

Request for Proposals (RFP)

FIBER TO THE HOME INTERNET SERVICE PROVIDER

June 30, 2016

**Town of Leverett
Municipal Light Plant
Leverett, MA 01054**

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1. SUMMARY

The Town of Leverett Municipal Light Plant, hereinafter referred to as "the Owner," "Leverett," "the Municipal Light Plant," "the Leverett MLP," "the LMLP," and/or "the MLP," is soliciting Proposals as follows.

1.1. General Overview

The Town of Leverett is located in Western Massachusetts, roughly 30 miles north of Springfield, MA and directly north of Amherst, MA. Since August 2015, the Leverett MLP has operated its own Fiber to the Home (FTTH) Active Ethernet system. This FTTH network connects to the Internet via the MBI123 'middle-mile' fiber optic network project owned by the Massachusetts Broadband Institute (MBI) and operated by Axia NGNetworks. The FTTH network provides broadband Internet access and telephone service to subscribing premises. The FTTH Network consists of approximately 39 miles of aerial fiber optic cable, approximately 800 fiber optic drops (homes, churches, government offices, and businesses) complete with Optical Network Terminals ("ONT"s), and Active Ethernet ("AE") equipment capable of supporting symmetrical gigabit and advanced network services to all subscribers. Appendix A provides Active Ethernet System Specifications for the FTTH network.

The LMLP has selected Collins Electric, Inc., to provide maintenance services on the fiber network. The LMLP contracts separately with Holyoke Gas and Electric (HG&E) as Network Operator.

The Internet Service Provider ("ISP") selected as a result of this Request for Proposals ("RFP") will be the only ISP on the Leverett network. The ISP will work with the incumbent ISP, MLP and Network Operator to ensure seamless switchover and uninterrupted service. The network will operate as "leverettnet.net," a domain name owned by the LMLP.

1.1.1 Structure of Relationship and Flow of Payments

The MLP will require the ISP to collect from subscribers and pass through to the MLP an amount determined by the MLP as necessary to cover MLP costs of operating and maintaining the network, including 'middle mile' transport costs. The MLP will determine these costs on an annual or semiannual basis. This amount will be apportioned to subscribers on a monthly basis and included by the ISP in its subscriber billing statements.

1.2. RFP Overview

Leverett is issuing this RFP to qualify and select the ISP for a multi-year exclusive contract to begin on or before July 1, 2017. The ISP shall provide all labor, materials, equipment, tools, supervision, and other resources necessary to provide such services over leverettnet.net, as described herein.

1.2.1 The Network Operator, separately contracted, has responsibility for operation and management of the physical infrastructure through a Network Operations Center (“NOC”), including:

- Monitoring of network devices and electronics
- Traffic optimization
- Providing IP connectivity to a tier 1 Internet provider
- Field dispatch
- Performance monitoring
- Subscriber usage data collection
- Problem troubleshooting

1.2.2 The ISP, as described more fully throughout this RFP, has responsibility for all retail functions for broadband Internet and telephone services, including:

- Subscriber bill presentment
- Collection and processing of subscriber payments
- Handling subscriber service and technical support communications
- Oversight of necessary contractual obligations with subscribers

2. ISP OPERATIONAL EXPECTATIONS AND REQUIREMENTS

This section establishes the LMLP's expectations of the ISP in relation to the MLP, Network Operator, Maintenance Contractor, and Subscriber. Proposals shall address each element and shall provide specific information about Proposer's capabilities with regard to that element.

2.1. Operational Responsibilities

2.1.1. Sales and Provisioning

The ISP, as the sole ISP on the Leverett FTTH network, will be responsible for all sales and provisioning of broadband Internet and telephone services to subscribers on the network.

