



**Broadband Infrastructure Application  
Submission to RUS (BIP) and NTIA (BTOP)**

<b>Submitted Date:</b> 8/20/2009 12:38:10 AM	<b>Easygrants ID:</b> 2023
<b>Funding Opportunity:</b> Broadband Initiatives Program and Broadband Technology Opportunities Program	<b>Applicant Organization:</b> Navajo Tribal Utility Authority
<b>Task:</b> Submit Application - Infrastructure Programs	<b>Applicant Name:</b> Mr. Monroe M Keedo

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## A. General Application Information

1. Applicant Information	
1-A. Name, Address, and Federal ID for Applicant	
<b>i. Legal Name:</b>	Navajo Tribal Utility Authority
<b>ii. Employer/Taxpayer Identification Number (EIN/TIN):</b>	860204662
<b>Street 1:</b>	Navajo Route #12
<b>Street 2:</b>	
<b>City:</b>	Fort Defiance
<b>County:</b>	Apache
<b>State:</b>	AZ
<b>Country</b>	United States
<b>Zip/Postal Code:</b>	86504

1-B. Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
<b>Prefix:</b>	Mr.
<b>First Name:</b>	Monroe
<b>Middle Name:</b>	M
<b>Last Name:</b>	Keedo
<b>Suffix:</b>	
<b>Telephone Number:</b>	19287296282
<b>Fax Number:</b>	
<b>Email:</b>	monroek@ntua.com
<b>Title:</b>	Information Technology Manager



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<b>1-C. Other Required Identification Numbers</b>	
<b>i. Organizational DUNS:</b>	800021990
<b>ii. CCR # (CAGE):</b>	63393465
<b>iii. Funding Opportunity Number:</b>	1
<b>iv. Catalog of Federal Domestic Assistance Number:</b>	<b>BTOP CFDA Number:</b> 11.557 <b>BIP CFDA Number:</b> 10.787 <b>BTOP CFDA Title:</b> Broadband Technology Opportunities Program <b>BIP CFDA Title:</b> Broadband Initiatives Program

**1-D Eligible Entities**

Please classify your organization. (Note: If there are multiple organizations involved in the project, designate the lead applicant that would enter into a Loan or Grant agreement with the Agency and assume operational and financial responsibility should an award be made). **Indian Tribe**

**1-E. RUS Borrower Status**

Yes

**1-F. Applicant Federal Debt Delinquency Explanation**

Is the Applicant Delinquent On Any Federal Debt? **No**

**Federal debt delinquency Explanation:**

No Federal Debt Delinquency.

**2. Project Description & Project Title**

**2-A. Project Title:** Navajo Nation Middle/Last Mile Project: Quality Broadband for the Navajo People

**2-B. Project Description:** The Navajo Tribal Utility Authority & Commnet Wireless propose a middle-mile fiber optic backbone with a microwave backup and interconnection to a POP in Albuquerque, NM, in conjunction with a wireless last-mile component which will ensure the benefits are promptly delivered to a population in dire need of these services in underserved portions of the Navajo Nation in Arizona, Utah & New Mexico.



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**3. Application ID for Multiple Submissions for Identified Service Areas:**  
No Multiple Submissions.

**4. Rural Area Determination**

At least 75 percent of the proposed service area to be funded falls within rural areas that are unserved or underserved.

**Yes**

**5. Applications for Rural Areas:** Please choose the funding program(s) to which you are submitting this application.

a) BIP broadband infrastructure category to which you are applying:

**BIP - Middle Mile Project**

b) Would you like this Application for Rural Areas to also be considered for BTOP funding?

**Yes**

c) BTOP Infrastructure category for which you are applying.

**Middle Mile**

**6. Applications for All Other Areas: Per the NOFA, all applications to fund broadband infrastructure projects in areas that are less than 75% rural must be submitted to NTIA for consideration under BTOP.**

BTOP broadband infrastructure category to which you are applying: **Middle Mile**

## **B. Eligibility Factors**

**7. Application Submission**

**BIP and BTOP Factors Selected By Applicant:**

**Applicant has submitted a completed application and provided all supporting documentation required for the application.**

**The Project will be substantially complete within 2nd year from the award date, and the project will be fully**



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<p>complete by the end of the 3rd year from the award date.</p>
<p>For projects seeking more than \$1 million funding, the Applicant agrees to submit a certification, from a Professional Engineer, that attests that a) the system will deliver the stated performance; and b) the projected project will be substantially completed within two years, and fully completed within three years.</p>
<p>The Applicant provides two-way data transmission with advertised speeds of at least 768 kbps downstream and 200 kbps upstream.</p>
<p>Applicant understands and agrees to comply with the nondiscrimination and interconnection obligations outlined in the NOFA.</p>
<p>If applying for a last mile Broadband Infrastructure project, applicant understands and agrees to comply with the last mile coverage obligations as outlined in the NOFA.</p>

<p><b>Additional Factors for BIP Selected By Applicant</b></p>
<p>At least 75 percent of the proposed funded service area qualifies as unserved and underserved rural areas in accordance with the NOFA.</p>
<p>Applicant understands and agrees that the project will be fully funded in accordance with the requirements of the NOFA.</p>
<p>Applicant understands and agrees that only projects that RUS determines to be financially feasible and/or economically sustainable will be eligible under this NOFA.</p>



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<b>Additional BTOP Factors Selected By Applicant</b>	
<ul style="list-style-type: none"> <li>• <b>Conformity with Statutory Purposes</b></li> <li>• <b>Cost Sharing/Matching</b></li> <li>• <b>Reasonableness of Project Budget</b></li> </ul>	
The project advances at least one of the statutory purposes for BTOP	
Applicant has provided documentation that the project would not have been implemented during the grant period without federal grant assistance.	
Applicant has provided a budget that is appropriate to the proposed technical solution and only includes eligible costs.	

- **Demonstration the Project Could not be Implemented But For Federal Grant Assistance**  
Applicant is providing matching funds of at least 20 percent towards the total eligible project costs?  
**Yes**

<b>7-k. Cost Sharing/Matching Fund Explanation</b>
NOT APPLICABLE.

## C. Executive Summary

### Executive Summary of Project for BIP and BTOP:

#### 8. Infrastructure Projects Executive Summary

The Navajo Tribal Utility Authority (NTUA) is a non-profit enterprise established by the Navajo Nation Council to provide multi-utility services to the Navajo Nation and the Navajo People. Since 1959, NTUA has supplied electricity, water, natural gas, wastewater treatment, and photovoltaic (solar power) services to residents throughout the 26,000 square-mile Navajo Nation, which spreads across northeastern Arizona, northwestern New Mexico, and southeastern Utah.

As NTUA works hard to meet the basic utility needs of the Navajo Nation, the Navajo Nation



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continues to suffer from a lack of viable telecommunications infrastructure. To alleviate this problem, we are requesting funding from RUS and NTIA to create and promote sustainable economic development and social benefits via the NTUA’s broadband infrastructure initiative.

The Navajo Nation is a sparsely-populated, poverty-stricken rural area, whose residents have fallen further and further behind the rest of the country, leaving them on the wrong side of an ever expanding digital divide. The proposed project “The Navajo Nation Middle/Last Mile Project: Quality Broadband for the Navajo People” (hereinafter “the Project”), has an important cultural component as the Project will extend bandwidth to Chapter houses which now have limited extended services from central administration and educational institutions. Chapter houses are community centers where political discussions, elderly care and early childhood education are carried out. Using technologies enabled only by broadband, the Project will allow Navajo communities to capture, record, and share Navajo culture, including language, politics, lifestyle and religion. Navajo culture will be preserved, as the Navajo people are able to remain home while joining the information highway. Without ARRA funding, implementation of the proposed Project would not be possible nor be a sustainable economic endeavor. With ARRA funding, the applicants will be able to see a sensible economic return on their portion of the capital investment (30% according to the BTOP pro forma financial projections).

