



**SCOPE OF WORK**

**FOR**

**MPLS VPN, Internet (1:1) link and point to point network connectviity**

**BID NO:**

## 1. Project over View

This Scope of Work (SOW) defines the scope of work to be accomplished and the tasks to be performed by vendor for GUJARAT ENERGY Limited (GEL ). GEL uses MPLS and internet link network in its offices to run various business application and services.

Vendor shall supply and commission , migrate and maintain secure MPLS and Internet connectivity across GEL offices

GEL lays utmost importance on Safety (HSSE) and Quality and expects the similar focus from Vendor in terms of safety and Quality of Services to be provided. GEL & Safety guidelines and IT policies and procedures provides independent assurance that defined processes are operating within the parameters and policies defined for the engagement.

## 2. Project Scope

Implementation of MPLS VPN ,Internet (1:1) , point to point (P2P) network links at GEL locations specified in the Scope document (Annexure- 1 (List of GEL Locations network link details)) .

- MPLS VPN and Internet (1:1) and P2P network connection to be provided as Managed Service with proactive monitoring by ISP.
- Vendor/ISP to provide required details to configure the MPLS , internet (1:1) and P2P connectivity details available at the location as part of managed service.
- Service Level Agreement to be provided as per the requirement in the tender including the last mile connectivity.
- Proactive monitoring and reporting to be in place for all the Network links.
- Vendor/ISP to provide real time and scheduled reports to GEL as per the specification in the tender.
- Vendor /ISP to ensure the Network link connected are having Ring and Full Mesh topology to provide Business Continuity .
- Vendor/ISP to manage the RF Pole and ensure lightening arresters with proper earthing are provided to the new RF pole deployed.

## 3. Detailed Scope of work

### 3.1 MPLS Network

- Service provider shall establish Managed MPLS network across the specified GEL & locations as per the below specifications.
- The proposed MPLS network by the Service provider should support:
  - a. Data and audio/video conference
  - b. Voice Over IP (VOIP)
  - c. End to End QOS should be possible
  - d. IPSEC Compliant
  - e. IPv4/Ipv6 compliant
- The network should be setup on ring and full mesh topology with the ability to communicate between any to any Locations .
- MPLS shall support all type of routing and routing protocols
- The last mile of Primary and Alternate MPLS link should not be taken from Same ISP as well as from same last mile POP.
- Quality of Service: The MPLS solution should support end-to-end Quality of Service with inter-Class of Service (CoS) burstability for the standards bandwidth which is business class. Facility should be there to prioritize / configure quality /class of service parameter on the MPLS network. The different class of services can be Business, Premium Non real time, (PNRT) ,Premium real time ( PRT).If the service is not allocated a QoS then it shall be Business class .QOS requirements mentioned against each location.

However these could change based on business requirements.

- Latency between Primary Data Centre to DR datacentre site should be < 35 ms , and Latency between Primary Data Centre to branch offices within Gujarat < 35 ms and Primary Data Centre to branch offices outside Gujarat < 75 ms
- Jitter < 10 ms for Primary DC and DR Dc , and for corporate office and other offices jitter should =< 25 ms

### 3.2 Internet (1:1) lease line links and Internet Broadband links

- Service provider shall establish Managed Internet (1:1) service as per the specifications mentioned in Annexure- 1 (List of GEL Locations network link details)
- Internet (1:1) Lease line service should be provided as a managed service with end to end support including the Last mile.
- Service provider to have the capability to route the internet traffic via alternate gateway in case the primary internet gateway of the service provider fails.
- Service provider should provide at least 64 public IP address (IPv4 and IPv6) and additional Public IP address as per GEL requirements
- Throughput 100% of Bandwidth for upstream and downstream for Internet lease line
- To provide dedicated internet lease line with (1:1) compression ratio ,Throughput Bandwidth for Internet lease line link should be (1:1) IN/OUT .
- Throughput Bandwidth for Broadband (1:8) IN/OUT . Throughput with a minimum 100 Mbps speed.
- There should not be any Packet Loss reported even if there is 100 % link utilization .
- The bidder should ensure that the solution to support Static and all types dynamic Routing Protocol.
- Service provider to commission last miles on Fibre , Copper, RF (refer annexure- 1 ( List of GEL & Locations network links details )).
- Service Provider shall provide complete network diagram including detailed technical documentation and detailed Project Plan for all the locations mentioned. (refer annexure- 1 ( List of GEL Locations network links details )).
- GEL Service provider to abide by all local regulations and building specific requirements while setting up the last mile at GEL office.
- service provider has to ensure that cabling from RF pole till WAN device/Server room is properly done via conduit, casing box .
- RF Pole height and location must be t feasible up to maximum 6Mtr pole.
- The last mile of Primary and Alternate Internet lease line link should not be taken from Same ISP as well as from same last mile POP.
- Committed latency for Internet lease line , and Broadband /LTE - As per standard.
- Committed Jitter should be maximum up to 10 ms for Internet lease line.
- ISP to provide Internet lease line connectivity till GEL RACK in STT Datacenter at Gift city Gandhinagar OR new data center incase GEL shift its production/DR setup to Cloud/managed services .
- Vendor should carry out link feasibility check at respective GEL & location and Shall lay cable till GEL rack. GEL shall arrange all permissions and provide route from where vendor shall lay the cable.
- All expenses for fiber /copper / RF pole laying from bidders point of presence (POP) till GEL rack shall be borne by bidders.

### 3.3 Point to Point (P2P) Connectivity

Point-to-point network connectivity is a direct communication link between two Office/ devices, with no intermediaries. It ensures a dedicated, private, and reliable channel for data .Please refer Annexure- 1 List of GEL Locations details ) for point to point network link connections requirement.