VOIP telephone service shall include capacity to provide 'plain old telephone' connectivity utilizing subscriber's Calix 700GX Series ONT's built-in connections for premise copper wire connections and retention of existing telephone numbers. No additional VOIP analog to digital converter box is required. The ISP shall have capacity to provide subscribers with dynamic addressing by default, and a permanent static IP address if requested by the subscriber. Both addressing types shall have automatic redundancy provided by at least two properly sized high availability servers in different physical locations. IP address

servers will be sized so that any one of the servers can handle the entire worst case demand alone. IP address servers should be configured to ensure automatic fail-over without manual intervention. ISP shall institute automatic monitoring and notification of problematic IP address server to ISP staff/employees so that issues may be resolved promptly. During essential maintenance windows, at least one IP address server shall be on-line and available at all times. Internet and telephone shall be available to subscribers as independent or combined services. The ISP shall have ability to manage DNS in such a way that all assigned IP addresses have fully consistent forward and reverse lookups. Internet service shall include subscriber email accounts. The ISP shall have ability to manage routing of telephone calls throughout the public switched telephone network (PSTN) and interconnection points of the PSTN with the Internet Protocol (IP) realm.

The ISP will make full efforts to sell services on the FTTH network. It should be noted that residents of Leverett are not required to purchase services on the FTTH network. With the approval of the MLP, the ISP may offer broadband-related services beyond Internet and telephone at additional cost to subscribers, subject to assurances to the MLP that such other services are within the capacity of the Leverett network design and operation. Subscribers will be provided a means to OPT-OUT of all solicitations if desired.

2.1.2. Subscriber Service

The ISP will provide robust subscriber services, including toll-free, one-call and E-mail trouble reporting. The Leverett MLP, with guidance from its Network Operator and technical advisors, will track subscriber satisfaction and network performance, using items such as number of help desk tickets, response times, etc. The ISP will provide education and support to assist subscribers switching from existing DSL, satellite or other broadband service. Given the existing high take-rate of LeverettNet services, the amount of future switching from slower services is expected to be minimal.

2.1.3. Premise Installations

The ISP may undertake interior premise installations beyond the ONT, under contract between the ISP and the subscriber. The ISP may sell or lease equipment to the subscriber beyond the ONT and shall provide appropriate technical support to users.

2.1.4. Billing and Collections

The ISP will handle all retail billing and collections for the FTTH network, and ensure proper billing and service. Flexible methods of monthly billing and payment should be offered at no cost to subscriber. Subscriber choice of method, should not result in additional charges. Methods include: 1) Monthly paper statements sent by US Postal Mail, with payments accepted by US Postal Mail; 2) Monthly statements sent by E-mail with

automatic monthly recurring billing to subscriber's credit or debit card; 3) Monthly statements sent by E-mail with automatic checking account drafting; and 4) Telephone based payment of bill using credit card, debit card, or checking account drafting. The ISP will process all subscriber payments and will remit to the MLP monthly the portion of the subscriber bill that represents MLP costs of operation, as described in section 1.2, above. The ISP will indicate on its subscriber bill items related to MLP costs separate from ISP charges.

2.1.5. Network Operations

The ISP, in conjunction with the Network Operator, will be responsible for 24/7/365 network monitoring. Troubleshooting and technical support also shall be provided 24/7/365. Suspected network faults shall be escalated to the Network Operator. The ISP shall have sufficient upstream bandwidth and peering arrangements to handle the load of the Leverett network, including telephone service. As of May 2016, the network included a 2 Gbps symmetrical 'middle mile' link.

2.1.6. Maintenance & Repairs

Routine network maintenance as well as maintenance capital expenditure projects will be the sole responsibility of the MLP and the separately contracted maintenance provider.

2.2. Reporting and 3rd Party Auditor

The ISP will be required to submit regular performance reports to Leverett concerning the financial and operational performance of the network. The ISP may request that Leverett use a trusted third party auditor to review confidential documents, rather than Leverett itself. This auditor will be selected by Leverett and approved by the ISP.

Key Metrics include, but are not limited to, the following:

- Number of subscribers
- Subscriber complaints, categorized by type of complaint
- Tickets: outstanding, closed, total, average daily new tickets
- Network outages, stratified by repair time (1hr, 4hrs, etc) and by location
- Number of customer-initiated contacts required to resolve a single issue
- MTTR (Mean Time to Resolution) by issue category
- Fulfillment percentages
- Provisioning intervals
- Bill accuracy & timeliness
- Network Congestion

As part of the Proposal process, the Proposer should propose sample Service Level Agreements and Key Performance Indicator/Indices (SLAs and KPIs) against which the ISP would be measured.

