Executive Summary

Eastern Wisconsin lies in a glacial area bound by 2 large bodies of water, Lake Michigan & Lake Winnebago. Topography is hilly & escarpment prone making current high speed & wireless internet service difficult & fiscally challenging. The fact that the land mass is bound by water on 2 sides limits connectivity options to other networks. The lack of large urbanized areas, & geographic distance to metropolitan communities, has left the region lacking in modern technology. Although the cities in the region have some type of high speed internet, there lacks interoperability, & the opportunity for wireless service is almost non-existent in many locations. Villages, & almost all towns, have few options but to rely on dial-up service. Due to limited options & vendors, the cost prevents some from even utilizing the slow service. There is a need for more effective & efficient emergency communications, educational access in outlying areas, high speed internet for health & economic development, & general need for the poor, senior citizens, & all age & population sectors to have reliable & affordable broadband. The counties involved include Calumet, Kewaunee, Manitowoc, Sheboygan, & Winnebago Counties. All 5 counties have substantial rural populations. By installing fiber optic & towers all 5 counties will have infrastructure by which private firms can offer high speed or wireless service throughout 100% of the area. Due to the spatial nature of the rural areas the fiber optic & towers, along with the use of existing infrastructure, is all strategically planned to connect the underserved areas while minimizing any damage to the environment. Such facilities & service will eliminate dead zones created by high wooded altitudes & low valleys. The project is expected to improve economic conditions. Poverty rates are as high as 15% in some of the rural towns. Sadly, some of the poorest towns have over 25% of their poor being under the age of 18. The majority of these towns have no jobs to offer teenagers & adults. Due to a lack of jobs in these rural towns, the low income upcoming adults need web access so as to take classes or research to improve their economic conditions. With no jobs or opportunities they will either move away or become a burden on the welfare system. In just 2 of the incorporated communities alone there were 13 plant closings in 2009. In about half the counties the unemployment rate exceeded the State average. And, for those with jobs, in all 5 counties, the wages fell below the State average. According to the Wisconsin Department of Workforce Development the 3 Lake Michigan shoreline counties receive $2000 less than the annual State average wage, & in the Lake Winnebago shoreline area the wage was $1300 less. Rural areas & creative minds are the hope for the future. They spawn garage based companies that can develop into major corporations'Hoover & Hewlett Packard are prime examples. According to 2002 research small businesses are just as important to economic growth as larger business. On a national scale, new & expanding small businesses create more jobs than all Fortune 500 companies combined. There is 1 state & 2 community colleges in the
Although they have high speed internet access, all have indicated a support for the subject application so they can reach outlying areas. Not only is broadband important to them to reach individuals in their homes or on their farms, but it allows them to offer remote training to existing businesses. A 2004 survey of existing rural businesses in 1 of the counties revealed the top service the businesses were most dissatisfied with was the internet, in part because many of the businesses have no access to high speed internet. The survey also found 44% of them offered no employee training. Again, because there is either no, or no reliable, electronic format by which to offer such experience. Nationally the healthcare industry has benefited immensely from broadband, & the region is no different. A phone poll of the 3 hospitals in the 5 county area revealed all have broadband. What is lacking though is the rural access to electronic health information. Also, a lack of interoperability between emergency communication systems has caused problems. The public deserves the right to reliable & responsive communications between fire, police, rescue, emergency medical & emergency government services when they dial for emergency help. Two of the counties in the subject area applied for funding for a 700 MHz trunked system. It is anticipated such system will provide voice communication interoperability & compliment the regional broadband effort which will provide necessary data interoperability among public safety agencies. The regional effort will offer law enforcement, fire & Emergency Medical Service providers the ability to wirelessly perform dispatch & communication tasks. The applications transported via a secure private broadband mobile data network will provide coverage throughout this region. Sharing real time information will assure efficient & effective protection of citizens. Wisconsin has 2 nuclear plants, both located in the project area. Although the plants have been supplied with private broadband, they lack adequate interoperability & are limited in emergency correspondence with the underserved rural area in which they are located. Not only is this lack of service a concern to the region, but from a national security standpoint the lack of interoperability & communication options should be of grave concern. Due to the 88 miles of Lake Michigan & 67 miles of Lake Winnebago shoreline in the project area, & due to their sport fishing & recreational popularity, these water bodies are used extensively by the boating public. Emergency contact with the water enthusiasts, especially on the great Lake Michigan, is a concern. Towers & fiber optic throughout the Lake Michigan shoreline communities will offer some assurance there is a chance of communicating with those in need of emergency & navigational aide. The project will not only integrate with the proposed emergency system mentioned, but will connect the 5 rural counties in Eastern Wisconsin via a fiber optic network with microwave towers. The project will also tie the proposed 5 county network into existing fiber optic on the eastern shore of Winnebago County & into 2 planned projects which in whole will create a network encompassing Lake Winnebago. The project will be a public-private partnership covering a geographic area, not including surface waters, of 2206 square miles. It involves 16 cities, 25 villages, 68 towns, 160 K-12 public schools, 1 public university, 2 community colleges, & 17 libraries. In total it will potentially connect 47,741 households in the unincorporated areas alone, plus 5129 farms operating on 931,079 acres of land. Thankfully through other state institution driven initiatives the public instruction institutions & libraries are currently in the process of being directly equipped with high speed internet. Calumet County is the lead agency on the project. The County is the second fastest growing County in the State & has been for almost a decade. Its rapid growth prior to proper infrastructure development has been a major concern. The County which lies between Calumet & Winnebago is in the process of installing fiber optic to provide wireless service to their largest city. This fiber optic, along with some
existing fiber optic in Winnebago County, will allow Calumet (& ultimately the 4 counties to the east), to directly connect to a metropolitan statistical area of almost 200,000 persons. Using Federal calculations, the project will create 99 job years; however, the region believes that number to be a gross underestimate. Based on the size of the rural areas it is believed there is a greater potential for job years due to existing farm & business retention, expansion, & new industry. The cost of the regional project is estimated slightly over $13 million; this application seeks $9,123,000 in Federal funds. The request will fund 229 miles of new middle mile dark fiber optic with periodic vaults, 5 new public tower structures, & 6 new public microwave links. The infrastructure will connect to 57 existing miles of fiber optic & 19 existing public tower structures. Through the use of the existing structures (depreciated value) and other in-kind donations, the project can offer a 30% in-kind match.