The proposed funded service area spans over 15,120 square miles on Navajo Lands within Arizona, New Mexico, and Utah, which encompasses some 24,843 census blocks and 15 of the largest census communities (CDP) centers within the tribal boundary.

The project will enable wireless fixed and mobile broadband access to 30,694 households and 1,000 businesses; as well as provide high capacity connectivity on the combined middle-mile backbone to at least 49 community locations, of which 25 communities will have access via microwave and 24 access via fiber.

The project will provide access for a total of 1,039 critical facilities, which by definition includes tribal and federal facilities, including police, detention, and fire response centers; health, social service, and emergency care facilities; public, BIE, and private schools; and 110 tribal Chapter Houses.

The integrated middle and last-mile network design will support point to point data services



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and large broadband connections for commercial carriers and government and institutional users alike. Additionally, a last-mile 4G LTE wireless network will provide mobile and fixed broadband access for residents, businesses, and government customers. The wireless network component of the project will enable a variety of vital education broadband services currently inaccessible to many students residing out of reach of any current broadband provider.

The wireless network also offers a highly functional and secure data network solution to support law enforcement, fire protection, and other emergency care providers. This greatly expands the ability of the tribal public safety and communications departments to provide enhanced 911 services.

The proposed system will be an open network and would lease dark fibers or bandwidth to interested parties. NTUA and Commnet Wireless are committed to nondiscrimination, interconnection with other providers, and network openness, with respect to both the middle-mile and last-mile portions of this proposal. For example, NTUA will assure that tower access and space as well as bandwidth capacity is available to other competing broadband and/or wireless providers. Finally, in no event shall interconnection result in a BIP-funded facility being used for ineligible purposes under the ARRA.

The type of broadband system that will be deployed is a combination of fiber optics, mobile wireless (LTE network), and fixed wireless (Fixed Point to Point Licensed Microwave communications standard) with the availability to support other wireless technologies such as WiMAX, WiFi and others. For bandwidth purchase from Tier 1 providers, NTUA will lease 4 dark fibers from Public Service of New Mexico (PNM) to gain access to a POP in Albuquerque. In exchange PNM will lease 4 fibers from Farmington to Yah-ta-Hey, NM.

This project combines strengths of NTUA as an experienced utility operator and Commnet as a national wireless carrier specializing in rural markets, with the proven commercial experience, as well as 700 MHz spectrum. This partnership is prepared to support a 550 mile fiber backbone and 72% coverage of Wireless Broadband to the Navajo Nation residences, which has a combined project cost of \$46,000,000.

NTUA has the utility infrastructure, construction crews, technical skills and business systems in place to manage and sustain large broadband services for the Navajo Nation.





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Commnet Wireless is a major wireless roaming provider in rural America and currently supports both GSM and CDMA wireless data platforms. In addition, Commnet Wireless is affiliated with Choice Communications via its parent company, Atlantic Tele-Network, which is the largest internet provider in the Virgin Islands.

The overall infrastructure costs including the following:

Construction of a 550 mile fiber optic backbone ring	\$ 21,699,554.40
Electronics	\$ 1,805,250.11
Construction of towers	\$ 14,228,847.32
Network Operating Center /Data Center	\$ 1,150,000.00
Wireless Equipment (Access Points)	\$ 3,998,500.00
Project Management/Engineering	\$ 3,103,658.22
<b>TOTAL</b>	<b>\$ 45,985,810.05</b>

The five-year forecast for projected broadband subscribers for wireless fixed and mobile services is 13,418, of which 8,051 are residential. This modest assessment was based on comparing wireless propagation modeled coverage to the most current demographics for an assessment of potential customer locations passed. More detailed annual projections were constructed based on an assessment of the project schedule and network phasing.

The estimated immediate number of full time jobs to be created or saved as a result of this project is estimated at 20-30 high paying jobs. This includes an increase in network and microwave technical support within NTUA as well as positions dedicated to the NOC and wireless switching facility. While this might seem to be a small number, the project will open the doors to economic development spurring economic growth on the Navajo Nation in telecom applications and services creating additional jobs.

**Description of BTOP Project Purpose (BTOP Applicants Only Next Three Questions)**

**9. BTOP Statutory Purpose:**



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Provide improved access to broadband service to consumers residing in “underserved” areas of the United States.
Improve access to, and use of, broadband service by public safety agencies.
Stimulate the demand for broadband, economic growth, and job creation.

**10. Description of BTOP Project Purpose:**

The Navajo Nation faces considerable challenges with regards to the availability of telecommunications services. Given the absence of broadband capacity, few carriers have ventured to serve the voice and data connectivity needs of the Navajo Nations and mass-market community, providing spotty service coverage at best. It is estimated that 60% of households on the Navajo Nation do not have telecom services. The residents of the Navajo Nation have fallen behind the rest of the country due to the lack of a viable telecommunications infrastructure. The purpose of NTUA/Commnet BTOP Project is to alleviate the lack of affordable high speed internet services available on the Navajo Nation with the explicit intent to create sustainable economic development thru e-commerce.

The proposed project will create broadband infrastructure by NTUA and last mile wireless services provided by Commnet to residents and businesses. In addition, NTUA will provide high speed fiber optic connectivity to government agencies such as:

- Public Safety Agencies (First Responders including Police, Fire, etc.)
- Medical and Health Care Providers
- School Districts and Community Colleges
- Libraries
- Chapters & Community Outreach Organizations

NTUA BTOP Project seeks to eliminate the digital divide via the design and construction of a fiber optic backbone with a microwave backup and interconnection at a point of presence (POP) in Albuquerque, New Mexico. In addition the backbone will provide affordable bandwidth for the last mile portion of the project.

NTUA is proposing to swap fibers with the Public Service Commission of New Mexico (PNM) to gain access to the POP in Albuquerque. The goal is for NTUA to lease dark fibers and



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bandwidth and have Commnet and Sacred Winds provide last mile fixed and mobile wireless services, including last-mile services to the government agencies outlined above. In the Realm of Education, children are our most valuable assets. This proposed network will insure our children will be equipped to meet the challenges of the twenty first century and beyond. The affordable broadband availability will help them with the necessary tools to not only compete but to excel in a highly competitive global market.

Regarding Unemployment, NTUA will use existing relationships with Economic Development Agencies to stimulate marketing and take a proactive approach in soliciting new businesses by promoting incentives such as fiber optic connections and affordable bandwidth. The construction of the fiber optic / wireless system, including the facilities required to house the electronics equipment will also lead to job creation. NTUA has already taken a proactive approach by training its electrical line staff on fiber optic deployment and practices which will greatly reduce the time to complete the project.

Bandwidth is the prerequisite for any significant economic growth on the Navajo Nation. Recent studies conducted by Michigan State University's professor of telecommunications, Robert LaRose, states "that when offered high-speed Internet, those living in rural communities tended to take advantage." Professor LaRose, in the technical research report (Supported by the U.S. Department of Agriculture) also claims, "Information technology may help rural areas make the transition to an information-based economy and so reverse the decline in non-metropolitan employment." In addition, according to the research, "high-speed access through public schools and libraries increased dramatically," LaRose states "Home broadband users were more likely than others to plan to take continuing education courses or start new businesses online."