2.3. Subscriber Information

The ISP shall maintain subscriber usage information available to the MLP and Network Operator. This information will be the property of the MLP to allow identification of system capacity issues and high volume users. The ISP will not have any right to sell or otherwise benefit from any such information. The ISP will have the right to use subscriber information for service, billing, and collections purposes.

2.4. ISP Contract Length

The ISP contract with the MLP will last for three (3) years. The ISP shall provide that subscriber contracts end without penalty if the contract between Leverett and the ISP is not renewed. In the event of termination of the ISP contract with the MLP, the ISP will provide full support and cooperation to the process and requirements of effecting a smooth transition to the incoming ISP.

2.5. Expertise and Other Requirements

2.5.1. Network Provisioning

- The ISP must have expertise and demonstrable past experience in provisioning network equipment for an Active Ethernet FTTH system.
- The make, model, and specifications of network equipment are stated in Appendix A, attached hereto. The ISP must have sufficient breadth of skills or have the ability to acquire such expertise within a short period of time to work with this equipment.
- The ISP shall maintain backup configurations of all routing tables and similar network elements and provide such information to the MLP on a monthly basis or as otherwise agreed, in a format approved by the MLP.
- The ISP, in coordination with the Network Operator, shall maintain network security and report potential and actual security breaches to the MLP as soon as practicable and not later than seven (7) business days after the breach. The ISP shall take all necessary measures to prevent security threats in its systems or in the network, including capability to detect, mitigate, and report hostile activity such as DDOS attacks to or from subscribers.

- The ISP shall have capability to provide virtual local area network (VLAN) per subscriber or equivalent protections for the separation of subscribers' traffic from inappropriate interception.
- The ISP shall demonstrate understanding and commitment to concepts of net neutrality and shall assure all regulatory agency compliance.

2.5.2. Retail Services

- The ISP shall have experience providing retail services including telephone and broadband Internet over an FTTH network.
- Although the Town currently has a high level of uptake for FTTH services, it cannot guarantee a minimum percentage of subscriber uptake and hence the ISP must be willing to provide services irrespective of the number of subscribers and assume its share of commercial risk from lower than expected service uptake or commercial risk due to changes in the Town's population. As of May 2016, the system had approximately 640 subscribers, out of 811 connected locations.
- The ISP must have demonstrable experience selling telecommunications services to rural populations. All marketing materials shall be approved by the MLP prior to use.

2.5.3. Billing and Subscriber Contracts

- The ISP shall have a secure web portal for subscribers to login and view their billing history, add or delete services, report technical issues, and register complaints.
- All contracts for retail services shall be between the ISP and subscribers. The MLP neither guarantees nor mediates on behalf of either party with respect to contracts. The ISP must perform its own credit checks, as needed, before signing up subscribers. The ISP must bear all risk of subscriber payment default.
- The ISP shall provide clearly defined service level agreements as part of subscriber contracts, covering every aspect of subscriber service, usage, and billing, including an acceptable use policy.
- The ISP shall provide subscribers the option of paper and/or electronic bills, as described in section 2.1.4, above.
- The contract between the MLP and the ISP regarding the revenue stream between the two will not in any way be a substitute for contracts between the ISP and subscribers.

2.6. Service Outages

The Proposer shall propose targets for allowable number and extent of Service Outages as defined by the FCC in 47CFR4.5 (a) and a financial penalty structure in the event the allowable number or extent of outages is exceeded in a calendar year. Outages in Internet service, e-mail, and telephone shall be explicitly covered. Planned maintenance and outages due to equipment, software, and services not owned or provided by the ISP to serve Leverett subscribers shall not be included.