- Committed latency should be  $\leq 10\text{ms}$  for Point 2 point link
- Committed jitter should be max up to 10 mx

### 3.4 RF Pole Specification and Maintenance

- Internet Service provider (ISP) should provide RF devices (UBR, ODU, RF Pole) along-with Lightning arrestors and need to ensure preventive maintenance of these devices is done twice in a year, by checking physical condition of the lightning rod.
- It is in scope of ISP to RF poles erected /deployed with proper earthing, lightning arrestor etc. as per GEL HSE guidelines.
- ISP to check the physical condition and installation of the copper strip
- ISP to check the connection of the concrete block copper belting onto the copper strip the connection of coaxial cables earthing onto the copper strip.
- ISP to check the connection between the bottom coaxial cable earthing and the collection Copper bar fixed on the concrete block
- ISP to check the tightening of the brass bolts of the lightning protection electrodes
- ISP to check the resistivity of the lightning protection electrodes and Earth resistance
- All masts shall be grounded and the earth resistance measured at the earth terminal block shall be less than 2 ohms.
- A lightning air terminal (Faraday Rod) shall be mounted on mast top and a vertical copper earth wire or tape run down the side of one mast leg to ground and connected to the earth at the terminal box.
- Earthing and Lightning protection shall be provided in all completed pole sites to Protect equipment from damage and personnel from harm which may result from Excessive voltages during a lightning strike.
- The arrangement shall be such that lightning discharge current must be prevented from entering equipment rooms.
- Equipotential conditions shall be maintained throughout the site by bonding.
- Vendor to ensure the RF Pole regular maintenance is done to ensure seamless network services are provided
- ISP have to manage the RF Pole and ensure lightning arresters with proper earthing are provided to the new RF pole deployed or using existing RF pole.
- ISP should have compability to build Wall mounted or Self-support or drilled supported (maximum height 6 Mtr) pole as per GEL requirement and feasibility for all location. RF Pole shall not be allowed considering the GEL HSE practices.
- Bidder to dismantle RF Pole at end of the contract and take back RF poles
- Service provider need to do preventive maintenance once in a year ,Check the physical condition of the lightning rod and lightning arrestor
- Check the physical condition and installation of the copper strip
- Check the connection of the concrete block copper belting onto the copper strip the connection of coaxial cables earthing onto the copper strip.
- Check the connection between the bottom coaxial cable earthing and the collection Copper bar fixed on the concrete block
- Check the tightening of the brass bolts of the lightning protection electrodes
- Check the resistivity of the lightning protection electrodes and Earth resistance

## 4. Network link Implementation:

The Bidder should submit their Project Management Plan report, monthly project closure report, Resource allocation plan etc. for implementing the MPLS Links, Internet lease line (1:1) and P2P link for GEL & .

- The Bidder should provide access to real-time dashboard of progress of implementation of orders placed with them.
- The ISP should undertake, during the period of contract, the relocation/ shifting of links / equipment GEL as per SOR terms & conditions for upgrade / Future requirement. The bidder should ensure that the same premises shifting to be completed within 15 working days after receiving the PO /mail confirmation from GEL & team.
- The bidder should ensure that the Branch shifting feasibility to be shared within 7 working days from the date of request received from GEL &
- The bidder should ensure that the Bandwidth up gradation feasibility to be shared within 7 working days from the date of request received from GEL & and the MPLS Link to be commissioned /deployed as below.

**Type A- 30 days , Type B – 40 days Type C -45 days**

- Bidder should use IP scheme given by GEL & . Bidder should have enough resources to ensure minimum disruption of services.
- In case GEL & opts to make a reference visit to sites / Network Operating Centre (NOC) / Hub locations / POP, the Bidder should arrange for such visits and make necessary approvals / arrangements available for the same.
- Design, develop, implement, and manage an MPLS links, Internet lease line (1:1) and P2P links for a secure, scalable, resilient and reliable, total-IP MPLS Network
- ISP to Obtain all necessary permits for construction of pathways and installation of telecommunications cabling necessary to implement the proposed solution.

## 5. Proactive Monitoring of all Network Links

Service Provider to provide an on line monitoring facility to GEL to monitor status of their production links 24\*7. We recommend a diagrammatic representation of the entire network with colours indicating status of the components involved. The details of parameters that needs monitoring are

- Status of MPLS link Last mile across all covered locations
- Status of Internet lease line (1:1) across all covered locations
- Every Incident that leads to service Impact should be monitored, logged and reported to GEL Network team immediately.
- GEL will not be monitoring the network and hence the responsibility solely lies with the service provider to ensure that all service interruptions are reported proactively to GEL .

## 6. Uptime and Service Level Agreement

- Selected Bidder will sign service level agreement as per the format provided in Uptime with GEL to ensure % uptime for entire network and Uptime for individual site as per Uptime table SLA. SP should provide SLA compliance tool and reports.
- Cumulative up time: End to End uptime of link (using Primary or Secondary last mile ) of each location is termed as cumulative uptime

Uptime	Respective location Uptime	Working Days	Time
Type A-Datacentre (Primary and DR)	99.50%	7 days	24 hours

Type B-Corporate office	99.00%	7 days	24 hours
Type C - GA/Zonal /Branch Offices /Warehouse	98.50%	7 days	24 hours

- The percentage to be calculated on Quarterly basis as follows
- Availability (%) = ((Total Nos of working hours in a quarter –Total outage hours in a Quarter)X 100% /( Total NOs of working hours in a Quarter ))
- The Response & Resolution time shall as be as per below table

Type	Response	Resolution/Implementation
Incident	30 Minutes	4 Hrs
QOS Change		24 working hours
Upgrade of MPLS/Internet lease line (1:1)/P2P provisioned in PO		7 working days after Contract award
New link (MPLS/Internet lease line (1:1)/P2P Implementation		Type A- 30 days after Contract award Type B- 40 days after Contract award Type C- 45 days after Contract award

## 7. Downtime

- Downtime: Downtime/outage is the period of unavailable time, which begins when one of the services is impacted.
- Link is down at Physical layer itself which includes MPLS, last mile or hardware of ISP .
- Link latency, packet loss, Jitter below the specified parameters for more than 10 minutes continuously
- Below list of activities shall be excluded from downtime calculations :
- Schedule maintenance by the service provider with prior intimation to GEL
- Link down due to power failure at GEL & location/office
- Links upgradations activity at ISP
- Downtime or maintenance by GEL.

## 8. Penalty

Service provider should adhere to committed uptime SLA for all locations, penalty will be applicable as per below chart for non-adherence to SLA. Penalty will be calculated on Quarterly basis and deducted from the next quarterly invoice.