"As America attempts to dig itself out of an economic slump and retool its work force, broadband Internet connections have an important role to play since access to online courses is a leading reason to have high-speed Internet access," said Sharon Strover, a University of Texas researcher who collaborated on the Dept. of Agriculture study.

Finally, this proposal will provide an enormous benefit to public safety on Navajo lands. There is a dire need for public safety access to mobile broadband, to allow officers in vehicles real-time access to law enforcement data bases, without having to drive back to their station offices.



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Public safety officers in metro areas already have such capability; given the enormous distances which Navajo Police must patrol, their need for mobile broadband access is even greater than that of their urban counterparts. Shiprock and the U.S. Rte. 491 corridor in particular have been targeted to receive mobile last-mile coverage from Commnet as part of this application, in order to meet this requirement. That is part of the reason why the Navajo Police have provided NTUA/Commnet with the support letter attached to this funding application.

**11. BTOP Enhanced Services for Health Care Delivery, Education, and Children:**

The Navajo Nation’s Broadband initiative reaches the very heart of the problems the health care and education facilities in rural America are facing. The major problem is lack of available bandwidth. The BTOP project will solve the bandwidth issue with the installation of a middle mile fiber optic backbone and a last mile wireless solution.

The proposed network will supply agencies such as the Navajo Area Indian Health Service (“NAIHS”) and Tuba City Regional Health Care Corporation (TCRHCC) with adequate bandwidth to implement Tele-medicine applications. Tele-medicine technology will enable: NAIHS, the Navajo government public health agency, to use laptops over a secure VPN to allow remote entry of Personal Health information directly from remote residences to the NAIHS; and TCRHCC to deliver clinical diagnosis, services and patient consultation to the nation’s residents using broadband technology. Applications can be real-time or store-and-forward.

TCRHCC, for example, has a service area of 3,572 miles with an estimated 3.3 persons/square mile plus a poverty rate of approximately 35.3%. The unemployment rate is a staggering 56% and the area has been designated as “Medically Underserved (MUA)”. The TCRHCC serves over 28,000 people. And TCRHCC is only one portion of the NAIHS jurisdiction.

TCRHCC has a need for fiber connectivity to provide a minimum of 100Mbps of bandwidth to support Tier 1 hospitals for support, redundancy and disaster recovery. The need for redundancy and disaster recovery will enable the TCRHCC to maintain a backup of their microwave connection to the Flagstaff clinic and support the Radiology/PACS connections. Workforce development / jobs: There is a severe shortage of medical staff, particularly nurses, in rural hospitals. One way to address that problem is to equip local healthcare facilities with advanced telecommunications services such as video conferencing and in partnership with



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educational institutions train more people for local jobs. Training is vital, and becoming more and more important.

Quality of life Issue: Use of tele-medicine can have a significant impact on individual health care and impacts longevity. The value to the economy of improvements in life expectancy is about as large as the value of all other consumption goods and services put together.

Patients Perspective: Access to quality health care in underserved areas is one of the most important aspects of life. Travel times for patients and doctors could be significantly reduced as well as research time and "paper handling" of medical records.

There is no doubt that e-health is going to totally transform the national health care systems and that society will need time to make the adjustment.

Support letters from NAIHS and TCRHCC are attached to this application.

## **D. Proposed Funded Service Area**

### **12. Proposed Funded Service Area Maps:**

**12-A.** Service Area Map (Reference Number): **A170-0C5D-4B4F-9172**

**12-B.** Is the applicant is seeking a waiver for providing less than 100% coverage of a census block. **Yes**

### **13. Proposed Funded Service Area (BIP - Last Mile Projects):**

Please refer to section M at the end of document.

### **14. Proposed Funded Service Area (BTOP - Middle Mile Project):**

Please refer to section M at the end of document.

### **15. Non-Funded Service Area( BIP Only):**

Not Applicable

### **16. Coverage Waiver:**

Applicant is seeking a waiver for providing less than 100% coverage of a census block.

**Yes**

For Response of "Yes" please refer to upload section for additional supporting documentation.



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**17. Methodology for Area Status:**

Assessment of Unserved and Underserved Households:

Attempts to obtain accurate mapping of broadband DSL availability within the Frontier service area proved unsuccessful. As an alternative method for assessing unserved versus underserved, a basic analysis of 2000 Census population and household was conducted at the block and CDP level in order to determine household density and distribution patterns. It was determined that more than 20% of all households resided within designated CDP areas fall within the proposed NTUA Rural Broadband Service Area.

Unserved:

The identified CDP areas were evaluated with respect to a broadband study provided by the Navajo Nation Telecommunications Regulatory Commission for all Internet access at Navajo Chapters (see attachment), in order to determine if DSL service was available in these CDP areas. Based on this comparison, it was determined that the identified CDP areas closely approximated the reach of Frontier DSL from its local DSLAM facilities. In the final analysis it was concluded that more than 10% of the households within the proposed NTUA Broadband Service Area may currently have access to DSL and, therefore, the proposed NTUA Broadband Service Area would not qualify as unserved.

Underserved:

According to the 2000 US Census, the Navajo Nation had only a 39% telephone penetration. Although this penetration has increased, it is doubtful that sufficient landlines exist today in order to render more than 40% DSL penetration. In order to clarify the broadband penetration for the Service Area, a formal information request was submitted to the office of the Navajo Nation Telecommunications Regulatory Commission. A letter stating that less than 40% of households have broadband service, including Frontier DSL, within the proposed Service Area is attached.

**18. Middle Mile Benefits**

Legend

CDP = Census Designated Place (usually central area within Chapter)





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CHP = Chapter House

Chapter		CDPCDP_Pop	Chp_Pop	Chp_HH
Shiprock Chapter	Yes	2,184	9,279	2,489
Tuba City Chapter	Yes	2,036	8,736	2,170
Chinle Chapter	Yes	1,358	8,756	2,188
Kayenta Chapter	Yes	1,245	6,315	1,618
Fort Definance Chapter	Yes	1,115	5,754	1,576
Many Farms Chapter	Yes	433	2,773	765
Ganado Chapter	Yes	422	3,030	858
St. Michael's Chapter	Yes	306	6,147	1,661
Dilcon Chapter	Yes	298	2,206	554
Pinon Chapter	Yes	296	3,066	741
Tsaile-Wheatfields Chp.	Yes	244	2,044	513
Dennehotso Chapter	Yes	168	1,626	410
Rock Point Chapter	Yes	168	1,367	347
Aneth Chapter	Yes	143	2,286	563
Tonalea Chapter	Yes	123	2,537	619
Rough Rock Chapter	Yes	113	919	232
Bodaway Chapter	No		1,837	467
Shonto Chapter	No		2,419	644
Red Lake Chapter	No		2,412	564
Indian Wells Chapter	No		970	257
Lukachukai Chapter	No		2,012	545
Cameron Chapter	No		1,231	311
Kaibeto Chapter	No		1,970	431
Oljato Chapter	No		2,292	562
Sanostee Chapter	No		1,908	559
Lechee Chapter	No		1,890	409
Two Grey Hills Chapter	No		1,838	559
Torreon Chapter	No		1,818	445
Red Valley Chapter	No		1,742	518
Naschitti Chapter	No		1,695	480