3. PROPOSER QUALIFICATIONS

3.1. Company Experience

- 3.1.1. No subcontractor's experience can be used to meet the qualification requirements of the Proposer included in this RFP.
- 3.1.2. The ISP shall unambiguously specify if it intends to use any third party contractors in providing any services covered under this RFP. ISP selection of third party contractors is subject to approval by the MLP. The MLP has a preference for an ISP that can provide all services in-house.
- 3.1.3. The Proposer shall identify at least one (1) project where they are currently providing or have within the last three (3) years provided Internet and telephone network services. A brief description of the services and a point-of-contact and the telephone number of the network owner must be provided.
- 3.1.4. The Proposer shall have all required permits and licenses from federal, state and local authorities to provide retail network telecommunications services in Mass.

3.2. Documentation of Prior and Concurrent Commercial or Residential Internet and Telephone Projects

- 3.2.1. Proposer shall include client contact information for all commercial or residential ISP projects engaged with currently or in the last five (5) years.

3.3. Financial Stability

- 3.3.1. Proposer shall include documents demonstrating financial stability over the previous three years, including annual income statements, balance sheets, and statements of cash flow.

3.4. Technical Expertise

- 3.4.1. Proposer shall employ professionals who are experienced in managing an ISP and in providing customer support in an Internet and telephone environment. Documentation or statements concerning their qualifications and certification shall be provided.

- 3.4.2. Proposer shall employ professionals who have experience in marketing and selling FTTH services to rural audiences. Documentation or statements concerning their qualifications shall be included in the Proposal.

4. EVALUATION OF PROPOSALS

- 4.1. The LMLP hereby reserves the right to reject any or all Proposals, or to accept any Proposal that in the opinion of the LMLP may be in the best interest of the Town.

4.2. Evaluation Process

Responses to this RFP will be confidential at least until the time a new contract is signed. The MLP shall evaluate each Proposal that is properly submitted. The MLP may request subsequent interviews with a Proposer for further clarification of a Proposal. After review of all Proposals, LMLP will select a finalist to conduct in-person interviews, undertake due diligence, and discuss negotiation of definitive agreements. These interviews, due diligence, and discussion will result in selection of the ISP and final negotiations.

4.3. Evaluation Criteria

The MLP will review Proposals with reference to all factors set forth in this RFP, with particular attention to Proposer's experience and proposed subscriber pricing. Pricing strategy shall include proposed rates for services, the minimum time period those rates would remain in place without escalation, and limitations on increases in rates over time. Pricing strategy shall be for ISP subscriber rates for broadband Internet and telephone service only. MLP pass-through costs, including for 'middle mile' transport, are not part of ISP pricing strategy. A separate pricing strategy may be provided for ISP subscriber add-on services, if any such options are proposed.

5. PROPOSER QUESTIONS

- 5.1. If any person contemplating submitting a Proposal for the services covered by this Request for Proposals is in doubt as to the meaning or intent of any part thereof, s/he shall at once notify the MLP and request clarification prior to submitting a Proposal.

- 5.2. Questions may be submitted to:

Marjorie McGinnis, Town Administrator and LMLP Manager
Town of Leverett
9 Montague Road, PO Box 300
Leverett, MA 01054
Tel 413.548.9699
Email: townadministrator@leverett.ma.us

- 5.3. Questions must be in writing (email questions allowed) and will be accepted until **Monday, July 18, 2016 at 10:00 am**. Questions and responses will be made available to all Proposers on Friday July 25th, 2016 and will become a formal addendum. No other questions will be accepted or will be binding. Oral and other interpretations or clarifications will be without legal effect. The MLP will not be responsible for any other interpretation.