Location Type	Monthly Uptime (Availability –A) %	Penalty for MPLS ,Internet Lease line (1:1) and P2P link
Type A Datacentre	A >= 99.50%	No Penalty
	98.50=<A<99.50	1% of the yearly basic PO value of the respective location link
	97.50>=A<98.50	3% of the yearly basic PO value of the respective location link
	96.50% =< A < 97.50%	5% of the yearly basic PO value of the respective location link
	95.50% =< A < 96.50%	10% of the yearly basic PO value of the respective location link
	A < 95.50%	Penalty at an incremental rate of 5% (in addition to a base of 10%) of yearly basic PO value of the respective location for every 0.10% lower than the stipulated uptime.
Type B Corporate office	A >= 99.00%	No Penalty
	97.00>=A<99.00	1% of the yearly basic PO value of the respective location link
	95.00>=A<97.00	5 %of the yearly basic PO value of the respective location link
	A < 95.00%	Penalty at an incremental rate of 5% (in addition to a base of 5%) of yearly basic PO value of respective location link for every 1.0% lower than the stipulated uptime.
MPLS-Type C GA/Zonal/Warehouse/Branch office	A >= 98.50%	No Penalty
	96.50% =< A < 98.50%	1% of the yearly basic PO value of the respective location link

	94.50% =< A < 96.50%	5% of the yearly basic PO value of the respective location link
	A < 94.50%	Penalty at an incremental rate of 5% (in addition to a base of 5%) of yearly basic PO value of respective location link for every 1.00% lower than the stipulated uptime.
New link Commissioning & Existing Link Upgrade	Upgrade of MPLS/Internet link provisioned in PO (Existing link )	Rs.1000 for every day of delay
	New MPLS/Internet link implementations	Rs.1000 for every day of delay

**Note : The broadband link shall not have defined SLA uptime , since the support is provided on best-effort basis**

- The implementation delay is permissible to a maximum of 15 working days and thereafter, GEL & has the right to cancel the contract.
- The penalty charges will be subject to an **overall cap of 10% of the Overall Basic PO value** with all the amendment done till contract period, GEL has the right to cancel the contract or deduct the whole year's bandwidth charge.
- Non-Performance deduction (NPD) should be submitted by Vendor in the below format along with monthly reporting to be signed off by GEL .

Sr.	IT Service	Target uptime %	Actual up time %	Amount to be deducted as per Penalty Clause for the month
1	Link Details	X1	Y1	
	<b>Total</b>			

## 9. Reports

### Requirement

Service Provider must produce following reports to GEL . The format can be mutually agreed between Vendor and GEL SME.

Sr No	Reports	Daily To be made available on the portal as per need basis	Monthly- To be submitted by 7th of the month for the previous month.	Quarterly (To be produced along with quarterly Invoice)
1	MPLS Availability report	√	√	√
2	Internet lease line (1:1)Availability report	√	√	√
3	Location Uptime Report	√	√	√



4	MPLS Link Utilization more than 70 % in Business Hours	√	√	
5	Internet lease line (1:1) Link Utilization more than 70 % in Business Hours	√	√	
6	MPLS Link Utilization Inbound	√		
7	MPLS Link Utilization Outbound	√		
8	Internet Link utilization Inbound	√		
9	Internet Link Utilization Outbound	√		
10	Incidents with Root cause analysis			√

## 10. General guidelines

Every Link to be commissioned along with required reporting/Monitoring requirements. Final sign off happens post reports are configured for the link.

## 11. Change in the scope of work

- There could be some changes required in case some gaps are identified in technical understanding of the Project, which might get highlighted during discussion with bidders the once proposal have been submitted
- GEL shall communicate the changes required to all the bidders for uniformity and fairness

## 12. Changes in contract agreement

Bidder to have agreement and support the activity as part of changes in contract agreement .

- Amendments as required by GEL
- Changes in the contract could be triggered because of following reasons
  - Technology scale up on GEL side
  - Infrastructure scale up/down on GEL side
  - Technology scale up on Vendor's side

## 13. Performance review

There would be performance review of the Vendor as per following frequency. Vendor shall prepare reports / presentation as per defined / agreed format in the performance review.

Sr no	Review	frequency	Vendor	GEL
1	Uptime report review	Monthly	Account Manager	Network SME
1	SLA Performance + Non-Performance review	Quarterly	Account Manager, Gujarat Head	Infrastructure Manager, Network SME

3	Contract performance review	Yearly	Account Manager, Gujarat Head, west head	IT Head
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- All the points will be discussed within GEL and Vendor team. All discussion and decision points would be noted down as a part of MOM as per format attached hereto and the same would be circulated by Vendor to all concerned.
- Quarterly Non-Performance deductions will be adjusted against Quarterly Invoice.
- If the SLA is not achieved continuously for three months for any of the links, an improvement plan needs to be submitted in the Quarterly review.
- If the SLA Compliance is not achieved for Consecutive 2 Quarters for any of the links immediately performance review meeting to be scheduled with IT Head and to review the Contract

#### 14. Compliance and Audit

- GEL Security standards are ISO 27001 certified. Hence all processes and procedures are established as per ISO 27001 standards.
- Vendor has to be part of Internal and External Audits if required as per schedule.
- Vendor team has to close all NCs, Observations in time as per SLA

#### 15. Information Security Compliance

- Once contract is awarded vendor must sign on Non-Disclosure Agreement with GEL .
- All the person and people working with GEL must ensure that they must not use any GEL & information for any purpose other than official use.
- In any such cases if proven vendor contract can be terminated as per the notice agreement and the person who performed the activity may get prosecuted under the jurisdiction of law.

#### 16. Vendor Management

- Vendor team has to timely coordinate with other service providers for effective delivery of services.
- GEL will share all escalation matrix, contact, call logging procedures and process as agreed between GEL & Service providers
- Vendor has to ensure that effort has been put correctly and effectively to resolve all the calls, incidents and problems in time.
- Service provider coordination has to be recorded in the ITSM tool as per the defined process.

