Executive Summary

NEBRASKA HEARTLAND RURAL BROADBAND (NHRB) Cable Nebraska, an established regional rural cable operator, is applying for $1.4M Broadband Infrastructure Program (BIP) / Broadband Technology Opportunities Program (BTOP) funding to build out regional (Middle Mile) Gigabit Ethernet backbone and local (Last Mile) Hybrid Fiber Coax network to the residents, businesses and strategic community stakeholders in eastern and southern Nebraska. Cable Nebraska is proposing the Nebraska Heartland Rural Broadband (NHRB) project, which will deploy a broadband network that will provide rural communities in the coverage area with Broadband Internet, video and voice services. The project coverage area includes 30 miles of Middle Mile network backbone from Alma to Riverton and 22.5 miles of Middle Mile network backbone from Highway 22/81 to Creston. These Middle Mile segments will also touch the communities of Platte Center, Humphrey and Franklin, and will allow an enhancement of broadband access. These three communities are currently served by Cable Nebraska. The Last Mile segments of the Cable Nebraska’s NHRB project are new (green field) build HFC broadband access networks in Republican City and Creston. Cable Nebraska is well-positioned to build out these networks with more than 50 years cumulative management experience as owner-operators of a cable network serving 85,000 Internet, video and voice subscribers at its peak. The company has built a reputation for creating efficiencies in operations and providing superior service. The management team, which has worked together for many years, is fully prepared to take on a project of this size and scope. Cable Nebraska’s CEO, Christian Hilliard, has over 20 years experience in the industry. Under his leadership, the company has offered distance learning programs to a consortium of twenty schools, as well as data transport service for businesses and a hospital alliance in central Nebraska. He will leverage this experience to partner with leaders for establishing sustainability programs. The Cable Nebraska existing systems are located in Eastern and Southern Nebraska. Cable Nebraska passes a total of 13,587 homes and serves 5,205 EBUs (Equivalent Basic Unit) customers, 429 digital customers, 1,539 internet customers and 341 phone customers. It is an established company that understands the needs of its customers. All of the systems owned and operated by Cable Nebraska are located in rural areas. Consistent with this focus, the NHRB project is designed to bring comparable service to households in the region that otherwise would not have access to this technology. Cable Nebraska is seeking Federal help in order to make this project a reality; without federal assistance, Cable Nebraska cannot afford to implement the NHRB project. When completed the NHRB project will pass 1,690 households and 87 businesses. NHRB will offer affordable Broadband Internet, video and optional voice services to previously underserved citizens, public agencies / organizations, businesses and entrepreneurs. The network will facilitate distance learning in association with Central Community College, which offers
duel enrollment, advanced courses and workforce training. Citizens can access scarce healthcare resources using telemedicine. Broadband will enhance the area’s ability to attract tourism by enabling recreational businesses to offer onsite Wi-Fi. Online training and safety management resources will also be accessible for the first time. Currently, Cable Nebraska offers video services at no charge to schools in its coverage area. As it delivers Broadband to seven communities – their fifteen schools will benefit from discounted Internet services, as well. Central Community College located at Columbus in Platte County can collaborate with these schools. There are four medical/dental clinics and the Harlan county Hospital. This section of the country it is known for tornados: 184 times the national average. Broadband usage would help safety readiness. Emergency management personnel, fire, police and healthcare workers using real-time interoperable data, video and voice systems would assist actionable insights, prevention and fast action needed to save lives. The NHRB project adheres to principles contained in the Federal Communication Commission’s broadband policy statement and meets all federal and state criteria regarding non-discrimination and network interconnection obligations. Cable Nebraska will adhere to a neutral traffic policy with all systems funded through the program and deploy network policies on the public web site. The NHRB project is “shovel ready” and will be substantially completed by late fall of 2010 with full completion scheduled for spring of 2011. This project will launch immediately upon funding and will complete within the designated timeframe. The technology design represents a focus on performance-to-cost ratios with special emphasis on technical feasibility. Cable Nebraska, as a cable and telecommunications operator, deploys its broadband networks utilizing the cable and telecom industries proven architectures, designs, standards, protocols and equipment. The NHRB project’s technical feasibility is provided by the ARRIS Hybrid/Fiber Coax (HFC) and Dense Wavelength Division Multiplexing (DWDM) Network Solution and is made up of two major segments, Middle Mile and Last Mile. The Middle Mile transport segment feeds and supports the Last Mile access segment. Both segments are comprised of International Telecommunication Union (ITU) standardized fiber optic components operating in the 1550 and 1291 nm ranges. Last Mile outside plant utilizes industry field-proven HFC coaxial cable and 870 MHz RF electronics compliant with IEEE, SCTE, and CableLabs standards. The high speed data is transported from the Internet interconnect backbone gateway to the system headend, to the Cable Modem Termination System (CMTS) to the fiber optic transport (Middle Mile) and coaxial access (Last Mile) networks to the end user’s cable modem. The signal from the cable modem travels back upstream through the reverse optical network back to the CMTS and then back to the gateway to the Internet. The proposed solution offers up to 20Mbps service to homes and businesses in the proposed service area and is scalable to 100Mbps. Future growth utilizing CableLabs DOCSIS 3.0 channel bonding would allow for up to 160Mbps service offerings. The NHRB’s Middle Mile Metro Ethernet fiber optic Gigabit Ethernet (GigE) multi-link 1/10 Gbps transport backbone provides reliable and enhanced broadband bandwidth and redundant paths for both broadcast (point-to-multipoint) and narrow-cast (point-to-point) data, interactive video, voice and other value-added wired and wireless services. Middle Mile GigE backbone will be an extension of Cable Nebraska’s existing GigE infrastructure and will utilize carrier grade IP switches and routers with scalable bandwidth at access ports. All these are well proven standards-driven technologies and products that are in full production by established vendors (Arris, Cisco and Alcatel-Lucent) and will provide the ability to promptly start the project. The number of jobs created directly as a result of the NHRB project is estimated to be two full positions in the company for the project and will save two full-time positions that are dependent on
construction activities. This tally includes construction and technical personnel associated with the Middle Mile and Last Mile build out, as well as administrative staff and service support representatives. The number of jobs that could be created by services offered due to broadband access is difficult to calculate with precision, but undoubtedly will contribute to the local economy. An average of 33 homes per mile over the proposed service area does not lend itself to traditional funding avenues for broadband infrastructure projects. Without the ARRA Stimulus funds these remote and rural, underserved homes and businesses will remain without broadband access. With the funding, the Cable Nebraska will deliver broadband access along with other critical services at affordable rates to at-risk families and children.