6. RFP SCHEDULE AND SUBMISSION INSTRUCTIONS

6.1. RFP SCHEDULE

Written Questions Due:	July 18, 2016 at 10 am
Answers to Questions Posted:	July 25, 2016
Submission of Proposals Due:	August 15, 2016 at 10 am
Finalist Named:	August 26 th , 2016
Contract Award:	September 2 nd , 2016

- 6.2. Proposals must be submitted in a SEALED envelope PLAINLY marked "Proposal for Leverett ISP" and addressed to:
Marjorie McGinnis, Town Administrator / LMLP Manager
Town of Leverett
9 Montague Road
PO Box 300
Leverett, MA 01054
- 6.3. In order to be considered, Proposals must be received no later than **August 15, 2016 at 10:00 am**. Proposers must take into consideration standard postal delivery times. Oral, telegraphic, telephonic, emailed, or facsimile submissions are invalid and will NOT receive consideration. Proposals received after the date and time specified above will be returned unopened.
- 6.4. Prior to the date and time specified above, any submitted Proposal may be withdrawn or modified by notice in writing over the signature of the Proposer. Notice may be provided by telegraphic or facsimile means.
- 6.5. Proposers are required to submit one (1) original and three (3) copies of their Proposals. One electronic copy on CD/DVD or USB drive must also be submitted.

7. PROPOSAL FORMAT REQUIREMENTS

- 7.1. Proposals must be completed in four sections: (1) Proposer's expertise and qualifications in regard to factors set forth in sections above; (2) monthly pricing strategy for Internet and telephone services; (3) service outage proposal; and (4) Proposer's proposals or suggestions, if any, for additional network services or network configuration or operation.
- 7.2. All information Proposer expects to be considered in the award of a contract must be included in the Proposal.
- 7.3. Proposals by corporations must be executed in the corporate name by the president, vice-president, or other corporate officer, accompanied by evidence of authority to sign, and the corporate seal must be affixed and attested by the secretary or assistant secretary.
- 7.4. Proposals by partnerships must be executed in the partnership's name and signed by a partner whose title must appear under the signature.
- 7.5. All names must be typed or printed in ink below the signature line.

8. CONTRACT AWARD

- 8.1. The MLP may conduct such investigations as the MLP deems necessary to assist in the evaluation of any Proposal and to establish the readiness, willingness, ability, responsibility, qualifications, integrity, and financial stability of Proposers and any proposed subcontractors or other persons and organizations to perform the contract in accordance with the RFP, to the MLP's satisfaction prior to awarding a contract.

9. EQUAL EMPLOYMENT and SMALL and/or MINORITY BUSINESS REQUIREMENTS

- 9.1. It is policy of the Leverett Municipal Light Plant that small and/or minority business enterprises shall have the maximum practicable opportunity to participate in the performance of public contracts. Proposer agrees that if this Proposal is accepted, s/he will not engage in employment practices which have the effect of discriminating against employees or prospective employees because of race, color, sex, religion, national origin, age, gender identity, handicap, political belief or affiliation, or any other protected class under the law. In addition, Proposer agrees by submittal of this Proposal, that s/he will abide by all applicable terms and provisions of the Government's Nondiscrimination Clause and Small and/or Minority Business Clause, Executive Order No. 11246, as amended by Executive Order No. 11375.

- 9.2. Proposer agrees that if this Proposal is accepted and deficiencies in any aspect of its employment practices and/or minority business utilization are found as a result of review or investigation conducted by the LMLP, the Proposer may be required to submit a written Affirmative Action Plan to the LMLP for approval.

10. INDEMNIFICATION

To the fullest extent permitted by law, the ISP shall indemnify, defend (with MLP counsel), and hold harmless the MLP and its officers, agents, and representatives, from and against all claims, damages, losses and expenses, including but not limited to court costs and attorneys' and experts' fees, arising out of or resulting from the performance of the contract that results from this RFP. The provisions of this Article are intended to survive any termination of the Contract that results from this RFP.

11. DISQUALIFICATION OF PROPOSERS

- 11.1. More than one Proposal for the same work from an individual, or a firm, partnership, corporation or an association under the same or different names will not be considered. Reasonable grounds for believing that any Proposer is interested in more than one Proposal for the contract may be cause for disqualification of that Proposer and the rejection of all Proposals in which that Proposer is interested.
- 11.2. The following, without limitation, are additional causes that may be considered as sufficient for the disqualification of a Proposer and the rejection of their Proposal:
 - 11.2.1. Evidence of Collusion among Proposers.
 - 11.2.2. Poor performance in the execution of work under a previous contract or contracts.
 - 11.2.3. Failure to achieve reasonable progress on an existing contract.
 - 11.2.4. Default on previous contracts or failure to execute contract documents after award.