#### 17. Transition Plan

- Vendor should produce a comprehensive plan and standard by which they will take over GEL network from existing MPLS vendor.
- Go-live will be considered once all the links are made UP and put into production network (Primary and secondary link and required reports and configured for the link.
- Vendor shall invoice to GEL only when the project has gone live with all the links are up running with production traffic

- Vendor will have to go through HSSE training for safety passport to work at GEL premises
- Vendor to provide one dedicated Project Manager to ensure all the Scope of work is deployed at GEL premise on time. Project Manager will plan and implement the links as per the scope of work and will remain the single point of contact for GEL till all the links in the scope is commissioned along with reporting. The project Manager will be relieved once the first quarterly invoice is submitted post go live of all links along with all required reports.
- The Migration and Cutover plan Check list to be prepared by Vendor.
- Vendor to provide the Transition/migration plan, mentioning timelines and Risk with mitigation plan against each link
- Vendor to track the progress of transition in Weekly meeting and submit Minutes of meeting

### **Annexures – 1 ( List of GEL Locations network Link details )**

Sr no	Location name	Location Type	Users (Approx)	MPLS Band width (Mbps)	Address	latitude and longitude	Local Contact	Contact No.	Last Mile
1	Infocity	B	250	100	B-Wing, Tower -2, Infocity, Gandhinagar	23.1931564 52489173, 72.6379998 0872855	Nilesh Gami	865599 6469	Fiber/Copper
2	Giftcity	A	DC	250	5M8R+44W Data Centre Building, 48, Gyan Marg, Gujarat International Finance Tec-City, Gandhinagar, Gujarat 382050	23.1693031 94449853, 72.6907201 4038096	Bhavik Bhogayata	704610 1116	Fiber/Copper
3	Surat - Adajan Office	A	140	250	Gujarat Energy Ltd, Adajan Gam, P.O. BOX-915 Navyug College, Surat 395009, Gujarat.	21.1911528 89029375, 72.7948434 2150253	Asif Mansuri	706915 5500	Fiber/Copper
4	Call Center PR	C	21	20	Cyfuture India Pvt Ltd, 502, Broadway Business Centre, Law garden Corner, Netaji Road, Elisbridge, Ahmedabad 380006	23.0285138, 72.5607226	Devang, Jeetubhai	799076 9140, 777800 0000	Fiber/Copper/ RF
5	Call Center DR	C	5	4	103, Solaris Business Hub, Near Parshavnath jain mandir, BRTS, Bhuyangdev, Sola 380013	23.0585513, 72.5388901	Devang, Jeetubhai	799076 9140, 777800 0000	Fiber/Copper/ RF



GUJARAT ENERGY

6	Bhavan	B	150	100	GEL Bhavan, Sector 11, Gandhinagar	23.2209125 5391142, 72.6469063 6266279	Jayesh Sutariya	992444 2131	Fiber/C opper
7	Amritsar HT Tower	C	33	20	Gujarat Energy Ltd. HT Tower, SCO 132, Second Floor, Ranjit Avenue B-Block, Amritsar PIN- 143001 Punjab	31.654755 & 74.860497	Anand Pandey	882849 2350	Fiber/C opper/ RF
8	Batala Office	C	10	10	GUJARAT ENERGY Ground First Floor, SRK Complex, Opp. Abhi Complex, Near Sulkhari Gate, Jalandhar Road, Batala Dist. Gurdaspur, PIN- 143505 Punjab	31.805719 & 75.217757	Anand Pandey	882849 2350	Fiber/C opper/ RF
9	Gurdaspur	C	5	6	Gujarat Energy Ltd. Gurdaspur Kalanpur Road,	32.032598 & 75.386583	Anand Pandey	882849 2350	Fiber/C opper/ RF
10	Hoshiyarp ur	C	12	10	Gujarat Energy Ltd. First Floor, JS complex, Near Basra Electricals, Near Govt. College Chowk, Hoshiarpur Phagwara Road, PIN-146001 Punjab	31.527670 & 75.903978	Anand Pandey	882849 2350	Fiber/C opper/ RF
11	Bhatinda New Office	C	25	20	GUJARAT ENERGYLIMITED ,Opposite to Lake No. 3   Beside Green Resorts, Goniana GT Road, Bathinda Punjab   151003	30.2448748, 74.9336900	Lovejeet singh	977996 2846	Fiber/C opper/ RF
12	Faridkot	C	12	10	GUJARAT ENERGY Limited C/o.- Ravinderjit Singh,Ground Floor, Batth Complex, Old Cantonment Road,	30.6677211, 74.7528327	Lovejeet singh	977996 2846	Fiber/C opper/ RF
13	Sirsa Office	C	15	10	Gujarat Energy limited SCF 26 , Near Huda Office	29.5472393, 75.0619730	Lovejeet singh	977996 2846	Fiber/C opper/ RF

					Sec- 20 , HUDA Sirsa – 125055				
14	Ankleshwar Main Office	C	55	30	GUJARAT ENERGY LIMITED ,Surti Bhagol, Umarwada Road,via Piraman Naka Ankleshwar - 393001 Gujarat	21.6244127, 72.9845341	Pritesh Vasava	971472 2100	Fiber/Copper/ RF
15	Dahej	C	7	6	GEL CNG Station,Plot No. CH-14, RS No. 746/P & 747/P,GIDC Dahej,Taluka Vaghra Bharuch - 392130 Gujarat	21.7175281 75489505, 72.6097580 450439	Pritesh Vasava	971472 2100	Fiber/Copper/ RF
16	Bharuch Main Office	C	17	10	GUJARAT ENERGY LIMITED,Son Talavadi, Near Anand Mangal Society Bharuch - 392001 Gujarat	21.7115936, 72.9950698	Pritesh Vasava	971472 2100	Fiber/Copper/ RF
17	Bhavnagar GA	C	37	20	GUJARAT ENERGY LIMITED - 101, First Floor,Iscon Parasmani,Opp. Doctor Hall Diamond Chowk,Opp. Mahila College,Bhavnagar - 364001	21.768938,7 2.158528	Komalsha Pathan	701656 7843	Fiber/Copper/ RF
18	Palitana	C	1	4	GUJARAT ENERGYLIMITED - 10 & 11,Shiv Prome Complex,Ground Floor,Gariyadhaar Bypass Road,Palitana - 364270.	21.535841,7 1.817816	Komalsha Pathan	701656 7843	Fiber/Copper/ RF
19	Sihor	C	1	4	GUJARAT ENERGYLIMITED - Shop No : 18, 19 & 20, Ground Floor, Infinity Mall, Bhavnagar Rajkot Highway, Sihor - 364240.	21.722776,7 1.961623	Komalsha Pathan	701656 7843	Fiber/Copper/ RF
20	Amreli GA.	C	14	10	GUJARAT ENERGYLIMITED - Pareshbhai Acharya Bulding, 1st Floor,	21.604253,7 1.219873	Komalsha Pathan	701656 7843	Fiber/Copper/ RF