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Navajo Mountain	No	632	187
Steamboat Chapter	No	1,668	447
Leupp Chapter	No	1,605	419
Houck Chapter	No	1,529	449
Whippoorwill Chapter	No	1,457	343
Nahatadziil Chapter	No	1,452	359
Tachee Chapter	No	1,443	429
Sweetwater Chapter	No	1,413	406
Greasewood Chapter	No	1,408	347
Kinlichee Chapter	No	1,404	392
White Cone Chapter	No	1,383	349
Tselani Chapter	No	1,351	414
Chilchinbeto Chapter	No	1,325	333
Teec Nos Pos Chapter	No	1,323	391
Jeddito Chapter	No	1,299	356
Round Rock Chapter	No	1,292	338
Hard Rock Chapter	No	1,256	331
Wide Ruins Chapter	No	1,225	350
Inscription H. Chapter	No	1,214	321
Nazlini Chapter	No	1,151	336
Red Mesa Chapter	No	1,138	291
Klagetoh Chapter	No	1,037	300
Lupton Chapter	No	1,000	286
Teesto Chapter	No	934	243
Low Mountain Chapter	No	923	229
Sawmill Chapter	No	914	257
Cornfields Chapter	No	830	233
Bird Springs Chapter	No	829	200
Sheep Springs Chapter	No	821	226
Beclabito Chapter	No	819	243
Mexican Water Chapter	No	815	218
Crystal Chapter	No	778	232
Tolani Lake Chapter	No	755	196
Coppermine Chapter	No	673	168





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Oak Springs Chapter	No	613	172
Forest Lake Chapter	No	573	174
Black Mesa Chapter	No	398	126
Coalmine Mesa Chapter	No	374	121

## E. Proposed Service Offering

### 19. Broadband Service Offerings for Last Mile Project:

Please refer to upload section at the end of the document.

### 20. Service Offerings for Middle Mile Project:

Please refer to upload section at the end of the document.

## Competing Service Providers

### 21. Existing Broadband Service Providers and Services Offered:

Please refer to upload section at the end of the document.

## Non-Discrimination, Interconnection

### 22. Description of Network Openness:

NTUA/Commnet commit to nondiscrimination, interconnection with other providers, and network openness, with respect to both the middle-mile and last-mile portions of this proposal. Without limiting the foregoing, NTUA/Commnet hereby commit to: (i) adhere to the principles contained in the FCC's Internet Policy Statement (FCC 05-151, released August 5, 2005; 2005 FCC Lexis 4494); (ii) not favor any lawful Internet applications and content over others; (iii) display any network management policies in a prominent location on the service provider's web page and provide notice to customers of changes in these policies; (iv) connect to the public Internet directly or indirectly, such that this proposal is not an entirely closed private network; and (v) offer interconnection, where technically feasible without exceeding current or reasonably anticipated capacity limitations, on reasonable rates and terms to be negotiated with requesting parties. However, in no event shall interconnection result in a BIP-funded facility being used for ineligible purposes under the ARRA.



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All of the foregoing commitments are subject to (a) the needs of law enforcement; and (b) reasonable network management. Where, for example, a particular activity threatens to disrupt or preclude the provision of acceptable service levels to all customers, NTUA/Commnet reserves the right to take necessary action to protect the right of customers to acceptable service levels, including by way of example such measures as caching and application-neutral bandwidth allocation. In addition, NTUA/Commnet reserve the right to take reasonable measures to address such problems as spam, denial-of-service attacks or illegal content.

NTUA/Commnet also intend to offer private network connections which would act as virtual private networks, and which would not traverse or be accessible from the public Internet. In this regard, the NTUA/Commnet proposal is intended to provide adequate capacity to enable hospitals, medical centers and public safety to have their own virtual private networks when they so require, either for compliance with HIPPA or other public policy reasons.

Technical practices that NTUA/Commnet intend to employ for retail last-mile services may include, by way of example, lowering the priority in the routing of packets to prevent service deterioration to neighboring retail subscribers at busy hours, where a particular retail customer is making heavy use of the network over an extended period. The FCC has found network management practice lawful. See, e.g., Letter to Kathryn A. Zachem, released January 18, 2009 (FCC Wireline Competition Bureau & General Counsel) (approving described network management technique but questioning legality of other techniques employed by Comcast Cable, which other techniques will not be employed by NTUA/Commnet). NTUA/Commnet also intends, as a business practice, to monitor customer complaints about access by children to pornographic or other illegal sites, and to move quickly to block or limit access to such sites.

NTUA/Commnet commits to negotiate interconnection arrangements in good faith with those who request it, either for the middle-mile or the last-mile. However, NTUA/Commnet reserves the right to differentiate among wholesale customers on the basis of such items as volume, guaranteed minimum volumes, length of purchase commitment, creditworthiness (for example, with respect to security deposit requirements) or other usual and customary bases for differentiating in interconnection arrangements. NTUA/Commnet agree to arbitrate those disputes which cannot be resolved through good faith negotiations.



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**Non-Discrimination and Interconnection (BTOP applicants only for next three questions)**

**23. Non-Discrimination Obligations (applicable to Last Mile and Middle Mile Applicants):**

Adhere to the minimum non-discrimination requirements as set forth in the NOFA.
Display the nondiscrimination practices in a prominent location on the service provider's web page, and provide notice to customers of changes to these policies.

**24. Interconnection Obligations (applicable to Last Mile Applicants):**

Adhere to the minimum interconnection requirements as set forth in the NOFA.
Display the interconnection policies in a prominent location on the service provider's web page, and provide notice to customers of changes to these policies.
Commit to offering wholesale access to the project facilities at reasonable rates and terms.
Commit to binding private arbitration of disputes concerning interconnection obligations.



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**25. Interconnection Obligations Middle Mile Applicants:**

Adhere to the minimum interconnection requirements as set forth in the NOFA.
Display the interconnection policies in a prominent location on the service provider's web page, and provide notice to customers of changes to these policies.
Commit to offering wholesale access to network components and services such as wavelength or fibers at reasonable rates and terms.
Commit to binding private arbitration of disputes concerning interconnection obligations.

**Cost Effectiveness and Affordability**

**26. Cost per Household (BTOP only):**  
COST PER HOUSEHOLD

The wireless broadband network will provide coverage to an estimated 28,440 households throughout most of the Navajo Nation. Based on a total wireless network broadband cost of \$8,071,922.20, the average cost per household is approximately \$284. This average household cost also takes into consideration the cost of the Customer Premise Equipment (CPE).

Last Mile Project Cost	\$8,071,922.20 dollars
Households Served	28,440 households
Cost per Household	\$284 dollars

**27. Affordability**

NTUA /Commnet proposes a \$27.95 monthly subscription cost for residential wireless broadband service (i.e., at least 768 kbps down & at least 200 kbps up, which will be affordable to thousands of Navajo households that presently lack internet access of any type. (Premium service, i.e., at least 2MB each direction, will be available for \$49.95/mo.)



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Currently, residential Frontier DSL service is \$49 per month, is equivalent only to the NTUA/Commnet basic service, and is available only to certain relatively more densely populated areas on the Navajo Nation.

The limited nature of the current offerings is due to limited range of DSLAM facilities and low telephone penetration, which is probably lowest in the US. (According to the US Census 2000, telephone penetration was 39.9%.)