12. ATTACHMENTS

The following attachments are included with this Request for Proposals:

Appendix A Active Ethernet system Specifications

APPENDIX A ACTIVE ETHERNET SYSTEM SPECIFICATIONS

The Active Ethernet (AE) system is manufactured by Calix. The Ethernet Services Access Platform is Model E7-20 and is capable of delivering analog telephone service, Voice over Internet Protocol (VOIP), high-speed data and IPTV. The ONTs are Calix 700GX Series.

ARCHITECTURE

The architecture for the fiber optic network design is based on a "Home Run" topology and provides for a single fiber to be assigned from every potential subscriber location to a Fiber Main Distribution Frame in one of two Central Office Point of Presence (POP).

POP SPECIFICATIONS (two locations)

1. The hardened POP aggregation equipment is capable of providing a symmetrical 1Gbps (downstream/upstream) to each ONT based on IEEE 802.3ah Ethernet in the First Mile (EFM) specifications.
2. The POP aggregation equipment supports the following interface types:
 1. 10/100/1000 copper NNI & UNI
 2. 1GE fiber NNI & UNI
 3. 10GE fiber NNI & UNI
 4. Line-rate, no oversubscription
 5. Single fiber SFP based optics for access circuits
 6. AE line cards equipped with 10GE ports supporting industry standard SFP+ modules for use as uplinks or transport.
3. The equipment provides support for VLAN per service and VLAN per port provisioning models.
4. The equipment provides support of 32 VLANs per Ethernet port.
5. The equipment supports the following protocols and standards:
 1. SyncE or PTP
 2. LLDP
 3. LACP- 1GE & 10GE
 4. G.8031 Ethernet linear protection
 5. G.8032 Ethernet ring protection

6. The equipment supports access services provided over the AE, point-to-point Ethernet networks as follows:
 1. IPTV – broadcast and Video on Demand (VoD)
 2. MEF compliant business services
 3. High-Speed Internet (HSI) access
 4. Voice – Native SIP/VoIP and TDM Gateway support
 5. T1 business services and Mobile Backhaul access
 6. IPv6 operation

7. The POP equipment complies with the following:
 1. Chassis based, rack mount solution
 2. NEBS compliant
 3. Non-blocking architecture
 4. N+1 processor/control
 5. N+1 uplink card/blade
 6. N+1 Power (AC preferred)
 7. ISSU (In Service Software Upgrade)

8. The POP installation includes fifteen (15) minute minimum backup power and filtering for all POP equipment. The LMLP provides a connection to commercial power in the POP.

9. The equipment has optional manufacturer support packages for the following services:
 1. Software upgrades (ex. new functionality, supported hardware)
 2. 7x24 remote technical assistance
 3. Extended warranty with next day replacement of failed equipment.

10. The equipment supports the following Quality of Service parameters:
 1. SLA support
 2. Granular per port rate-limiting
 3. Granular per service-instance rate-limiting
 4. HQOS
 5. COS
 6. DiffServ TOS

11. The equipment supports the following Management and Monitoring Protocols:
 1. SNMPv3
 2. SSH/SSL

3. RADIUS
4. Syslog
5. NTP
6. Flow records
7. SLA reporting

12. The equipment includes all hardware and software required for a functioning on-site network management system, as follows:

1. Automated subscriber and/or service provisioning
2. Active network topology map
3. Network element management
4. Fault identification and notification
5. Scheduled automatic device backups
6. Firmware update generation
7. Customizable usage and utilization reports
8. SLA monitoring and enforcement

TESTING

Every Active Ethernet connection has been documented as capable of supporting symmetrical 1Gbps speeds both sustained and burstable with minimal bit error rate, delay and jitter. Each Active Ethernet circuit has been tested from an Ethernet port on the subscriber side of the ONT and through the POP aggregation equipment to an attached port. See detail diagram below:

