

CONFIDENTIAL/PROPRIETARY

Q – 8 Executive Summary

Opportunity the Proposed System Seeks To Address

Pixius proposes to build a new high-capacity, low latency wireless broadband middle mile network that will support the expansion of Pixius' last mile wireless broadband service into a substantial number of rural, unserved areas in the state of Kansas (covering 98 counties), Missouri (15 counties), Oklahoma (13 counties), Nebraska (7 counties), and Iowa (2 counties); and support provision of new last mile or mobile wireless broadband services by other carriers, government agencies, public safety entities, educators, health care providers, etc. [REDACTED]

[REDACTED] During eight years of operation, Pixius has developed substantial knowledge of how much usable tower space is actually available in and around Kansas. Pixius has discovered that many existing towers are the equivalent of an old, narrow highway. There aren't enough of them to support ubiquitous last mile wireless broadband coverage, and, because they were built when demand for wireless service was much lower, they are unable to accommodate multiple users without violating current wind loading requirements, precluding Pixius and other wireless carriers from deploying or upgrading their antennas to support higher capacity systems.

The new towers have been designed to solve these problems. First, the towers will enable Pixius to expand its existing last mile wireless broadband coverage from [REDACTED] to [REDACTED] square miles, thus extending Pixius' wireless broadband service to many more rural areas that presently have little or no quality, affordable broadband service. Second, each tower will structurally accommodate up to three additional providers (besides Pixius) while still complying with current wind loading requirements. The towers will be connected by high capacity microwave links, creating the middle mile network that can be used by any wireless carrier that needs transport for IP based traffic.

Areas To Be Funded

The service areas proposed for funding (the "Proposed Funded Service Areas") collectively encompass a geographic area of 91,631 square miles and a total population of 604,025, which equates to approximately 251,706 households and 900 businesses passed. Each of the Proposed Funded Service Areas is at least 75% rural and unserved. In many areas, the rural/unserved percentage is 90% or higher.

Service to Community Anchor Institutions, Public Safety Entities, etc.

The Pixius Tower Network will provide each of the 135 counties referenced above with the capability to provide (either themselves or through Pixius) wireless broadband services for public safety entities, school districts, libraries and medical providers. This includes 135 fire departments, 135 sheriffs' departments, over 280 school districts, over 30 regional libraries, and multiple medical facilities. [REDACTED]

[REDACTED]

Proposed Services and Applications

Pixius will deliver last mile wireless broadband service and associated applications at speeds much higher than the minimum required to qualify as “broadband” under the NOFA. [REDACTED]

[REDACTED] On average, Pixius’ actual speed of service will be what it is already providing to its existing customers [REDACTED]

[REDACTED] Importantly, Pixius is able to deliver such high-speed service with low latency, which is less than 30 msec. Low latency means that the network is less vulnerable to packet loss and enables Pixius to reliably deliver critical applications like telemedicine, access to corporate networks (e.g., VPN), distance learning, streaming video and online gaming. Low latency also contributes to a higher quality VoIP experience.

In addition to providing the “backbone” for last mile wireless broadband service, Pixius’ proposed middle mile network will provide other carriers and other users with backhaul/transport service for WiMAX and 4G services, wholesale data transport for ILECs and CLECs, homeland security, emergency and 911 broadband-based services; and transport for emerging high capacity technologies that utilize, for example, spectrum in the TV White Space. As such, Pixius’ proposed middle mile network represents a “down payment” on the region’s broadband future – paving the way for introduction of new wireless broadband services that would not be possible with the infrastructure currently in place.

Nondiscrimination and Interconnection Obligations

As described in Pixius’ narrative statement on Network Openness in response to question 22, Pixius will comply with the nondiscrimination and interconnection requirements set forth in the FCC’s Internet Policy Statement and in the NOFA.

Type of Broadband System To Be Deployed

As it currently does today, Pixius will provide last mile wireless broadband service [REDACTED], the choice of band(s) depending on signal propagation factors. This technology is not WiFi, which is typically used for home networking. The technology used by Pixius is FSK-based – which is more tolerant of interference and has more predictable signal propagation. If Pixius receives the funding requested in this application, its spectrum options will be expanded to include the [REDACTED], which will give the company the capacity to offer fixed and mobile WiMAX service.

For its middle mile network, Pixius will interconnect its towers with high speed, high capacity, carrier-class backhaul microwave links over licensed spectrum in the [REDACTED] and [REDACTED] bands. Carrier-class backhaul links typically provide from [REDACTED] to [REDACTED] Mbps of bandwidth, with latency of less than [REDACTED].

Qualifications of Applicant

Pixius, based in Wichita, KS, has been providing last mile wireless broadband service to communities in and around rural Kansas and western Missouri since 2001. Its existing network has grown to [REDACTED] towers with [REDACTED] square miles of signal coverage, serving [REDACTED] subscribers. Pixius believes it is now the largest provider of fixed wireless broadband service in Kansas, and is one of the largest broadband providers of its type in the entire country. [REDACTED]

Pixius is uniquely qualified to successfully build and sustain operation of the facilities proposed herein. The company's in-house technological team is a group of highly experienced individuals who have spent the majority of their careers in the telecommunications and information technology sectors. That group has already successfully overseen the expansion of Pixius' network to [REDACTED] access points with significant geographic coverage in and around Kansas, and the network is designed to provide customers with quality, affordable broadband service capable of satisfying evolving customer demand for new broadband-based applications. Furthermore, due to its experience with its existing network and research done to prepare this proposal, the company will be able to complete the proposed project well before the three-year deadline specified in the NOFA.

Overall Infrastructure Cost

Pixius has calculated the overall infrastructure cost of the proposed project to be [REDACTED]. Thus, the total funding required for the project (including permissible pre-application expenses) is [REDACTED] of which Pixius will provide [REDACTED] or [REDACTED]. The overall infrastructure cost of the project represents a cost of [REDACTED] per square mile covered or [REDACTED] per household passed.

Subscriber Projections

Based on the correlation between census tract data for households in our current service area and our current residential subscriber base, we conservatively estimate we will gain in excess of [REDACTED] new subscribers and at least [REDACTED] new business accounts. [REDACTED]

Job Creation

The Pixius proposal will create 59 permanent direct salaried positions in Wichita, Kansas. Twenty of these jobs will be added within 30 days of the project award date. Applying the Kansas job multiplier effect of 2.5 these 59 permanent positions will create an additional 148 jobs in the local economy. [REDACTED]

[REDACTED] The new permanent jobs that will be created by Pixius' proposal will have a total positive annual salaries and wages impact of [REDACTED]. During the network construction phase, our sub-contractors will create approximately [REDACTED] new jobs over a thirty-six month period.