## F. Technology Strategy

### 28. Technology Type:

Wireline - Fiber-optic Cable
Wireless - Terrestrial Fixed
Wireless - Terrestrial Mobile

**Other:**

### 29. System Design

The Navajo Nation Middle/Last Mile Project: Quality Broadband for the Navajo People is to install 96 strands of All Dielectric Self Supporting (ADSS) aerial fiber optic on NTUA's 69 KV Transmission line from a network Point of Presence (POP) in Farmington, New Mexico to NTUA's Shiprock District office located in Shiprock, New Mexico. At Shiprock the proposed fiber optic cable continues south on NTUA's 3-phase 25 KV distribution line from NTUA's Shiprock District office to a network POP located in Yah-ta-hey, New Mexico. This is labeled as phase I of the proposed project and covers the area from Farmington to Yah-ta-hey and the estimated length of the fiber build out is 117 miles.

Phase 2 of the project covers the area from Tohatchi, NM to Tsaile, AZ. The project involves installing 96 strands of ADSS aerial fiber optic cable on NTUA's 69 KV transmission line from



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Tohatchi, NM to NTUA's Coalmine substation near Window Rock, AZ. Then continue on NTUA's 115 KV line from NTUA's Coalmine substation to NTUA's Burnside substation near Burnside AZ. The aerial fiber will continue forward on NTUA's 69KV transmission line up to Many Farms substation in Many Farms, AZ, then loop around to the community of Tsaile, AZ. The estimated length of the fiber build out is 161 miles this connection will also tie into NTUA's existing microwave OC-3 backbone. This Phase will bring broadband to essential public health, education and governmental services in the Window Rock, AZ area and central region of the Navajo Nation.

Phase 3 of the project covers the area from Chinle, AZ to Kayenta, AZ. The project is to install 96 strands of ADSS aerial fiber optic cable on NTUA's 3-phase distribution line from Chinle's District Office located in Chinle, AZ to NTUA's substation near Forest Lake, AZ. Then continue and install 96 strands of ADSS aerial fiber optical cable on NTUA's 69 KV line from NTUA's Forest Lake substation to NTUA's Kayenta District Office in Kayenta, AZ. The estimated length of the fiber build out is 98 miles. This connection will also tie into NTUA's existing microwave OC-3 backbone. This Phase 3 will bring broadband into the north central region of the Navajo Nation.

Phase 4 of the proposed project covers the southern portion of the NTUA service area. The project involves installing 96 strands of ADSS aerial fiber optic cable on NTUA's single phase primary distribution line starting at the Rock Point-Burnside Substation. Heading south, the fiber optic cable connects the Cornfield's Substation, Sunrise Trading Post, Lower Greasewood Substation, and the Indian Wells Substation. The fiber optic cable then heads west through Dilkon, AZ and ends at the community of Bird Springs, AZ. The total length of Phase 4 is approximately 69 miles. This connection will also tie into NTUA's existing microwave OC-3 backbone. This Phase 4 will provide the southern region of the Navajo Nation from Ganado to Bird Springs with fiber optic connectivity.

Phase 5 of the proposed project covers the areas southwest of Kayenta AZ. Starting at the Kayenta Town Substation and heading southwest, the plan is to install 96 strands of ADSS aerial fiber optic cable on NTUA's 3-phase distribution line from Kayenta to a substation south of Redlake, AZ. The fiber optic cable connects the NTUA Tsegi Substation, Black Mesa, Long House Valley, and the communities of Cow Springs, AZ and Red Lake, AZ. At the NTUA Tsegi substation, the fiber optic cable heads southwest on the Single Phase Primary overhead



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distribution lines to the community of Coal Mine, AZ. The estimated length of Phase 5 is approximately 85 miles. This connection will also tie into NTUA's existing microwave OC-3 backbone. The connection will provide the western region of the Navajo Nation with fiber optic connectivity.

At Farmington, NM it is proposed to do a fiber swap with Public Service of New Mexico (PNM). PNM will lease to NTUA 4 dark fibers from Farmington, NM to Albuquerque, NM and NTUA will lease to PNM 4 dark fibers from Farmington to Yah-ta-Hey. This option will give NTUA excess to a POP in Albuquerque, NM. PNM will maintain the dark fibers and electronics and NTUA will do the same on their side.

The proposed fiber backbone will have signal regeneration sites and initially will be a Gigabit network expandable to 10 Gigabits in the future as the need arises. The fiber optic backbone will connect NTUA's substations and will also be tied to an existing Microwave. In addition the fiber optic network will also connect proposed towers as shown on maps. These towers will have microwave, fixed and mobile wireless antennas where it is not cost effective to build a fiber optic link.

#### Microwave Backbone Component

In addition to the fiber main backbone, a Fixed Point to Point Licensed Microwave Backbone will be upgrade and expanded to support additional access points where the fiber will not be feasible to implement and to provide redundancy and backup network connectivity. Currently, NTUA has a ring of OC3/DS3 TDM and IP based backbone, shown as blue lines in the network diagram. The existing backbone will be upgraded and expanded with new high capacity IP links.

Supplementary Upload 2 contains as one of its maps the existing and the proposed (new) links that will complement the Fiber Optics network. The Microwave network will operate in licensed spectrum as defined by the FCC, using the frequency bands of 6 GHz, 11 GHz, 18 GHz and 23 GHz based on path reliability and capacity requirements; 14 links will operate in the 6 GHz band, 33 in the 11 GHz band, 2 in the 18 GHz band and 3 in the 23 GHz band. The microwave network will be used to bring back all access points in remote locations back to the main fiber backbone. The network will have 52 links, out of those, 2 links are existing links that will support the capacity required, 40 links will be new links to be implemented and 10 existing links will be upgraded to support the IP and capacity requirements for the new





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network.

#### Last Mile Component

Mobile broadband access shall be provided via a wireless 4G Long Term Evolution LTE network, which allows data transfer rates to and from mobile devices between 15 and 100 times faster than 3G networks. LTE provides downlink peak rates of at least 100Mbps, 50 Mbps in the uplink and RAN (Radio Access Network) round-trip times of less than 10 ms. LTE supports flexible carrier bandwidths, from 1.4 MHz up to 20 MHz as well as both FDD (Frequency Division Duplexing) and TDD (Time Division Duplex).

The NTUA network shall be deployed on licensed 700 MHz spectrum, which offers maximum radio propagation allowing in-building penetration of man-made structures and minimum attenuation due to vegetation and trees. LTE devices will access real time high speed data and enhanced voice applications. Supplementary Upload 2 contains an illustration of the projected service area for the LTE network in relation to the backbone, which will provide high capacity backhaul for the LTE enodeBs.

The LTE network will be deployed at 40 locations (eNodeB) in order to support stationary and mobile data applications for residential, business, and government/institutional customers. Broadband access will be accessible with either an indoor or outdoor CPE, 4G-enabled laptop/netbook, smart phone, or other 4G device.

The 4G LTE network represents the latest and most advanced wireless technology available; commercial trials have shown an excellent performance and the most promising future for mobile and fixed broadband delivery. LTE has been adopted as the next generation technology of choice by major wireless providers in USA, such as Verizon Wireless, Vodafone, the largest wireless provider worldwide, AT&T, and T-Mobile.





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**30. Network Diagram:**

Please refer to upload section at the end of document.

**31. Certification by Professional Engineer:**

Please refer to upload section at the end of document.

**32. Buy American Waiver Request:**

Is the applicant seeking an individual waiver of the Buy American provision? **No**

**Buy American Waiver Request – Legal Justification**

Not Applicable

**33. Choice of Service Provider:**

Does the project’s Infrastructure and the Company’s business plan allow more than one provider to serve end users in the proposed funded service area?

**Yes**

## G. Project Milestones and Completion Factors

### Timeline & Milestones

**34. Infrastructure Build-out Timeline:**

Please refer to upload section at the end of the document.

