible for any tax related liability.
- ii. Any upward/downward revision of GST only shall be applicable at the time of invoicing.
- iii. GST, as applicable, shall be paid by Authority to the PMA.

9.30 Application

These General Conditions shall apply to the extent that provisions in other parts of the Contract do not supersede them.

9.31 Relationship between the Parties

- i. Nothing in the Contract constitutes any fiduciary relationship between the Authority and PMA or any relationship of employer employee, principal and agent, or partnership, between the Authority and PMA.

- ii. No Party has any authority to bind the other Party in any manner whatsoever except as agreed under the terms of the Contract.
- iii. Authority will not be under any obligation to the PMA's Team except as agreed under the terms of the Contract.

9.32 No Assignment

The PMA shall not transfer any interest, right, benefit or obligation under the contract without the prior written consent of Authority.

9.33 Survival

The provisions of the clauses of the Contract in relation to documents, data, processes, property, Intellectual Property Rights, indemnity, publicity and confidentiality and ownership survive the expiry or termination of this Contract and in relation to confidentiality, the obligations continue to apply unless Authority notifies the PMA of its release from those obligations.

9.34 Entire Contract

The terms and conditions laid down in the Tender and all annexures thereto as also the Proposal and any attachments/annexes thereto shall be read in consonance with and form an integral part of the Contract. The Contract supersedes any prior contract, understanding or representation of the Parties on the subject matter.

9.35 Governing Law

This contract shall be governed in accordance with the laws of India.

9.36 Jurisdiction of Courts

The High Court of Kerala at Ernakulam has exclusive jurisdiction to determine any proceeding in relation to the Contract.

9.37 Compliance with Laws

The PMA shall comply with the laws in force in India in the course of performing the Contract.

9.38 Notices

A notice means:

- i. a notice; or
- ii. A consent, approval or other communication required to be in writing under the Contract. All notices, requests or consent provided for or permitted to be given under this Contract shall be in writing and shall be deemed effectively given when personally delivered or mailed by pre-paid certified/registered mail, return receipt requested, addressed as follows and shall be deemed received

RfP for Selection of Project Monitoring Agency

two days after mailing or on the date of delivery if personally delivered:

To
The Managing Director,
Kerala State Information Technology Infrastructure Ltd.
.....

To PMA at:.

Any Party may change the address to which notices are to be directed, by giving a notice to the other party in the manner specified above. A notice served on a Representative is taken to be notice to that Representative's Party.

IN WITNESS WHEREOF the parties have duly executed this Contract as of the day and year first above written.

For and on behalf of Authority

For and on behalf of PMA

Managing Director, Kerala State Information
Technology Infrastructure Ltd.

<<Successful Bidder>>

Witness:

1.

2.

Witness:

1.

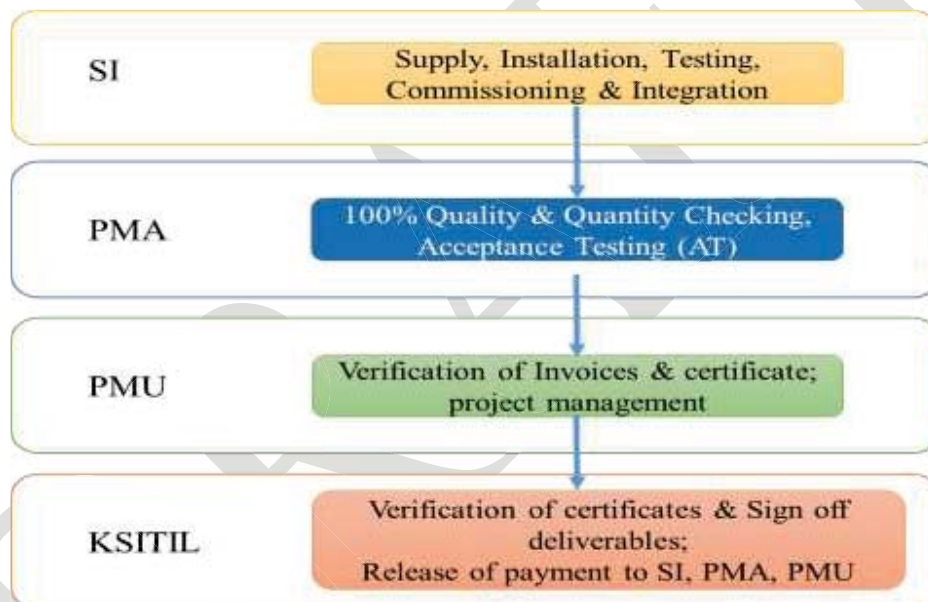
2.

ANNEXURE I: WORKFLOW AMONG DIFFERENT STAKEHOLDERS INVOLVED IN PROJECT IMPLEMENTATION

The project will involve several stakeholders which would be interdependent during the implementation period. The key stakeholders are:

1. System Integrator (SI)
2. Project Monitoring Agency (PMA)
3. Project Management Unit (PMU)
4. Kerala State Information Technology Infrastructure Limited (KSITIL)

The workflow amongst the above stakeholders and their corresponding payments is depicted in the workflow described below:



ANNEXURE 2: FORMAT FOR POWER OF ATTORNEY FOR SOLE BIDDER

(To be provided scanned copy of original as part of **Technical Proposal** on stamp paper of value required under law duly signed by bidder for the tender)

Dated:

POWER OF ATTORNEY

To Whomsoever It May Concern

Know all men by these presents, we <<(name and registered office address of the Bidder)>> do hereby constitute, appoint and authorize Mr. <<(Name of the Person)>>, domiciled at << (Address)>>, acting as <<(Designation and the name of the firm)>>, as Authorized Signatory and whose signature is attested below, as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our Proposal for award of Agreement “**Selection of Project Monitoring Agency (PMA) for Kerala Fibre Optic Network and Reliable Communication & Data Acquisition Network**”, vide <<(eprocurement tender id)>> dated <<(date)>>, issued by The Managing Director, Kerala State Information Technology Infrastructure Limited(KSITIL), including signing and submission of all documents and providing information and responses to clarifications / enquiries etc. as may be required by Kerala State Information Technology Infrastructure Ltd.(KSITIL) or any governmental authority, representing us in all matters before KSITIL, and generally dealing with KSITIL in all matters in connection with our Proposal for the said Project.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

For -----

(Signature)

(Name, Title and Address)

Accept

(Attested signature of Mr. _____)

(Name, Title and Address of the Attorney) Notes:

To be executed by the Bidder

The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure. Also, wherever required, the executant(s) should submit for verification the extract of the charter documents and documents such as a resolution / power of attorney in favour of the Person executing this Power of Attorney for the delegation of power hereunder on behalf of the executants(s).

ANNEXURE 3: FORMAT FOR POWER OF ATTORNEY FOR CONSORTIUM

(To be provided scanned copy of original as part of technical bid on stamp paper of value required under applicable law duly signed by each member of a consortium of bidders in favour of 'lead member' for the tender)

To Whomsoever It May Concern

Whereas we, M/s. _____, M/s. _____ and M/s. _____ (names of members of the consortium of bidders as registered by the relevant registering authority under the deed relating to their respective incorporation) have formed a consortium named _____ to compete as a single consortium for the award of the work for which notice inviting tenders (NIT) has been issued by the, Authority vide its NITno. _____ dated __/__/____, M/s. _____ as a member of the said consortium and having its registered address as _____ is hereby duly authorized to fully represent and act on behalf of, and as 'lead member' of the said consortium to sign the tender proposal, conduct negotiation(s), sign agreement(s) / contract(s), incur liabilities and receive communication(s) for, and on behalf of, the consortium, and, further, to transact all other necessary affairs in connection with all matters related to, or arising from, with the said NIT. We hereby confirm that we are jointly and severally liable, together with the other member(s) of the said consortium, to Authority for all obligations of the consortium in respect of all matters related to, or arising from, the said NIT.

In witness whereof, we have hereunto set under our respective hands and seals this _____ day of _____, 2019.

Signing for and on behalf of,
and under authority from, M/s.

_____ (Name of
Lead Bidder of consortium)

(Signature)

Name of signatory

Designation of signatory

(Seal of member of consortium
for and under whose
authorization signing)

Name of witness

Signature of witness

Signing for and on behalf of,
and under authority from, M/s.

_____ (Name of
Member of consortium)

(Signature)

Name of signatory

Designation of signatory

(Seal of member of consortium
for and under whose
authorization signing)

Name of witness

Signature of witness

Signing for and on behalf of,
and under authority from, M/s.

_____ (Name of
Member of consortium)

(Signature)

Name of signatory

Designation of signatory

(Seal of member of consortium
for and under whose
authorization signing)

Name of witness

Signature of witness

ANNEXURE 4: DECLARATION FOR NOT BLACKLISTING

(On Company Letter head)

Date

To,

Managing Director

Kerala State Information Technology
Infrastructure Limited,

7th Floor, Felicity Square, M. G. Road,
Statue,

Thiruvananthapuram - 695001

Kerala

Dear Sir,

Ref.: Tender No.

I / We hereby confirm that our firm has not been banned or blacklisted by any
Central/State/UT government organization/PSU as on bid submission date.

Signature of Bidder

Place:

Name.....

Date:

Designation.....

Seal

ANNEXURE 5: CERTIFICATE FOR NO CONFLICT OF INTEREST CERTIFICATE

(On Company Letter Head)

To,

Managing Director

Kerala State Information Technology
Infrastructure Limited,

7th Floor, Felicity Square, M. G. Road,
Statue,

Thiruvananthapuram - 695001

Kerala

Sub: Undertaking on no conflict of interest certificate regarding selection of PMA for Kerala Fibre Optic Network and Reliable Communication & Data Acquisition Network project in the state of Kerala

Dear Sir,

I/we do hereby undertake that there is absence of, actual or potential conflict of interest on the part of the PMA with the SI or any prospective subcontractor due to prior, current, or proposed contracts, engagements, or affiliations with KSITIL or KFON or KSEBL.

I/we also confirm that there are no potential elements (timeframe for service delivery, resource, financial or other) that would adversely impact our ability to complete the requirements as given in the RfP.

We undertake and agree to indemnify and hold KSITIL, KSEBL and KFON harmless against all claims, losses, damages, costs, expenses, proceeding fees of legal advisors (on a reimbursement basis) and fees of other professionals incurred (in the case of legal fees and fees of professionals, reasonably) by KSITIL, KSEBL and KFON and/ or its representatives, if any such conflict arises later.

Signature of Bidder

Place:

Name

Date:

ANNEXURE 6: PRE-CONTRACT INTEGRITY PACT

(On Non-Judicial Stamp Paper)

1. GENERAL

1.1. This pre-bid contract Agreement (hereinafter called the Integrity Pact) is made on..... day of the month 2019 between, the Kerala State Information Tehnology Ifnrastructure Limited acting through the Managing Director (hereinafter called the "TENDERING AUTHORITY", which expression shall mean and include, unless the context otherwise requires, his successors in the office and assigns) and the First Party, proposes to procure products and services through Tender No and M/s represented by Shri _____ (Hereinafter called the "BIDDER/Seller", which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) and the Second Party, is willing to offer/ has offered.

1.2. WHEREAS the BIDDER is a Private Company/Public Company/ Government Undertaking/ Partnership firm, constituted in accordance with the relevant law in the matter and the TENDERING AUTHORITY is a Ministry/Department of the Government, performing its function on behalf of the Government of Kerala.

2. OBJECTIVES

NOW, THEREFORE, the TENDERING AUTHORITY and the BIDDER agree to enter into this pre-contract agreement, hereinafter referred to as Integrity Pact, to avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the Contract to be entered into with a view to:-

2.1. Enabling the TENDERING AUTHORITY to obtain the desired Stores/Equipment/Work/Service at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

2.2. Enabling BIDDERS to abstain from bribing or indulging in any corrupt practices in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and any corrupt practices and the TENDERING AUTHORITY will commit to prevent corruption, in any form, by its official by following transparent procedures.

3. COMMITMENTS OF THE TENDERING AUTHORITY

The TENDERING AUTHORITY commits itself to the following:-

3.1. The TENDERING AUTHORITY undertakes that no official of the TENDERING AUTHORITY, connected directly or indirectly with the contract, will demand, take promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favor or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

3.2. The TENDERING AUTHORITY will, during the pre-contract stage, treat BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to the other BIDDERS.

3.3. All the officials of the TENDERING AUTHORITY will report the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach. In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the TENDERING AUTHORITY with the full and verifiable facts and the same prima facie found to be correct by the TENDERING AUTHORITY, necessary disciplinary proceedings, or any other action as deemed, fit, including criminal proceedings may be initiated by the TENDERING AUTHORITY and such a person shall be debarred from further dealings related to the contract process. In such a case, while an enquiry is being conducted by the TENDERING AUTHORITY the proceedings under the contract would not be stalled.

4. COMMITMENTS OF BIDDERS

The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:-

4.1. The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favor, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the TENDERING AUTHORITY, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.

4.2. The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favor, any material or immaterial benefit or other advantage, commission, fees, brokerage, or inducement to any official of the TENDERING AUTHORITY or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the Government for showing or forbearing to show favor or disfavour to any person in relation to the contract or any other contract with the Government.

4.3. The BIDDER further confirms and declares to the TENDERING AUTHORITY that the BIDDER is the original Manufacture/Integrator/Authorized government sponsored export entity of the stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the TENDERING AUTHORITY or any of its functionaries, whether officially or unofficially to the award of the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.

4.4. The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payment he has made, is committed to or intends to make to officials of the TENDERING AUTHORITY or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.

4.5. The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.

4.6. The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

4.7. The BIDDER shall not use improperly, for purpose of competition or personal gain, or pass on to others, any information provided by the TENDERING AUTHORITY as part of the business relationship, regarding plans, technical proposal and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.

4.8. The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.

4.9. The BIDDER shall not instigate or cause to instigate any third person to commit any of the acts mentioned above.

5. PREVIOUS TRANSGRESSION

5.1. The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.

5.2. If the BIDDER makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

6. EARNEST MONEY (SECURITY DEPOSIT)

6.1. Every BIDDER while submitting the bid, shall deposit an amount as specified in RFP as Earnest Money/Security Deposit, with the TENDERING AUTHORITY through the instruments specified in the RFP.

6.2. In the case of Successful Bidder a clause would also be incorporated in the Article pertaining to Performance Bond in the Purchase Contract that the provisions of Sanctions for violation shall be applicable for forfeiture of Performance Bond in case of a decision by the TENDERING AUTHORITY to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

6.3. No interest shall be payable by the TENDERING AUTHORITY to the BIDDER on Earnest Money/Security Deposit for the period of its currency.

7. SANCTIONS FOR VIOLATIONS

7.1. Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the TENDERING AUTHORITY to take all or any one of the following actions, wherever required:-

- (i) To immediately call off the pre contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.
- (ii) To forfeit fully or partially the Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/Performance Bond (after the contract is signed), as decided by the TENDERING AUTHORITY and the TENDERING AUTHORITY shall not be required to assign any reason therefore.
- (iii) To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.
- (iv) To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER, in

order to recover the payments, already made by the TENDERING AUTHORITY, along with interest.

- (v) To cancel all or any other contracts with the BIDDER and the BIDDER shall be liable to pay compensation for any loss or damage to the TENDERING AUTHORITY resulting from such cancellation/rescission and the TENDERING AUTHORITY shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.
- (vi) To debar the BIDDER from participating in future bidding processes of the Government of Kerala for a minimum period of **three years**, which may be further extended at the discretion of the TENDERING AUTHORITY.
- (vii) To recover all sums paid in violation of this Pact by BIDDER(s) to any middlemen or agent or broken with a view to securing the contract.
- (viii) In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the TENDERING AUTHORITY with the BIDDER, the same shall not be opened.
- (ix) If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is closely related to any of the officers of the TENDERING AUTHORITY, or alternatively, if any close relative of an officer of the TENDERING AUTHORITY has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filling of tender. Any failure to disclose the interest involved shall entitle the TENDERING AUTHORITY to rescind the contract without payment of any compensation to the BIDDER.
- (x) The term 'close relative' for this purpose would mean spouse whether residing with the Government servant or not, but not include a spouse separated from the Government servant by a decree or order of a competent court; son or daughter or step son or step daughter and wholly dependent upon Government servant, but does not include a child or step child who is no longer in any way dependent upon the Government servant or of whose custody the Government servant has been deprived of by or under any law; any other person related, whether by blood or marriage, to the Government servant or to the Government servant's wife or husband and wholly dependent upon Government servant.
- (xi) The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the TENDERING AUTHORITY, and if he does so, the TENDERING AUTHORITY shall be entitled forthwith to rescind the contract and all other contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the TENDERING AUTHORITY resulting from such rescission and the TENDERING AUTHORITY shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.

7.2. The decision of the TENDERING AUTHORITY to the effect that a breach of the provisions of this pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Monitor(s) appointed for the purposes of this Pact.

8. INDEPENDENT MONITORS

8.1. The TENDERING AUTHORITY will appoint Independent Monitors (hereinafter referred to as Monitors) for this Pact.

8.2. The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.

8.3. The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.

8.4. Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER/Sub Successful Bidder(s) with confidentiality.

8.5. As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the TENDERING AUTHORITY.

8.6. The Monitor will submit a written report to the designated Authority of TENDERING AUTHORITY/Secretary in the Department/within 8 to 10 weeks from the date of reference or intimation to him by the TENDERING AUTHORITY/BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

9. FACILITATION OF INVESTIGATION

In case of any allegation of violation of any provisions of this Pact or payment of commission, the TENDERING AUTHORITY or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information of the relevant documents and shall extend all possible help for the purpose of such examination.

10. LAW AND PLACE OF JURISDICTION

This Pact is subject to Indian Law, the place of performance and jurisdiction shall be the seat of the TENDERING AUTHORITY.

11. OTHER LEGAL ACTIONS

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of any other law in force relating to any civil or criminal proceedings.

12. VALIDITY

12.1. The validity of this Integrity Pact shall be from the date of its signing and extend up to 3 years or the complete execution of the contract to the satisfaction of both the TENDERING AUTHORITY and the BIDDER/Seller, whichever is later. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract with the Successful Bidder.

12.2. If one or several provisions of this Pact turn out to be invalid, the remainder of this Pact shall remain valid. In such case, the parties will strive to come to an agreement to their original intentions.

13. The parties hereby sign this Integrity Pact at.....on.....

TENDERING AUTHORITY

BIDDER

Name of the Officer

Designation

Witness

1)
2)

Witness

1)
2)

DRAFT

ANNEXURE 7: FORMAT FOR TECHNICAL BID COVER LETTER

(On Company Letter Head)

To,

Managing Director

Kerala State Information Technology
Infrastructure Limited,

7th Floor, Felicity Square, M. G. Road,
Statue,

Thiruvananthapuram - 695001

Kerala

Sub: Submission of the response to the Tender No. <<tender id>>.for selection of Project Monitoring Agency for Kerala Fibre Optic Network and Reliable Communication and Data Acquisition Network project in the state of Kerala

We, the undersigned, offer to provide services for Kerala Fibre Optic Network and Reliable Communication & Data Acquisition Network project for KSITIL in response to the request for proposal dated <insert date> and tender reference no <> for “Selection of PMA for Kerala Fibre Optic Network and Reliable Communication and Data Acquisition Network project in the state of Kerala”. We are hereby submitting our proposal online, which includes the pre-qualification, technical bid and commercial bid.

We hereby declare that all the information and statements made in this technical bid are true and accept that any misinterpretation contained in it may lead to our disqualification.

We undertake, if our proposal is accepted, to initiate the implementation services related to the assignment not later than the date indicated in this tender.

We agree to abide by all the terms and conditions of the RfP and related corrigendum(s)/ addendum(s). We would hold the terms of our bid valid for 3 months from the date of opening of the commercial bid as stipulated in the RFP.

We hereby declare that as per RFP requirement, we have not been black-listed/ debarred by any central/ state government and we are not the subject of legal proceedings for any of the foregoing.

We understand you are not bound to accept any proposal you receive.

Signature of Bidder

Place:

Name

Date:

ANNEXURE 8: FORMAT FOR COMMERCIAL BID COVER LETTER

To,

Managing Director

Kerala State Information Technology
Infrastructure Limited,

7th Floor, Felicity Square, M. G. Road,
Statue,

Thiruvananthapuram - 695001

Kerala

Dear Sir,

We, the undersigned Bidder, having read and examined in detail all the tender documents in respect of selection of Project Monitoring Agency for Kerala Fibre Optic Network and Reliable Communication & Data Acquisition Network project in the state of Kerala do hereby propose to provide services as specified in the tender reference No. _____.

I. Price and Validity

- a. All the prices mentioned in our bid are in accordance with the terms & conditions as specified in the RFP. The validity of bid is 3 months from the date of opening of the commercial bid.
- b. We are an Indian firm and do hereby confirm that our prices are inclusive of all duties, levies etc., excluding GST.
- c. We have studied the clause relating to Indian Income Tax and hereby declare that if any income tax, surcharge on income tax, professional and any other corporate tax in altered under the law, we shall pay the same.

II. Unit rates: We have indicated in the relevant schedules enclosed, the unit rates for the purpose of on account of payment as well as for price adjustment in case of any increase to/ decrease from the scope of work under the contract.

III. Deviations: we declare that all the services shall be performed strictly in accordance with the RFP irrespective of whatever has been stated to the contrary anywhere else in our bid. Further, we agree that additional conditions, if any, found in our bid documents, shall not be given effect to.

IV. Earnest money deposit (EMD): we have enclosed an EMD in the form of non-refundable & irrevocable bank guarantee for a sum of INR _____/- (Rupees _____ only). This EMD is liable to be forfeited as per **clause ...**

V. Tender pricing: we further confirm that the prices stated in our bid are in accordance with your instruction to bidders included in tender documents.

RfP for Selection of Project Monitoring Agency

- VI. Qualifying data: we confirm having submitted the information as required by you in your instruction to bidders. In case you require any other further information/ documentary proof in this regard before evaluation of our tender, we agree to furnish the same in time to your satisfaction.
- VII. Bid price: we declare that our bid price is for the entire scope of the work as specified in the RFP. These prices are indicated in annexure-commercial bid format attached with our tender as part of the tender.
- VIII. Performance bank guarantee: we hereby declare that in case the contract is awarded to us, we shall submit the performance bank guarantee in the form prescribed in **annexure-...** format for performance bank guarantee. we hereby declare that our tender is made in good faith, without collusion or fraud and the information contained in the tender is true and correct to the best of our knowledge and belief. We understand that our tender is binding on us and that you are not bound to accept a tender you receive.

Signature of Bidder

Place:

Name

Date:

ANNEXURE 9: COMMERCIAL BID FORMAT (to be filled online)

Sheet 1:

S N o.	Item Description	Qty	Unit	Curr ency	Mont hly Rate	G S T In %	Tot GS T (For Mo nthl y) IN INR	Tot al GS T(F or 24 Mo nths) IN INR	Tot. Amt Mon thly With out Tax	Tot. Amt. Mont hlywi th Tax	Tot. Amt. (For 24 Mon ths) With out Tax	Tot. Amt. (For 24 Mon ths) With Taxe s	Tot. Amt.
1	2	4	5	6	7	8	9	10	11	12	13	14	15
1	Manpower												
2	Project Lead	1	Person	INR			0.00	0.00	0.00	0.00	0.00	0.00	INR Zero Only
3	OFC Engineers	42	Person	INR			0.00	0.00	0.00	0.00	0.00	0.00	INR Zero Only
4	Warehouse In-Charge	4	Person	INR			0.00	0.00	0.00	0.00	0.00	0.00	INR Zero Only
5	GIS Expert	1	Person	INR			0.00	0.00	0.00	0.00	0.00	0.00	INR Zero Only
Total In Figures											0.00	0.00	INR Zero Only

RfP for Selection of Project Monitoring Agency

Sheet 2:

S N o.	Item Description	Qty	Unit	Curr ency	Mont hly Rate	G S T In %	Tot GS T (For Mo nthl y) IN INR	Tot al GS T(F or 24 Mo nths) IN INR	Tot. Amt Mon thly With out Tax	Tot. Amt. Mont hlywi th Tax	Tot. Amt. (For 24 Mon ths) With out Tax	Tot. Amt. (For 24 Mon ths) With Taxe s	Tot. Amt.
1	2	4	5	6	7	8	9	10	11	12	13	14	15
1	NOC	1	Nos	INR			0.00	0.00	0.00	0.00	0.00	0.00	INR Zero Only
2	PoPs	378	Nos	INR			0.00	0.00	0.00	0.00	0.00	0.00	INR Zero Only
Total In Figures											0.00	0.00	INR Zero Only

ANNEXURE 10: FORMAT FOR PERFORMANCE BANK GUARANTEE

This Deed of Guarantee executed at _____ by (Name of the Bank) having its Head/Registered office at _____ (hereinafter referred to as —the Guarantor) which expression shall unless it be repugnant to the subject or context thereof include its heirs, executors, administrators, successors and assigns;

In favour of The Managing Director of Kerala State Information Technology Infrastructure Ltd., having its office at Trivandrum, Kerala (hereinafter called — MD, KSITIL, Trivandrum, which expression shall unless it be repugnant to the subject or context thereof include its heirs, executors, administrators, successors and assigns);

Whereas M/s _____ a company formed under _____ (specify the applicable law) and having its registered office at _____ has been, consequent to conduct and completion of a competitive bidding process in accordance with the letter of requirements document No. _____ dated ____/____/2019 issued by MD, KSITIL, Trivandrum, and selected M/s _____ (hereinafter referred to as the Bidder) for the Agreement by MD, KSITIL Limited, Trivandrum as more specifically defined in the aforementioned Document including statement of work and the Agreement executed between the MD, KSITIL, Trivandrum and Bidder. The Agreement requires the Bidder to furnish an unconditional and irrevocable Bank Guarantee for an amount of Rs. _____/- (Rupees only) by way of security for guaranteeing the due and faithful compliance of its obligations under the agreement. Whereas, the Bidder approached the Guarantor and the Guarantor has agreed to provide a Guarantee being these presents:

Now this Deed witnessed that in consideration of the premises, we, _____ Bank hereby Guarantee as follows:

The Bidder shall implement the Project, in accordance with the terms and subject to the conditions of the Agreement, and fulfil its obligations there under.

We, the Guarantor, shall, without demur reservation or protest, pay to MD, KSITIL, Trivandrum an amount not exceeding Rs. _____ (Rupees only) within 7 (seven) days of receipt of a written demand therefore from MD, KSITIL, Trivandrum stating that the Bidder has failed to fulfil its obligations as stated in Clause 1 above.

The above payment shall be made by us without any reference to the Bidder or any other person and irrespective of whether the claim of the MD, KSITIL, Trivandrum is disputed by the Bidder or not.

The Guarantee shall come into effect from _____ (Start Date) and shall continue to be in full force and effect till the earlier of its expiry at 1700 hours Indian Standard Time on (Expiry Date) (both dates inclusive) or till the receipt of a claim, from the Kerala State Information Technology Infrastructure Limited, Trivandrum, under this Guarantee, which is one month after the expiry of performance guarantee, whichever is earlier. Any demand received by the Guarantor from MD, KSTIL, Trivandrum prior to the Expiry Date shall survive the expiry of this Guarantee till such time that all the moneys payable under this Guarantee by the Guarantor to MD, KSITIL, Trivandrum.

In order to give effect to this Guarantee, MD, KSITIL, Trivandrum shall be entitled to treat the Guarantor as the principal debtor and the obligations of the Guarantor shall not be affected by any variations in the terms and conditions of the Agreement or other documents by MD, KSITIL, Trivandrum or by the extension of time of performance granted to the Bidder or any postponement for any time of the power exercisable by MD, KSITIL, Trivandrum against the Bidder or forebear or enforce any of the terms and conditions of the Agreement and we shall not be relieved from our obligations under this Guarantee on account of any such variation, extension, forbearance or omission on the part of MD, KSITIL, Trivandrum or any indulgence by MD, KSITIL, Trivandrum to the Bidder to

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give 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 be irrevocable and shall remain in full force and effect until all our Obligations under this guarantee are duly discharged.

The Guarantor has power to issue this guarantee and the undersigned is duly authorized to execute this Guarantee pursuant to the power granted under _____ .

In witness, whereof the Guarantor has set its hands hereunto on the day, month and year first here-in-above written.

Signed and Delivered by _____ Bank by the hand of Shri _____ its _____ and authorized office.

Authorized Signatory _____ Bank

DRAFT

ANNEXURE 11: FORMAT FOR NON-DISCLOSURE AGREEMENT

This Non-Disclosure Agreement for Exchange of Confidential Information (the “Agreement”) is entered into as of DD, 2019 (the “Effective Date”) by and between Kerala State Information Technology Infrastructure Limited, hereinafter referred to as ‘**Authority**’ having its registered office at Trivandrum, Kerala.

And

<***>, a Company incorporated under the Companies Act, 1956/ 2013, having its registered office at <***> (hereinafter referred to as the ‘**Project Monitoring Agency**’ (**PMA**) which expression shall, unless the context otherwise requires, include its permitted successors and assigns).

Each of the parties mentioned above are collectively referred to as the ‘Parties’ and individually as a ‘Party’. Whereas:

1. The Authority is desirous to implement the project of “Kerala Fibre Optic Network and Reliable Communication & Data Acquisition Network project in the state of Kerala”.
 2. The Authority and PMA have entered into a Master Services Agreement dated <***> as well as a Service Level Agreement dated <***> (the “SLA”) in furtherance of the Project.
 3. Whereas in pursuing the Project (the “Business Purpose”), a Party (“Disclosing Party”) recognizes that they will disclose certain Confidential Information (as defined hereinafter) to the other Party (“Receiving Party”).
 4. Whereas such Confidential Information (as defined hereinafter) belongs to Receiving Party as the case may be and is being transferred to the Disclosing Party to be used only for the Business Purpose and hence there is a need to protect such information from unauthorized use and disclosure.
-
1. Term: This Agreement shall have a term of 24 months from the Effective Date or till expiry of the contract whichever is later. Either Party may request for an extension of the Term by giving a renewal notice to the other Party. The Parties may agree to extend the Term of Agreement by an instrument in writing.
 2. Scope of the Agreement
 - a. This Agreement shall apply to all confidential and proprietary information disclosed by Disclosing Party to the Receiving Party and other information which the disclosing party identifies in writing or otherwise as confidential before or within (30) thirty days after disclosure to the Receiving Party (“Confidential Information”). Such Confidential Information consists of certain specifications, documents, software, prototypes and/or technical information, and all copies and derivatives containing such Information that may be disclosed to the Disclosing Party for and during the Business Purpose, which a party considers proprietary or confidential.
 - b. Such Confidential 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 the Receiving Party.
 3. Purpose: The Parties intend to share Confidential Information for a potential business relationship with respect to implementation of “Kerala Fibre Optic Network and Reliable Communication & Data Acquisition Network project in the State of Kerala”. (“Purpose”).

4. Discloser & Recipient: Either Party, including its Affiliates, may disclose Confidential Information under this Agreement for the Purpose and shall be referred to as “Discloser” hereunder. The other Party, including its Affiliates, receiving Confidential Information hereunder shall be referred to as “Recipient”. For the purpose of this Agreement, “Affiliates” shall mean any legal entity which, is directly or indirectly controlling, controlled by or under the common control of the Party.
5. Confidential Information: The information disclosed by Discloser to Recipient hereunder relating to Discloser’s business, including, without limitation, computer programs, technical drawings, algorithms, know-how, processes, designs, reports, specifications, ideas, trade secrets, inventions, schematics, pricing information, and other technical, business, financial, customer and product development plans, strategies or any other information which is reasonably understood to be confidential or proprietary based on the circumstances of disclosure or the nature of the information itself, such information is hereinafter referred to as “Confidential Information” of the Discloser.
6. Information which is orally or visually disclosed, or is disclosed in writing without being marked as confidential, shall constitute Confidential Information, if Discloser within seven (7) days after such disclosure, delivers to Recipient, a written document(s) describing such Information and referencing the place and date of such oral or visual disclosure and the names of the employees or officers of the Recipient to whom such disclosure was made.
7. Confidential Information shall not include any information that is a) lawfully known by the Recipient at the time of disclosure without any obligation to keep the same confidential; b) or becomes, through no fault of the Recipient, known or available to the public; c) independently developed by the Recipient without use or reference to such Confidential Information; or d) rightfully disclosed to Recipient by a third party without any restrictions on disclosure.
8. Confidentiality Obligation: Discloser shall observe the duty of reasonable care while disclosing any Confidential Information to the Recipient. Recipient agrees that it shall a) not use any such Confidential Information except for the Purpose of this Agreement; b) hold the Confidential Information in confidence and shall take all reasonable precautions to protect such Confidential Information from unauthorized disclosure including all precautions that Recipient employs to protect its own confidential material; c) not divulge any such Confidential Information to any third party without prior approval of Discloser; and d) not copy or reverse engineer any such Confidential Information. Recipient may permit access to Confidential Information to its employees, consultants, vendors and agents, on a need to know basis and to the extent required to meet the Purpose, and shall ensure that they are bound to maintain confidentiality of such Confidential Information to the same extent as provided under this Agreement.
9. Survival, Exception & Return: Confidentiality obligations under this Agreement shall survive for a period of five (5) years following the expiry of this Agreement, provided that the obligations shall be perpetual with regard to any source code or trade secret that may be disclosed hereunder.
10. Recipient may make disclosures to the extent required by law or by order of any court or regulatory body, provided the Recipient promptly notifies the Discloser in writing about such requirement to disclose.
11. Recipient will return to Discloser, upon request, any Confidential Information under its possession or control and/or destroy all documents or media containing any such Confidential Information provided that Recipient may retain a copy of Confidential Information to the extent necessary to meet any statutory requirements.
12. Disclaimer: Parties acknowledges that providing or receiving Confidential Information under this Agreement shall not constitute an offer, acceptance, or promise to enter into or amend any other contract.
13. To the extent permitted by law, Confidential Information is disclosed on “as is” basis, without any express or implied warranties and in particular, without any limitation, as to fitness for the intended Purpose.
14. The ownership of all intellectual property rights (IPRs) in Confidential Information disclosed hereunder shall remain with its original owner and no grant of license or conveyance of any IPRs in such Confidential Information is to be implied from exchange or sharing of any such information under this Agreement.
15. Injunctive Relief: Recipient acknowledges that due to the unique nature of the Discloser’s Confidential Information, any

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breach of its obligations hereunder will result in irreparable harm to the Discloser, and therefore, upon any such breach or threat thereof, the Discloser shall be entitled to appropriate equitable relief including the relief of injunction and/or specific performance, in addition to any other remedies available at law.

16. General: The Parties agree to be bound by any applicable export control regulations while sharing Confidential Information hereunder.
17. This Agreement shall be governed by the laws of India and shall be subject to the exclusive jurisdiction of courts in Kerala.
18. Neither party may assign or transfer any rights or obligations arising out of this Agreement without the prior written consent of the other party.
19. No failure or delay in enforcing any right will be deemed a waiver unless made in writing and signed by a duly authorized representative of such Party.
20. Any notice under this Agreement shall be in writing and shall be sent at the registered addresses of the Parties specified in this Agreement.
21. This Agreement may be modified only by an amendment executed in writing by a duly authorized representative of both Parties.
22. This Agreement constitutes the entire agreement between the Parties and supersedes all prior discussions or agreements relating to subject matter hereof.

Managing Director, Kerala State Information Technology Infrastructure Ltd.

Signature:

Name:

Designation:

Date:

For **Project Monitoring Agency (PMA)**,

Signature:

Name:

Designation:

Date:

ANNEXURE 12: FORMAT FOR PROJECT EXPERIENCE CITATIONS

Sl. No.	Item	Bidder's Response
1	Name of Bidder entity	
2	Assignment Name	
3	Name & Address of Client	
4	Approximate Value of the Contract (in INR Crores)	
5	Duration of Assignment (months)	
6	Start Date (month/year)	
7	Completion Date (month/year)	
8	Narrative description of the project	
9	Details of Work that defines the scope relevant to the requirement	
10	Documentary Evidence attached	

ANNEXURE 13: FORMAT FOR CV OF RESOURCES PROPOSED

1	Name of the Staff				
2	Current Designation in the Organization				
3	Proposed Role in the Project				
4	Proposed Responsibilities in the Project				
5	Date of Birth				
6	Education	•Degree / Diploma, College, University, Year of Passing •Degree / Diploma, College, University, Year of Passing			
7	Summary of Key Training and Certifications	..			
8	Countries of Work Experience				
9	Language Proficiency	Language	Reading	Writing	Speaking
10	Employment Record (For the total relevant experience)				
		From / To:			
		Employer:			
		Position Held:			
		From / To:			
		Employer:			
		Position Held:			
		From / To:			
		Employer:			
		Position Held:			
11	Total No. of Years of Work Experience				

12	Total No. of Years of Experience for the Role proposed	
13	Detailed Tasks Assigned on Experts {List all deliverables/tasks which the Expert will be involved)	<ul style="list-style-type: none"> • •
	Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks :	
	Year:	
	Location:	
	Client:	
	Main project features:	
	Positions held:	
	Activities performed:	
14	Contact Information	Email: Contact number:

ANNEXURE 14: Components at NOC & PoP

A	NOC-Non IT
1	Civil works including site preparation and partitioning works , false flooring, false ceiling, floor strengthening, etc.
2	Electrical works including light fixtures , cabling, panels + Earthing etc.
3	DG set with AMF Panel and required foundation and civil structure
4	Precision AC for server room
5	Comfort AC for NOC, UPS, BMS, Meeting, electrical rooms , etc.
6	Online UPS (with SNMP) with 30 minutes battery backup, isolation transformer and battery enclosure for server farm area
7	Access Control System (RFID + Biometric, smart cards) to manage NOC and all the PoP locations
8	High Sensitivity Smoke Detection System
9	Fire Detection System
10	Fire Suppression System
11	Indoor Dome Camera
12	Rodent Repellent System
13	Water Leak Detection System
14	Integrated Building Management Solution
15	42U Network & server Racks installed with redundant PDUs, Industrial sockets and accessories
16	LCD Projector
17	70" LED TV
18	Network Colour Laser Printer
19	Network MFP
20	Passive Items
21	Workstation Furniture and Fixtures including chairs
22	Conference Table (for 10 personnel) & Chairs
23	Public Addressable System
B	NOC – IT components
1	IP MPLS Router
2	Internet router
3	URL Filtering Firewall
4	DC Firewall

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5	DC Core Switch
6	Access Switch
7	Aggregation Switch
8	SAN storage for application & DB
9	Video storage
10	SAN Switch
11	Secondary Storage
12	Blade Chassis
13	Servers
14	OS licenses
15	DB licenses
16	Virtualization software license
17	Workstation computers
18	Desktop Computers
19	IP phones
20	IP PBX
21	Voice Router
22	Video Management System base license
23	Video Management System camera license
24	Video wall display, Controller, Video wall Management Software & Accessories
25	Link load balancer
26	KVM switch (If Required)
27	Backup and archival solution
28	EMS solution for Network(for MPLS & DWDM) with NMS
29	EMS solution for GPON with NMS
30	BSS software including CRM, Enterprise & Partner billing module, and self-care portal
31	Anti-virus software
32	GIS software license
33	Fibre Monitoring System
34	Centralized Access Control system software
35	Project Management Software
36	Integration of all the hardware and software systems
C	DR site
1	Servers, Virtualization Software, OS, DB Licenses required for EMS Solution at DR
2	Servers, Virtualization Software, OS, DB Licenses required for BSS Solution at DR

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3	IP PBX
D	Core PoP
1	DWDM + OTN solution
2	Modular MPLS Router
3	GPON OLT
4	24 port Access Switch
5	Desktop Computers
6	IP phones
7	High Density Fiber Distribution Frame(FDMS Type I)
8	UPS (with SNMP) with 30 minutes battery backup, isolation transformer and battery enclosure
9	42U server racks installed with redundant PDUs, Industrial sockets and accessories
10	Split Air Conditioners 3 TR with timer
11	Pre-fabricated Shelter
12	Indoor CCTV Dome Camera
13	Indoor CAT 6 patch cord 10 mtr.
14	Access Control system with Biometric + Smart card Reader & Smart Card, Push button, Magnetic lock and accessories
15	Fibre monitoring unit with minimum of 4 ports and scalable to 8 ports
16	Spare Cable Box
17	Passive Cabling & Accessories
18	Site Preparation (partition for UPS, exhaust fan, painting, light & fans) and Electrical works including earthing
19	Integration of PoPs with the NOC
20	Integration of End offices with the PoPs
E	Aggregation, Pre- Aggregation& Spur PoPs
1	Modular MPLS Router
2	24 port Access Switch
3	GPON OLT
4	High Density Fiber Distribution Frame (FDMS Type I)
5	UPS (with SNMP) with 30 minutes battery backup, isolation transformer and battery enclosure
6	42U server Racks installed with redundant PDUs, Industrial sockets and accessories
7	Split Air Conditioners – 2 TR with timer
8	Pre-fabricated Shelter

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9	Indoor CCTV Dome Camera
10	Indoor CAT 6 patch cord 10 mtr.
11	Access Control system with Biometric + Smart card Reader & Smart Card, Push button, Magnetic lock and accessories
12	Spare Cable Box
13	Passive Cabling & Accessories
14	Site Preparation(partition for UPS, exhaust fan, painting, light & fans) and Electrical works including earthing
15	Integration of PoPs with the NOC
16	Integration of End offices with the PoPs
F	End Office
1	600 VA UPS with 15 min Battery backup to be supplied along with the enclosure
2	2x5 way 5 amp PDU
3	9U Network Rack 19" with provision to mount the ONT
4	GPON ONT (at end office)

ANNEXURE 15: Test Report Formats

OFC Testing & Certification Formats:**Test Format 1: Physical Inspection of ADSS OFC & Accessories**

S. No.	Name of Items	Quantities (or Length) Installed / Used (Verified as per Physical Inspection)	Observations	Remarks
1	48F/24F/12F Core Optical Fiber Cable		Accessories: Length: Sag:	
2	FDMS		Routing & Tagging of Fibers	
3	FDB		Routing & Tagging of Fibers	
4	Any other items			

Test Format 2: Report for Splice loss on an ADSS Fiber Cable Section

Section Identity/No. : _____

Section Length : _____ Kms

Splice No. : _____

Tube Colour	Fiber Colour	Fiber Number	Splice Loss (dB)	
			1310 nm	1550 nm
		1		
		2		
		3		
		4		
		TO		
		45		
		46		

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Tube Colour	Fiber Colour	Fiber Number	Splice Loss (dB)	
			1310 nm	1550 nm
		47		
		48		

Name, Signature & Seal of the Authority Official

(Accepted / Rejected)

Date:

Name, Signature & Seal of PMA Official

Date:

Remarks, if any:

Note: Splice Loss Measurement using OTDR

- 1. The fiber under test is connected to the OTDR which directly displays the splice loss after suitably adjusting the markers. The observations shall be recorded for both the windows i.e. 1310 nm and 1550 nm.*
- 2. For the splice(s) within the ADSS Fiber Cable section (in cases where the ADSS Fiber Cable section is more than 2 Kms in length) the splice loss shall be measured for all the 24 fibers. The splice no. shall be counted from POP side towards the nearest POPs. The test results shall be recorded in the format given in Form 3 of the Formats for the Test Report.*
- 3. Specification: Max Splice Loss 0.05 dB for one fiber per splice for straight/branch joints.*

Test Format 3: Attenuation Test for ADSS Fiber Cable Section in the POP using Power Meter (for each fiber)

Section Identity/No : _____

Section Length : _____ Kms

Transmit Power (PTx) : _____ dB

Fiber No.	Testing at 1310 nm			Testing at 1550 nm		
	Level at Rec. End	Loss (in dB)	Attenuation per KM (dB/Km)	Level at Rec. End	Loss (in dB)	Attenuation per KM (dB/Km)
	(PRx)	(A=PTx-PRx)	(A/section length)	(PRx)	(A=PTx-PRx)	(A/section length)
1						
2						
TO						
47						
48						

Name, Signature & Seal of the Authority Official

(Accepted / Rejected)

Date:

Name, Signature & Seal of PMA Official

Date:

Remarks, if any:

Note:

- Carry out total section attenuation loss as mentioned in table above.
- All the cables should meet the standard for both the wavelength i.e.1310 nm and 1550 nm i.e. less than 0.35 dB/Km for 1310 nm and 0.25 dB/km.for1550 nm.
- Connect standard optical source with 1310 nm and 1550 nm at particular level (say P1 dBm.) at one end of the fiber. Measure with power meter the power at the other End of the fiber (say P2 dBm.)
Thus, attenuation of the fiber = (P1 - P2) dB.
- Specifications
 - At 1310 nm**
Total Link Loss \leq 0.35 dB/km x Section Length + (0.05 dB/Splice)x(No. of Splices) + 0.5 dB x No. of Connectors + splitter loss
 - At 1550 nm**
Total Link Loss \leq 0.25dB/km x Section Length + (0.05 dB/Splice)x(No. of Splices) + 0.5 dB x No. of Connectors
- All the 24 Fibers of the ADSS Fiber Cable shall be tested with the pigtail spliced to each fiber one by one for taking the test readings as per the table above.
- Attenuation test shall also be taken bi-directionally with OTDR at 1550 nm and 1310 nm and printout for each fiber at each window shall be obtained.

Preparation of OTDR Traces Report

- This method uses an optical time-domain reflectometer (OTDR). Unlike a Power Meter, the OTDR can identify and locate the position of each component in the network. The OTDR will reveal splice loss, connector loss and reflectance, and the total end to end loss.
- For End-to-End measurements including joint enclosures must be carried out to document the

characterization of the joint loss and the total link loss. The OTDR measurement must be conducted upstream (i.e., from the OLT to POP).

- c. Carry out OTDR measurements and take traces taken on all wavelengths (1310 nm / 1550 nm). Soft copy of this report needs to be made available for updating in Test reports

Electronics & Network Equipment testing & certification

The PMA will work in-line with the agreed execution schedule during the installation of Electronics & Network Equipment at the field level. The PMA needs to test and certify the each location where electronics and network equipment is installed for its operations and acceptance.

Note: Necessary testing equipment required to meet standards compliance will be provided by the contractor. After completion of the testing for each site PMA need to submit the report in prescribed format to the Authority. PMA will use the equipment to validate the reports submitted by the contractor. Any additional tool need to be arranged by PMA at no additional cost to the Authority.

Electronics & Network Equipment Testing & Certification Format

Test Format 4: Field Acceptance Test for POP

Name of District:

Name of Mandal:

PoP Name:

Latitude & Longitude:

Test Requirements:	1310 nm	1550 nm
Cable Attenuation per km (dB)		
Total Physical Cable Length (km)		
Splice Loss Mean Value (dB)		
Total Number of Splices		
Maximum Connectors Loss (dB)		
Total Number of Connectors		
Total Section Loss (dB)		

Test Period: From _____ to _____

Total Route Length of ADSS Fiber Cable laid from POP to POP: _____ Kms

Total ADSS Fiber Cable length tested: _____ Kms

No. of Straight Joints: _____

No. of Branch Joints: _____

No. of FDBs: _____

Name, Signature & Seal of the Authority Official

(Accepted / Rejected)

Date:

Name, Signature & Seal of PMA Official

Date:

Remarks, if any:

NOC & Point of Presence (PoP) Testing & Certification

PMA will work in-line with the agreed execution schedule during the set-up, installation and commissioning of Network Operations Centre and Points of Presence. The PMA needs to test and certify commissioning the each PoP and the centralized NOC including other components as mentioned in contractor tender document like BSS, EMS & NMS and other components.

Note: For this verification / certification if any specific tool is realized the same shall be arranged by PMA at no additional cost to the Authority.

NOC & PoP Testing & Certification Format

Test Format 5: End to End Testing of Route From PoP to PoP

1. The End to End testing from POP to POP shall be carried out using Power meter/source and with OTDR after splicing Optical Fiber Cable.
2. The average attenuation (dB/Km) for cable shall be recorded in the given format:
 - a. Tested Length : _____ Km
 - b. Total loss on the length : _____ dB
 - c. Average Attenuation per Km. : _____ dB/Km
 - d. Fiber length used : _____ Km
 - e. Net loss for Fiber at FDMS : _____ dB
3. End to end Testing shall be done in one direction only for the two wavelengths i.e. 1310 nm & 1550 nm from POP to POP side using Power meter and source. The Fiber connected to each port shall also be tested using the OTDR and the traces obtained shall be recorded for future reference.
4. The Implementing Agency entrusted with the task of laying the Optical Fiber Cable shall be responsible for co-ordination for conducting this test.
5. After carrying out this test, the respective POP shall be detected in the NMS by the central NOC team of the Authority and shown as active at the NOC. The Authority shall publish the list of mandals and substations in each district which have gone active.
6. Test for End-To-End link stability (including 48 hours of BER test) for each PoP.

Test Format 6: End to End Testing of Route from OLT to ONT

1. The End to End testing of the ADSS Fiber Cable route from the POP to OLT shall be done by measuring the power received at each POP location using the power meter and source. Thus total attenuation would be recorded.
2. The attenuation shall be tested from POP to each FDB at POP in one direction only for two wavelengths 1310 nm and 1550 nm.
3. The tests shall be carried on the fiber connected to each of utilized ports.
4. The test results shall be recorded in separate sheet for each port.
5. Specifications: The total attenuation from POP to end at each location should be well within the available power budget for GPON equipment which is 25 dB.
6. The fiber connected to each port shall also be tested using the OTDR and the traces obtained shall be recorded for future reference.

Test Format 7: NOC Active Components Test

S. No	Description	PMA Remarks
Section 1	<u>Acceptance Tests</u>	
A	After completion of the installation work, the complete system shall be tested for H/Ware and S/Ware functions and features. Contractor's engineers, under the supervision and guidance of the Contractor's experts will carry out this work. Thereafter, the Contractor, along with the representative nominated by the Authority, shall carry out the Acceptance tests to prove performance of the different equipment, sub-system, and the overall installation to the entire satisfaction of the Authority.	
B	The Contractor shall submit sufficiently in advance before the start of the acceptance tests, a list of all the acceptance test and procedures, it proposes to conduct to demonstrate that the system satisfies all the requirements of the specifications. The Authority shall have the right to propose modifications or additions to tests or measuring techniques before commencements of tests.	
C	As a part of the acceptance tests, it shall be checked that:	
	All documentation should be supplied & fully updated.	
	All hardware and software items are in perfect working order at the time of taking over.	
	Acceptance tests, including stability test as defined will have to be completed to the full satisfaction of the Authority.	
	All the network elements & route shall be brought in the NMS with complete testing of FCAPS functionality.	
Section-2	Testing of Technical Specification & Equipment Configuration and compliances	
A	System Requirement.	
	The DWDM equipment shall allow multiple wavelengths to be added or dropped from each of the terminal stations	
	The interfaces are to be G.709 compliant.	
	The DWDM system should have the OTN compliant interfaces & Client interfaces like SDH/SONET	
	Mandatory laser shutdown shall be implemented in case of fiber break.	
	Optical supervisory channel (OSC):	
B	Testing of Link Margin / Route –Span Design	
	The proposed DWDM system should be capable of supporting	

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S. No	Description	PMA Remarks
	No regenerators required in a link.	
	No of spans supported without regeneration in a link.	
	The link engineering calculations along with link margins	
	All the link margin calculations shall be done based on EOL of electronics.	
C	Testing of Mandatory design parameters:	
	Return Loss should be > 40 dB	
	4dB end to end link margin	
	Per span margin shall be more than or equal to 4 dB	
	Auto shut down of laser & power amplifier	
	System should support Automatic Level control, Automatic Gain control, and Automatic equalization of the links for per channel addition/deletion.	
D	NMS capability testing	
	Regarding NMS functionality the performance management capability to be available on per channel basis in addition to line side.	
	Alarms:	
	Derived Power supply failure alarm	
	Loss of input at Optical Add/Drop multiplex equipment	
	Input channel failure Optical Add/Drop multiplex equipment.	
	Hardware mismatch alarm	
	Loss of Supervisory Channel	

Test Format 8: Acceptance test of DWDM and IP rings

ACCEPTANCE TEST FORMAT FOR DWDM AND IP RINGS			
Section	Sub section	Task Description	Remarks
1		Shelf Configuration & Management	
	1	Assign unique ID to the shelf	
	2	Shelf Interconnection	

ACCEPTANCE TEST FORMAT FOR DWDM AND IP RINGS			
Section	Sub section	Task Description	Remarks
2		Stand Alone Testing & Configuration Assignment	
1		Equipment Inspection (Visual Inspection for any damage)	
2		Shelf Power Verification	
3		Shelf Power Redundancy Check	
4		In-Bay/Standalone Testing for all the modules (Standalone Testing)	
5	1	Channel Module - Launch Power (Tx)	
	2	Channel Module - Receiver Sensitivity (Rx)	
	3	Channel Module - Centre Wavelength	
	4	ALS function test for Transponder	
	5	Optical Amplifier Test(To check Gain of amplifier)	
	6	Multiplexer/Demultiplexer test(to Check insertion loss and Ports of Multiplexer/Demultiplexer and Patch cords	
	7	BER(Stability)test for 48 hours	
3		Circuit Turn-Up (i.e. Commissioning) & Link Testing	
	1	Forward & Reverse Commissioning (Channel Balancing)	
	2	OSNR Measurement at Terminal Location & Documentation of Results	
4		Handover Documentation	
	1	Acceptance Test Document along with Stability Report	
	2	Network Measured OSNR Details (Verify Power & OSNR Delta for Channel travelling in same segment)	

End-to-End Network Testing & Certification

The PMA will work in-line with the agreed execution schedule and needs to test and certify commissioning of End-to-End network operations for the project. This will require testing of all installed infrastructure, hardware and software of the project, Standard Operating Procedures for NOC, Processes for Network Management, Service Provisioning & Monitoring. The End-to-End Network testing will be required to be done in phases along the commissioning of the districts. The PMA will need to ensure timely completion of testing for commissioning of the entire network for the project.

Note: For this verification / certification if any specific tool is realized, the same shall be arranged by PMA at no additional cost to the Authority.

Project Commissioning (Go-Live) Format

Kerala Fibre Optic Network and Reliable Communication & Data Acquisition Network Go Live deliverables				
S. No.	Scope	Quantity in Units	Plan	Units in Operation
1	Optical Fiber cable and Installation	52746 Kms		
2	Installation & Commissioning of Core (District level) PoPs	14 Nos.		
3	Installation & Commissioning of Aggregation PoPs	87 Nos.		
4	Installation & Commissioning of Pre-Aggregation PoPs	194 Nos.		
5	Installation & Commissioning of Spur PoPs	83 Nos.		
6	NOC	1 No		
7	DR Site	1 No		
8	Government Institutions	30438 NNos		