					Behind Jilla Panchayat, Civil Hospital Road, Amreli - 365601.				
21	Botad	C	7	6	GUJARAT ENERGY LIMITED - Narmada Complex, 1st Floor, Jawahar Nagar, Panjwani Kanta, Opp. Panjab National Bank, Paliyad Road, Botad - 364710.	22.178593,71.652318	Komalsha Pathan	7016567843	Fiber/Copper/RF
22	JAMANAGAR/Chela	C	2	4	93R2+8F9, Jamnagar - Lalpur Rd, Chela, Gujarat 361012	22.391030958451864,70.05127848340808	Service Desk Lead	9924141513	Fiber/Copper/RF
23	Jamnagar coco	C	25	20	Opp Mehlul Cinema,	22.462278,70.036318	Service Desk Lead	9924141513	Fiber/Copper/RF
					Jamanagar - Khambhaliya Road,				
					Near Samarpan Circle Jamnagar				
					Jamnagar - 361006				
24	Morbi Zonal Office	C	70	50	GUJARAT ENERGY Limited., Plot No. 47,48,55,56, Shakti Industrial Estate, B/h. Shakti Chamber, Opp. Suncity Ceramic, Morbi-Wankaner Highway, Morbi - 363642, Gujarat, Phone: +91-2822-244002, 3, 4 Fax: +91-2822-244005	22.81358109561158,70.86587772545879	PARMAR SHAILESH	8828290458	Fiber/Copper/RF
25	Morbi City Office	C	3	4	GUJARAT ENERGY Limited., kanak Complex, Sanala Road, Near Chotalaal Petrol pump, Morbi - 363641, Gujarat	22.80427259118647,70.81819678527604	PARMAR SHAILESH	8828290458	Fiber/Copper/RF



26	Kutch/bhuj	C	20	20	GUJARAT ENERGY Limited., Time Square Empire, Shop No 24, 123 & 124, Survey No 870/11, Bhuj Mirzapar Highway, Nr. GMDC Guest House, Bhuj, Kutch - 370001, Gujarat Phone: 02832-230006 , 230008	23.2331508 2348337, 69.6439235 9439	Rudra Dave	955823 8053	Fiber/Copper/RF
27	Dabhan Zonal Office	C	17	10	B/H GUJARAT ENERGY CNG Pump, Opp Chintamani Automobile, Near Asian Food, NH-8, Dabhan-387330	22.710564, 72.808883	Pragnesh Patel	882847 0940	Fiber/Copper/RF
28	Nadiad	C	10	10	Shop No. G-01 & G-02, Ground Floor, Dutt Arcade Opp. TGB Hotel, Santram Dairy Road, Nadiad - 387002 District: Nadiad	22.68018, 72.867997	Pragnesh Patel	882847 0940	Fiber/Copper/RF
29	Khambhat	C	10	10	Survey No. 10/P, Property No. 897, Opp. ONGC Main Gate, Nr. Yogi Park Society, Kansari. Khambhat - 388630 Gujarat	22.33015 , 72.634652	Pragnesh Patel	882847 0940	Fiber/Copper/RF
30	Kheda	C	5	4	Shop No. 9 & 10, Devadi Blossom, Kheda Matar Road, At & PO Sokhada Patiya, Kheda-387411	22.736684, 72.682081	Pragnesh Patel	882847 0940	Fiber/Copper/RF
31	Memdabad	C	7	6	F-123 , Vatsalya Complex, Opp New Civil Court, Mahudha road, Mahemdabad-387130	22.820614, 72.759636	Pragnesh Patel	882847 0940	Fiber/Copper/RF
32	Silvai	C	7	6	Survey no. P1/649 GEL & CGS Station, Near GSPL, Silvai-388160	22.4954, 72.77098	Pragnesh Patel	882847 0940	Fiber/Copper/RF



33	Mahudha	C	3	4	Shop no.20-21-22, First Floor , Swaminarayan complex, Dakor road, Mahudha-387335	22.816509,72.94289	Pragnesh Patel	8828470940	Fiber/Copper/RF
34	Chapra	C	2	4	GUJARAT ENERGYCNG Pump, Kheda-Mahemdabad Road, Chhapra-387130	22.80104,72.735737	Pragnesh Patel	8828470940	Fiber/Copper/RF
35	Vaso	C	2	4	001, Nidhi Arcade, Vaso-Alindra Chokdi,Vaso-387380	22.668762,72.754105	Pragnesh Patel	8828470940	Fiber/Copper/RF
36	Vataman	C	1	4	Vataman CNG COCO Office, Galiyana, Tarapur - 388180	22.49725,72.454718	Pragnesh Patel	8828470940	Fiber/Copper/RF
37	Halol	C	15	10	GA-Location Halol GUJARAT ENERGYLimited., 1st Floor, GUJARAT ENERGYCNG Station,Near Government Rest House,Vadodara Road, Halol - 389350, District: Panchmahal, Taluka: Halol	22.493531,73.468741	Anuj Darji	8128752898	Fiber/Copper/RF
38	Godhra	C	5	4	GUJARAT GAS,Godhra	22.765637,73.646199	Anuj Darji	8128752898	Fiber/Copper/RF
					Ground Floor,				
					Shri Swaminarayan Heights,				
					Near Deep Hospital,				
					Gadukpur Chokdi,Bamroli Road,				
					Godhra - 389001				
					District: Panchmahal,Gujarat				
39	Dahod GA	C	12	10	GA-Location Dahod	22.869361,74.235714	Anuj Darji	8128752898	Fiber/Copper/RF
					Dwarkesh,1st Floor Revenue Survey No. 114/Paiki 1/Paiki 2,				



					Near Sai Petroleum & BJP Office, Chhapri, Jhalod Road, Dahod-389151				
40	Vavdi Narmada	C	4	6	GUJARAT ENERGYCOCO LCNG Station, Survey No. 424, Village: Vavadi, Tal: Nandod, Dist: Narmada.	21.8575712 676699, 73.5561514 0147543	Pritesh Vasava	971472 2100	Fiber/Copper/RF
					Vavadi - 393145				
					Gujarat				
41	Kevadiya	C	1	4	R.S. No - 422 & 423, Village : Kevadiya, Tal. Garudeshwar Garudeshwar - 393151 Dist: Narmada	21.8854174 6067544, 73.6883743 3934503	Pritesh Vasava	971472 2100	Fiber/Copper/RF
42	Navsari	C	27	20	1st Floor   Sapphire Building, Opp - Tata Hall   Dudhiya Talav Road Navsari, GUJARAT 396445	20.950610 72.925442	Vimal Patel	706914 4400	Fiber/Copper/RF
43	Bilimora	C	14	10	GUJARAT ENERGYCNG Station, Survey No 624/1, 624/2, 631, Near Gram Panchayat, Nandarkha, Bilimora – 396325 District: Navsari, Taluka: Gandevi	20.764149 73.013619	Vimal Patel	706914 4400	Fiber/Copper/RF
44	CNG Mother Station Greenland - Rajkot	C	10	6	Nr. Greenland Chokdi, Opp Greenland Hotel, Marketing Yard, Rajkot Porbandar National Highway Rajkot - 360003.	22.30702, 70.83005	Snehal Pandit	897693 7750	Fiber/Copper/RF
45	Rajkot Kalavad	C	56	50	C/o Gujarat State Petronet Limited, Opp. Kalaniketan Appartments, R. K. Park main road, behind Rani Tower,	22.27695, 70.76511	Snehal Pandit	897693 7750	Fiber/Copper/RF

					Kalawad Road, Rajkot Pin - 360005.				
46	Jamvadi/t hangadh	C	12	10	GUJARAT ENERGYCNG Station, Near Villgae Jamvadi, Thangadh- Chotila Highway, Thangadh,Gujarat 363530	22.55023, 71.21722	Darshan Raval	800012 5451	Fiber/C opper/ RF
47	Limbadi	C	5	4	GUJARAT ENERGYPNG /CNG OFFICE, Swamivivekand Complax,opp. Krishna Hotel, Limbdi, Gujarat 363421	22.57538, 71.81023	Darshan Raval	800012 5451	Fiber/C opper/ RF
48	Wadhwan \ Surendran agar ZO	C	22	20	GUJARAT ENERGYCNG Station,Opp. Bapasitaram Madhuli,Kothariya Road, Wadhwan, Gujarat 363030	22.72273, 71.68195	Darshan Raval	800012 5451	Fiber/C opper/ RF
49	Loliya	C	1	4	GUJARAT ENERGYCNG Station, Bagodara- Dhandhuka Highway,Loliya,Guja rat 382465	22.48118, 72.16567	Darshan Raval	800012 5451	Fiber/C opper/ RF
50	Baldana	C	1	4	GUJARAT ENERGYStation,Limb di - Rajkot Highway, Baldana, Gujarat 363421	22.56428, 71.71774	Darshan Raval	800012 5451	Fiber/C opper/ RF
51	Boisar	C	21	30	Plot No : J 247/5, Near Khaira Phata, Tarapur Industrial Estate, MIDC,Boisar, Dist. Palghar, Boisar West - 401505 (Maharashtra)	19.7891588 31122034, 72.7593941 5114051	Samsul Chaudhary	976761 6203	Fiber/C opper/ RF



52	Vasai	C	24	30	Joy Villa ground floor, Ever shine City, Main Gate, Behind Celebrity Hotel, Gokhivare, Vasai East-401208(Maharashtra)	19.4002514 19759968, 72.8406133 3556137	Samsul Chaudhary	976761 6203	Fiber/C opper/ RFF
53	Virar Ware house	C	1	4	Survey No 131/02, Panchurkha Near Khaivade Toll Naka Virar Highway-401305. (Maharashtra)	19.5202170 3829519, 72.9178182 1772969	Samsul Chaudhary	976761 6203	Fiber/C opper/ RF
54	Umargam	C	4	4	Plot No-179/1, Ground Floor, Shree Siddhivinayak Complex,Opp. Soham Ship Complex, GIDC Colony, Station Road, Umargam - 396171, Gujarat	20.1557331 56961965, 72.7862589 466319	Vipul Kala		Fiber/C opper/ RF
55	Bhilad	C	6	6	Shop No-3 & 4, Siddhivinayak Nivas, Near Railway Crossing,Bhilad-Sanjan Road, Bhilad - 396105, District: Valsad, Gujarat	20.2731612 09268416, 72.8838840 9028289	Vipul Kala		Fiber/C opper/ RF
56	Silvasa	C	9	6	Shop No-147 to 149, First Floor, Landmark Complex, Silvassa -Khanvel Road, Before District Court, Silvassa - 396230, Dadra and Nagar Haveli	20.2645652 81997974, 73.0043243 038705	Vipul Kala		Fiber/C opper/ RF
57	Vapi Zonal Office	C	27	30	Plot No. C-5 /101/1 of GIDC, Opp: CNG Station- Tanu Motors,Nr. GIDC Char Rasta, N.H No.-08, Vapi - 396195, Gujarat	20.3634490 02100786, 72.9196535 6267329	Vipul Kala		Fiber/C opper/ RF
58	J-Type	C	6	6	Plot No-2910, J type area, Vapi GIDC, Vapi - 396191, Gujarat	20.3623214 5332611, 72.9141123 8615225	Vipul Kala		Fiber/C opper/ RF



59	Vankal	C	2	4	Plot No-55/P/1, Vankal, Vankal Dharampur Road,Valsad State Highway, Dharampur - 396007, District: Valsad, Gujarat	20.5461159 50629588, 73.1339206 9400048	Vipul Kala		Fiber/C opper/ RFF
60	Ratlam	C	11	20	12/1, Shiv Sai Complex,Fountain Chowk,MHOW Neemuch Road,Ratlam- 457001  Madhya Pradesh	23.3316750 2100294, 75.0524259 3433778	Vijay Singh Devda	997710 5620	Fiber/C opper/ RF
61	Ujjain	C	19	20	Plot no. C/25/3,2nd Floor, Aasra Tower,Opp.Cosmos Mall, Mahakal Vanijyik Kendra, NanaKheda,  Ujjain- 456010Madhya Pradesh	23.1577207 59925212, 75.7951226 3582097	Vijay Singh Devda	997710 5620	Fiber/C opper/ RFF
62	Nagda	C	2	4	Behind Kalika Mata Mandir,Varco City Road, Bengoli Colony,  Nagda-456335 Madhya Pradesh	23.450122, 75.430923	Service Desk Lead	992414 1513	Fiber/C opper/ RF
63	Sirohi	C	1	4	Sarneshwar COCO Station , Plot No: CP1(A), RIICO Sarneshwar Industrial Area, Sirohi,307001	24.9182431 72.8626401	Shivang Prajapati	953716 3039	Fiber/C opper/ RF
64	Sanand Zonal Office	C	28	30	Shop No. 101 to 102 Gokuldham Arcade,Above HDFC Bank Sanathal - Sanand highway,Sanand, Ahmedabad – 382210 Gujarat	22.9874795, 724569026	Shivang Prajapati	953716 3039	Fiber/C opper/ RF
65	Sector 5 Gandhina gar	C	35	30	GUJARAT ENERGYLimited., Between G-2 & G-3 Circle, G - Road, Sector 5,	23.2173063, 72.6317589	Shivang Prajapati	953716 3039	Fiber/C opper/ RF

					Gandhinagar - 382005, District: Gandhinagar, Gujarat Phone: +91-79-66713333, 66710000				
66	Chandkheda	C	9	6	GUJARAT ENERGY Limited., Shop No. - 136 to 142, Orange Mall, Near Chandkheda ST Stand, Chandkheda, Ahmedabad - 382424, District: Ahmedabad, Gujarat Phone: +91- 79-23972100, 23972580	23.114341,7 2.583785	Shivang Prajapati	953716 3039	Fiber/C opper/ RF
67	Abu Road Akrabhata	C	19	20	To, Ajmer Tower, 1st Floor, Opp Akkar Bhatta, Besides Navneet Moter, Mount Road, Abu Road – 307026 Rajasthan	26.4600401 3904565, 74.6366877 0347647	Shivang Prajapati	953716 3039	Fiber/C opper/ RF
68	Dungarpur Office	C	7	6	C/o, Vinodkumar Jain, First Floor, Above Sajan Shringar, Pratap Nagar, Dungarpur,, State- Rajasthan`	23.855993,7 3.706703	Shivang Prajapati	953716 3039	Fiber/C opper/ RF
69	Banswara Office	C	4	6	opp-virangana talkies, Near jangid furniture, banswara, rajasthan, 327001	23.5382644 8682391, 74.4343902 9110301	Shivang Prajapati	953716 3039	Fiber/C opper/ RF
70	Sanand CNG Office	C	1	4	GUJARAT ENERGY CNG Station, Near TATA NANO Plant, Village- Chharodi, Sanand. Pin-382170. Phone : 7574819912	23.039543,7 2.284500	Shivang Prajapati	953716 3039	Fiber/C opper/ RF



71	Pardi	C	5	4	Shop No. – 126, Rudra Arcade, Near New Mamlatdar Office,  Damani Japa, N.H.- 48, Pardi, Pardi - 396125, Gujarat	20.4999261 800549, 72.9429308 2275072	Vipul Kala	709632 2154	Fiber/C opper/ RF
72	Valsad	C	13	10	First Floor, Madhumani Park, Beside Rajhans Cinema,Valsad - Parnera Road, Valsad - 396007, Gujarat	20.5768848 0720623, 72.9377270 7707954	Vipul Kala	709632 2154	Fiber/C opper/ RF
73	Sanand East (SE1#A1)	C	4	20	Opposite Sureel willows flat Krishna Shelby hospital Ghuma ahmedabad.	23°01'37.5" N 72°26'46.8" E	Jayesh Sutariya	992444 2131	Fiber/C opper/ RF
74	Sanand East (SE#1)	C	4	6	Bopal,Behind Krishna hospital,Near Greencity,Society,A hmedabad	23°01'25.30 "N 72°26'17.89 "E	Jayesh Sutariya	992444 2131	Fiber/C opper/ RF
75	Miroli (SE#3)	C	2	20	Maipur village sanand near ghuma village bopal	23°02'22.5" N 72°26'02.9" E	Jayesh Sutariya	992444 2131	Fiber/C opper/ RF
76	Ankleshw ar Ank#21	C	2	20	Village Juni Divi, Ankleshwar,	21°39'06.6" N 72°59'43.1" E	Jayesh Sutariya	992444 2131	Fiber/C opper/ RF
77	Ankleshw ar Ank#40S	C	2	20	Village : Diwa , Taluka – Ankleshwar,	21038'15.0" N 72058'8.2" E)	Jayesh Sutariya	992444 2131	Fiber/C opper/ RF
78	Tarapur	C	5	20	Tarapur EPS, Mil Rampura village, Tarapur Taluka, Dist – Anand,	22°33'39.1" N 72°31'42.7" E)	Jayesh Sutariya	992444 2131	Fiber/C opper/ RF
79	GPPC Ltd	C	12	20	Pipavav site Village: Kovaya, Ta: Rajula: Dist: Amreli 365541	(20°53'53.9" N 71°28'04.6" E)	Jayesh Sutariya	992444 2131	Fiber/C opper/ RF



GUJARAT ENERGY

80	Kerala GIDC 1403 Office Area and Ware house	C	4	30	1403 Kerala GIDC Bavla, Dist. Ahmedabad ()	22°46'40.4" N 72°19'30.4" E	Jayesh Sutariya	992444 2131	Fiber/Copper/RF
81	Kerala GIDC 1511 Pipe Yard	C	0	10	Kerala GIDC 1511, Bavla, Dist. Ahmedabad (NPLC) ()	22°46'40.4" N 72°19'30.4" E	Jayesh Sutariya	992444 2131	Fiber/Copper/RF
82	PK#2 Ingoli	C	2	30	PK#2, Ingoli, Nr. Pisawada Village, Cadilla Trasand Road, Dholka	22°38'16.4" N 72°28'24.9" E	Jayesh Sutariya	992444 2131	Fiber/Copper/RF
83	Balpura	C	2	20	GSAH#5 QPS, Balpura field, Village: Balpura, Taluka Dholka, Dist Ahmedabad ()	22°44'14.4" N, 72°25'22.8" E	Jayesh Sutariya	992444 2131	Fiber/Copper/RF
84	Navagam	C	2	10	, Village Navagam, Near Bareja Crossway, NH No. 8, Ahmedabad ()	22°49'16.7" N 72°34'54.1" E	Jayesh Sutariya	992444 2131	Fiber/Copper/RF
85	GSEG Ltd	C	10	20	148, Village Mora, Post: Bhatha, Opp. L&T Gate No. 3A, Surat-Hazira Road, Surat – 394510()	21°09'43.7" N 72°39'39.8" E	Jayesh Sutariya	992444 2131	Fiber/Copper/RF

## List of locations for Internet Lease Line (1:1)

Sr. No	Location	Type	Internet lease line (1:1) Bandwidth (Mbps)	Address	latitude and longitude	Local Contact	Contact No.	Last mile
1	GIFT City	A	100	5M8R+44W Data Centre Building, 48, Gyan Marg, Gujarat International Finance Tec-City, Gandhinagar, Gujarat 382050	23.1693031944449853, 72.69072014038096	Bhavik Bhogayat a	7046101116	Fiber



2	Surat	A	100	GUJARAT ENERGY, Adajan Gam, P.O. BOX-915 Navyug College, Surat 395009, Gujarat.	21.191152889029375, 72.79484342150253	Asif Mansuri	7069155500	Fiber
3	Bhavan	B	50	GEL Bhavan, Sector 11, Gandhinagar	23.22091255391142, 72.64690636266279	Jayesh Sutariya	9924442131	Fiber
4	GPPC	C	6	GEL Pipavav site Village: Kovaya, Ta: Rajula: Dist: Amreli 365541(	20°53'53.9"N 71°28'04.6"E)	Jayesh Sutariya	9924442131	Fiber
5	GSEG	C	6	148, Village Mora, Post: Bhatha, Opp. L&T Gate No. 3A, Surat-Hazira Road, Surat – 394510(	21°09'43.7"N 72°39'39.8"E)	Jayesh Sutariya	9924442131	Fiber

## List of locations for Point to Point link

Sr No	Type	Address (A side)	Address (B side)	Approx user	Point to Point Bandwidth (Mbps)	Remarks
1	B	bhavan Behind Udyog Bhawan, Sector-11, Gandhinagar, Gujarat 382010	Gujarat State Energy Generation Ltd. (GSEG) FF Shade No. A/78/3-8, GIDC Electronic estate, Nr. Patni computer (iGate), Sector-25, Gandhinagar-382016, Gujarat	25	20	Point to Point (P2P) LINK on Fiber
	B		M/s Pipavav Power Company Ltd. (GPPC) FF Shade No. A/78/3-8, GIDC Electronic estate, Nr. Patni computer (iGate), Sector-25, Gandhinagar-382016, Gujarat			



2	B	Bhavan Gandhinagar	GIPL Udyog Bhavan office	150	100	Point to Point (P2P) LINK

**\*Note: For designated project locations where last mile connectivity may be provisioned through either Fiber or RF technologies, bidders are permitted to propose Fiber-based last mile connectivity only in cases where the bidder already has existing fiber infrastructure extended up to the concerned premises. In such instances, the bidder shall clearly indicate the availability of fiber at the site and confirm that the proposed solution will utilize the existing fiber network.**

### 18. High level applications list accessed at GEL &

Sr No	Applications
1	eConnect Intranet Portal, Functional Sites, Workflows
2	Enterprise Dashboard
3	eFiling and Approval System for Group
4	Enterprise GIS Web
5	Vendor Invoice Submission Application
6	IT Helpdesk Service Ticket Approval (BMC)
7	IT Portal
8	Meeting Room - VC Booking
9	New IT Support System - Incidents support
10	Tool for securing PDF documents
11	HR Benefits Online Forms/Workflows (Mobile / Laptop / IPR / Edu.Asst., etc.)
12	New HRMS Portal for QR Code Attendance regularisation
13	PMS - OPTIMA Group
14	New Travel Request Portal
15	Vehicle Request
16	PaySquare Payroll System
17	Visitor Management System Pilot Run - Corporate Offices
18	CNG DODO Application - Public
19	CNG DODO - GA Login
20	CNG Station Reading Collection Web App
21	LNG Transportation Management
22	Customer Portal - Login for registered customers
23	e-Registration Customer Login - Public Access
24	Customer e-Registration - DMA & Middleware application
25	Spot Billing (DOM-COM) Application
26	Annual Service Maintenance System
27	Pay Your Gas Bill Online (Public URL for DOM-COM)
28	Customer Payment Collection - Web Based WCC/EGRAM
29	RERA Building Connection Approach
30	Ind Customer Demand Estimation collection(Morbi)

31	Customer TDS declaration Portal
32	Customer Turnover declaration Portal
33	Customer eMandate for Auto debit of bill payment
34	HSE Portal
35	HSE Lite Web App for Nearmiss, Hazard reporting
36	AMR application
37	Municipal Permission (SMC)
38	Synergie Gas License checkout service
39	Onspot Industrial EVC-Mechanical Meter Verification App
40	GEL & Company Website
41	Lease Accounting System from KPMG
42	DESS Application
43	Intranet Portal
44	SAP Urjanet Application
45	Time Management
46	E-Filing & Approval System
47	Information Security Awarenesshttp
48	-ADSelfService

## 19. Template for Minutes of meeting

MINUTES OF MEETING										
Project										
Agenda										
Participants		Core Team								
		Vendor								
Absentees										
Convener			Distribution							
Date			Location							
Time										
Legend		A=Action Required I=For Information Only D=Decision to be taken								
MOM Type	Date	Sr. No.	Key points	Type	Owner	Planned Closure Date	Revised Closure Date	Status	Actual Closure Date	Remark