**35. Licenses, Regulatory Approvals and Agreements:**

All of the middle mile and last mile infrastructure to be constructed under the joint NTUA/Commnet application (“the Project”) is on Navajo Nation land. NTUA is an instrumentality of the Navajo Nation. NTUA and Commnet are working with the Navajo Nation government and with BIA, NTIA & RUS to streamline all approvals in accordance with applicable Navajo Nation and federal law. The Navajo Nation does not need federal permission



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to use its own lands. Both Commnet and NTUA are on the August, 2009 agenda of the monthly meeting of the Navajo Nation Telecommunications Regulatory Commission, for its approval of the Project.

All middle mile fiber to be constructed for the Project will be aerial fiber attached to existing utility (power) infrastructure in existing NTUA utility corridors. 59 towers are contemplated, of which 17 are existing. 42 would be new towers, including 6 to replace existing towers. NTUA has identified these sites and construction can begin on these sites in early 2010. If necessary to meeting requisite timelines, Commnet and the Navajo Nation may execute an agreement with the Navajo Nation for custody, control and use rights for last mile infrastructure for the Project to remain with the Navajo Nation government until required federal co-location permits are granted to Commnet.

Commnet holds licenses for 700 MHz-band spectrum through its identically-owned affiliate, SAL Spectrum, LLC, under FCC call signs WQJQ809 & WQJQ810. (Commnet & SAL are both 100%-owned subsidiaries of Atlantic Tele-Network, a NASDAQ national company with telecom operations in various countries throughout the hemisphere. No FCC approval is needed for one subsidiary to use another's license.) Those FCC licenses cover all of the proposed last-mile service area, except the portion in western San Juan County, New Mexico. In San Juan County, Commnet already holds 30 MHz of PCS spectrum pursuant to a spectrum lease from AT&T Mobility, FCC Lease No. L000005383, which can be utilized. (Copies of those licenses and the lease are attached to this application.)

However, as a practical matter, if this funding application is granted, Commnet intends to lease AT&T's 700 MHz spectrum in this part of San Juan County, NM from AT&T. AT&T is licensed to operate in the 700 MHz band under call sign WQJU614. Commnet routinely leases spectrum from AT&T in remote and rural areas which AT&T does not desire to build itself. However, already having 30 MHz of spectrum in this rural area, Commnet does not desire to enter into an additional spectrum lease agreement for the same area at 700 MHz unless and until this funding application is granted.

The table below shows that such rural spectrum leasing is common between Commnet and AT&T:  
AT&T Station FCC Lease ID



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WPOJ752      L000005383  
KNLF278      L000005659  
WPOK642      L000002412  
KNLG421      L000002413  
KNLG459      L000002497  
KNLG564      L000002498  
KNLG714      L000002499  
KNLH459      L000002500  
WQDU933      L000002501  
KNLG564      L000002506  
KNLF291      L000004110  
KNLG402  
KNLG411  
KNLG534  
KNLG554  
KNLH208  
KNLH384  
KNLH386  
WPOJ700  
WPQY417  
WPTI719      Pending application  
(File No.: 0003878817)

Attorneys for NTUA and the Navajo Nation Department of Justice have finalized terms for NTUA ownership and operation of the middle mile infrastructure of the project, agreed that the middle mile infrastructure will have open-access “common carrier” status, and specified terms for the transfer of custody, control and use rights for said infrastructure from the Navajo Nation government to NTUA upon approval of requisite federal ROWs to be granted to NTUA. This agreement has been executed by the General Manager for NTUA and is beginning administrative review by the Navajo Nation government for final execution by the Navajo Nation president.

**36. Construction and Vendor Contracts**

NTUA/Commnet have price quotes from: OFS, for fiber-optic cable and associated hardware; Hitachi, for middle-mile electronics, signal generators and routers; and ZTE Corp.,



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for 4G LTE wireless broadband infrastructure and customer premises equipment, as well as cabinets for housing base station last-mile electronics. All of these price quotes can be provided during Step Two of the application process. These quotes formed the basis of their business plan and pro formas.

If this application is funded, NTUA intends to request proposals for tower construction, to the extent it does not perform that function in-house. Either way, all construction of towers or coaxial cable shall comply with Buy America regulations to the extent those regulations apply.

**Qualification of Management Team and Organizational Readiness**

**37. Management Team Resumes:**

Please refer to upload section at the end of the document.

**38. Organizational Readiness:**

Navajo Tribal Utility Authority (NTUA) was established in 1959 by the Navajo Nation Council to provide utility services to the Navajo Nation and the Navajo People. Its stated mission is: "To provide electric, natural gas, water, wastewater treatment and related services at competitive prices, while contributing to the economy of the Navajo Nation, consistent with the improvement of the health and wealth of the residents of the Navajo Nation, and the employment of the Navajo people."

The Navajo Tribal Council selects the 7 members of the NTUA Mgmt. Bd., who oversee NTUA operations. The Management Team consists of: Walter Haase; GM, Rex Kontz; Deputy GM, five Division Managers, six District Managers, and two Construction Managers. NTUA has the most reliable microwave infrastructure on the Navajo Nation. NTUA owns, operates and maintains data center facilities, Wide Area Networks, Local Area Networks, business systems and telephone networks to support its utility services.

- NTUA operates a large electric utility infrastructure to which fiber optic cables can be attached, accommodating large-scale bandwidth access across the Navajo Reservation.
- NTUA has in-house resources, technical skills and knowledge to sustain long term telecom initiatives.



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- NTUA has in-house construction crews trained in fiber construction, operation, maintenance, splicing and fiber testing.
- NTUA has SAP business and accounting systems in place to manage the accounting of funds contributed and a qualified accounting staff. NTUA is audited each year by outside, independent auditors.
- NTUA has received grant funding from: U.S. Dep’t of Energy, RUS, National Rural Utilities Cooperative Finance Corp., Indian Health Services and Bureau of Indian Affairs, and has consistently followed through on its grant obligations.
- NTUA has all necessary resources to support broadband, including 8 district sales, distribution, and customer service centers.
- NTUA has Commnet Wireless as its last-mile partner, and to provide toll-free customer and technical support. Commnet will put the proposed data center in the Navajo Nation.

Commnet Wireless is one of the largest rural wireless telecom carriers in the US, with extensive mobile voice/data operations throughout the Four Corners area. Commnet companies operate hundreds of wireless cell sites in rural areas, generating revenues in excess of a hundred million dollars per year. Commnet has in-house wireless technicians, engineers, site selection, wireless system design, intercarrier relations, and customer support staff. Commnet is a wholly-owned subsidiary of Atlantic Tele-Network, a U.S. public company whose stock is traded on NASDAQ, and which operates telecom systems around the hemisphere.

Commnet already provides wireless voice/data service in parts of the Navajo Nation, and holds sufficient FCC spectrum authorizations to construct and operate the proposed wireless last-mile portion of this funding application proposal. Commnet has arranged with ZTE Corp., one of the world’s largest wireless infrastructure manufacturers, to establish its 1st operational 4th generation (“4G”) wireless broadband system in the Navajo Nation, as a demonstration of the product’s capabilities to other US carriers. This pilot system will begin operating by November, 2009, and, if this funding application is granted, those pilot facilities will remain in place and become the foundation for the rest of the proposed last-mile infrastructure facilities. Thus, if this proposal is funded, the Navajo Nation stands to receive 4G broadband-speed wireless service in the same time frame as in New York, Los Angeles and the other major metro areas of the country! ZTE, located in Shenzhen, in the heart of China’s “Silicon Valley”, is ready and able to manufacture and deliver the product to meet the NTUA/Commnet



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proposed time lines.

Commnet will create and fund a new subsidiary to fulfill this proposal, to facilitate government audits.

**Other**

**39. Organizational Chart:**

Please refer to upload section at the end of document.

**40. Legal Opinion:**

Please refer to upload section at the end of document

**41. Government and other Key Partnerships:**

The Navajo Nation, through the Office of the President and Vice-President, the Navajo Nation Telecommunications Regulatory Commission (NNTRC), and the “Broadband Workgroup” (made up of executive agency representatives), has been a key partner in facilitating all aspects of the Project, including lending governmental support and developing policy for broadband infrastructure on the Navajo Nation, planning of the Project, fostering public and private relationships with telecommunications companies, other Indian tribes, and state and local governments, and in addressing environmental compliance and federal rights-of-way issues.

**42. Recovery Act and Other Governmental Collaboration.**

USDA AIM system (state of Arizona) - \$2,934,663 Automated WIC system upgrade

The USDA Western Region has approved the implementation system upgrade to the Microsoft .NET Platform to extend automated services to rural areas. Extending broadband internet to the Chapter houses would allow the Navajo WIC program to register and update client profiles at these locations. Presently Clients must travel to one 9 Navajo WIC services centers.

I.H.S. IT health systems. - \$490,000 purchase of Teleconference equipment for I.H.S. & Navajo Nation Health Sites.



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HHS/IHS Navajo Area requested a data call for potential sites for Polycom teleconference equipment. In the data call IHS specified that site must have at least T1 connection. The broadband project would enable all Navajo Nation Health site locations utilize the video conference equipment.

Public Safety Information Technology - \$1,927,866 Improvements

Navajo Nation Public Safety Wireless Network (PSWN) Program has been currently providing database services for Police. The broadband project will enhance the coverage area to which the PSWN can be accessed. Currently PSWN must be accessed by locating a "Hot Spot."

Navajo Transit (ADOT,NMDOT,UDOT) - \$9,000,000 New Coaches with Internet

Navajo Transit via ADOT, NMDOT, and UDOT is purchasing new Coaches with the desire to provide Broadband internet for the riders.

The 4G network would provide Mobile internet with needed bandwidth suit the needs of coach riders.

**Community Involvement (BTOP Applicants Only)**

**43. Partnering with Disadvantaged Businesses**

None

**H. Project Budget**

**44. General Overall Budget**





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Budget	Loan Request	Grant Request	Equity	Debt	Bond	Other
Network & Access Equipment (switching, routing, transport, access)	2,829,078	2,829,077	1,886,052			
Outside Plant (cables, conduits, ducts, poles, towers, repeaters, etc.)	10,647,114	10,647,114	7,098,077			
Buildings and Land – (new construction, improvements, renovations, lease)	924,000	924,000	616,000			
Customer Premise Equipment (modems, set-top boxes, inside wiring, etc.)	706,125	706,125	470,750			
Billing and Operational Support Systems (IT systems, software, etc.)	93,750	93,750	62,500			
Operating Equipment						





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(vehicles, office equipment, other)						
Engineering/ Professional Services (engineering design, project management, consulting, etc.)	1,650,112	1,650,112	1,100,074			
Testing (network elements, IT system elements, user devices, test generators, lab furnishings, servers/computers, etc.)						
Site Preparation	323,250	323,250	215,500			
Other	71,250	71,250	47,500			
<b>TOTAL BROADBAND SYSTEM</b>	<b>17,244,679</b>	<b>17,244,678</b>	<b>11,496,453</b>			



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**Total Budget:** \$ 45,985,810

**45. Detailed Budget:**

Please refer to upload section at the end of the document.

**Sustainability**

**46. Reasonableness**

The pro formas assume that the project will include the following CPE: 1,000 indoor modems; 2,000 outdoor modems and ancillary tx/rx equipment; 2,500 netbooks; and 4,000 aircards. These amounts are reasonable and necessary in order for wide broadband adoption to be a success in the initial years. While many Navajo Nation customers will have their own computer or other CPE, many will not, and will need to have their broadband CPE supplied by the carrier. This especially will be the case in the early years, due to the low income status of Navajo households, which is still less than 50% of all US households. (According the 2000 US Census the median household income of the Navajo Nation was \$20,005 vs. \$40,382 for all US households).

The Navajo tribal government is currently working to define broadband as an essential utility for its residents and businesses necessary for the advancement of education, health, public safety, and economic development. Building on this policy, NTUA/Commnet believes that the optimum business strategy is to have customers treat the broadband service as they would the electric utility service – an affordable monthly payment with no large upfront costs for equipment. This strategy is seen as more consistent and practical given the economic status of the Navajo Nation.



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**47. Historical Financial Statements:**

Please refer to upload section at the end of the document.

**48. Broadband Subscriber Estimates:**

Please refer to upload section at the end of the document.

**49. Other Services:**

Please refer to upload section at the end of the document.

**50. Pro Forma 5-Year Financial Forecast and Assumptions:**

Please refer to upload section at the end of the document.

**51. Commitment of Capital Funding Support**

The NTUA & Commnet have sufficient net liquid assets to internally fund the entire cash portion of this proposal. There will be no outside funding of the NTUA/Commnet cash portion.

NTUA is a cash-flow-positive electric utility.

Commnet is a profitable wireless carrier with operations across the US.

**BTOP Requirements**

**52. Matching Funds:**

- a. Cash: \$ 13,795,742.00
- b. In-Kind: \$ .00
- c. Percent of Total Project Cost: 30

**53. Demonstration of Financial Need:**

NTUA/Commnet

Description of Why the Last-Mile Project Would Not Be Implemented During the Grant Period but for ARRA Funding



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I. General

The proposed service area of this application covers tens of thousands of square miles, in a sparsely-populated, poverty-stricken rural area mainly populated by Native Americans. Over the past decade, the residents of this area have fallen further and further behind the rest of the country, and they now lie on the wrong side of the digital divide. As demonstrated in the response to application item 53 below, the instant application would not be economically feasible, or even close to it, without ARRA funding. Only the ARRA funding makes the project sustainable, and only ARRA funding enables the applicants to obtain any sort of return on the portion of the capital funding which they shall be supplying (30% in the case of the BTOP pro forma financial projections).

There is no possibility that a capital investment in broadband-speed infrastructure equipment could ever provide any return on investment whatsoever, if it had to be funded entirely in the private sector. Therefore, this application meets the “but for” test.

II. FCC License Construction Condition

NTUA/Commnet intend to use the existing FCC 700 MHz band license held by Commnet’s identically-owned affiliate, SAL Spectrum, LLC (“SAL”), call sign WQJQ809, for construction and operation of the portions of the last-mile component of this proposal which are within the states of Arizona and Utah. Commnet and SAL are both 100%-owned subsidiaries of Atlantic Tele-Network, Inc. (“ATNI”), a NASDAQ national corporation.

The SAL license for call sign WQJQ809 contains a condition requiring SAL, either directly or through an affiliate, to offer wireless service to at least 75% of the population of that portion of the Navajo Indian Country lying within Apache and Coconino Counties, Arizona, and San Juan County, Utah, by March 1, 2012. However, that obligation is only to offer some sort of wireless service, and can be lawfully satisfied by provision of other forms of wireless service, such as traditional voice service or low-speed data service (e.g., 256k downstream/56k upstream). Absent the grant of federal funding pursuant to ARRA, there is no chance that SAL/Commnet would construct a wireless system meeting the definition of “broadband”, as contained in the ARRA and the NOFA (i.e., at least 768 kbps downstream and at least 200 kbps upstream), much less the 2MB downstream & upstream proposal contained in this funding application. As discussed in Part I of this exhibit, and as shown in the response to item 53, infra, without ARRA funding, the instant proposal would not be sustainable and would go



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belly-up.

**54. Unjust Enrichment**

Not Applicable

**55. Disclosure of Federal and/or State Funding Sources**

Not Applicable

**I. Self Scoring – BIP Only Self Scoring**

**56. Self Scoring Sheet**



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Criteria	Method	Points	Self Scores
<b><u>PROJECT PURPOSE</u></b>			
Proportion of Rural Residents Served in Unserved Areas	1 point for every 10,000 unserved households	Up to 5	0
Rural Area Targeting	1 point for every 5% increase in the rural service area up the minimum 75% rural area requirement	Up to 5	5
Remote Area targeting	1 point for every 50 miles a service area is located from a non-rural area	Up to 5	0
Title II Borrower	If you are or were a Title II borrower	5	5
Recovery Act and other governmental collaboration	1 point will be awarded for each governmental or Recovery program the applicant is partnering with	Up to 5	5
<b><u>PROJECT BENEFITS</u></b>			
Performance of the offered services	If a last mile wireline project delivers 20M to household – if a last mile wireless projects delivers 2M to end-user – if a middle mile projects delivers 100M to end points	<b>10</b>	10
Affordable of services offered	Points awarded based on the proposed rate structure and the logistics of the proposed service area	Up to 5	5



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Choice of service provider	If the proposed infrastructure is available to be used by multiple service providers	5	5
Critical Community Facilities	If discounted rate packages at least 25% lower than advertise rates are available to critical facilities	5	5
<b><u>PROJECT VIABILITY</u></b>			
Applicant's organizational capability	Points will be awarded on the strengths and accomplishments of key management	Up to 12	12
Community Support	If a letter of support has been received from a designated representative of the community for every community in the proposed service territory	2	2
Ability to promptly start project	If the applicant can demonstrate that all licenses and regulatory approvals have been received, contractors and vendors are ready to enter into contracts, and equity has been deposited into applicant accounts	10	10
Socially and economically disadvantaged small businesses (SDB), as defined by section 8(a) of the Small Business Act, 15 U.S.C. §637.	If the applicant is a Section 8(a) entity	1	0
<b><u>PROJECT BUDGET AND SUSTAINABILITY</u></b>			
Reasonableness of the budget	Points will be awarded based the	Up to 5	5



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	adequacy of the proposed budget		
Leverage of outside resources (outside funding/financing requested)	(i) 10 points if this ratio is greater than 100% (ii) 7 points if this ratio is between 100% and 75% (iii) 5 points if this ratio is between 75% and 50% (iv) 3 points if this ratio is between 50% and 25% (v) 1 points if this ratio is lower than 25%	10	3
Extent of grant funding (Grant funds/loan funds)	(i) 0 points if this ratio equals 100% (ii) 1 points if this ratio is between 100% and 75% (iii) 3 points if this ratio is between 75% and 50% (iv) 5 points if this ratio is lower than 50% (v) 10 points if no grant funds are requested	10	3
<b>Total Points</b>		100	75





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## J. BTOP Certification Requirements

### Certification (Requested for BTOP)

Please refer to upload section at the end of the document regarding following uploads.

1. U.S. Department of Commerce, Broadband Technology Opportunities Program
2. SF-424D Assurances—Construction Programs (Schedule N)
3. CD-511, Certification Regarding Lobbying (Attachment O)
4. SF-LLL, Disclosure of Lobbying Activities (Attachment P)
5. CD-512, Certification Regarding Lobbying—Lower-Tier Covered Transactions (Attachment Q) This certification will not be required until the time of the grant award, because it applies to subcontractors, etc.

## K. BIP Certification Requirements

### Certification (Requested for BIP)

Please refer to upload section at the end of the document regarding following uploads.

1. Equal Opportunity and Nondiscrimination Certification
2. Certification Regarding Architectural Barriers
3. Uniform Relocation Assistance and Real Property Acquisition - Policies Act of 1970 Certification
4. Certification Regarding Debarment, Suspension, and Other Responsibility Matters – Primary Covered Transactions
5. Certification Regarding Lobbying for Contracts, Grants, Loans, and Cooperative Agreements



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6. Network Design and Implementation Plan Certification (to be complete for projects requesting more than \$1 million in federal assistance)

## L. Schedules

### Schedule: A-1 Congressional Districts

**1. State the Congressional District of the Applicant's headquarters**

Arizona - 1

**2. State the Congressional District for each area covered by the Project.**

Arizona - 1

Colorado - 6

Georgia - 6

Massachusetts - 6

New Mexico - 3

Utah - 3

## M. Proposed Funded Service Area Details (BIP & BTOP)

### 13. Proposed Funded Service Area (BIP - Last Mile Projects):

**Proposed Funded Service Area Name:** The Navajo Nation Middle/Last Mile Project: Quality Broadband for the Navajo People

**Census Blocks in Proposed Funded Service Area:** The service area has 24,843 census blocks that can not be placed in this section. The applicant is submitting a pdf file that details the Census blocks



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covered in the service area. The file will be upload as a supplemental information in the upload section (supplemental information 1)

<b>Community Name:</b>	Navajo Nation
<b>Rural Classification of the Community:</b>	Rural
<b>BIP - Service Status:</b>	Underserved

<b>BIP - If Service Status is "Underserved" please select at least one applicable option from this list.</b>
No more than 50% of the households in the census-designated community [or other area] have access to facilities-based, terrestrial broadband service at greater than the minimum broadband transmission speed;
No fixed or mobile broadband service provider advertises broadband transmission speeds of at least 3 mbps downstream in the census designated community [or other area]; or
The rate of broadband subscribership for the census-designated community [or other area] is 40% of households or less.

**BTOP – Service Status:** Underserved

<b>BTOP - If Service Status is "Underserved" please select at least one applicable option from this list.</b>
No more than 50% of the households in the proposed funded service area have access to facilities-based, terrestrial broadband service at greater than the minimum broadband transmission speed;
No fixed or mobile broadband service provider advertises broadband transmission speeds of at least 3 mbps downstream in the proposed funded service area;
The rate of broadband subscribership for the proposed funded service area is 40% of households or less.

**Total Square Miles of Community: 16,102**  
**Total Population : 123,411**  
**Total Number of Households: 33,266**  
**Total Number of Businesses: 1,000**  
**Total Number of Critical Community Facilities, Anchor Institutions and Public Safety Entities: 1,039**



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**14. Proposed Service Area (BTOP - Middle Mile Project):**

**Middle Mile Span Name:** The Navajo Nation Middle/Last Mile Project: Quality Broadband for the Navajo People

**Census Blocks in Middle Mile Span:** The service area has 24,843 census blocks that can not be placed in this section. The applicant is submitting a pdf file that details the Census blocks covered in the service area. The file will be upload as a supplemental information in the upload section (supplemental information 1)

**Last Mile Service Area Name:** The Navajo Nation Middle/Last Mile Project: Quality Broadband for the Navajo People

**Community Name:** Navajo Nation

**Rural Classification of the Community:** Rural

**BIP – Service Status:** Underserved

<b>BIP - If Service Status is "Underserved" please select at least one applicable option from this list.</b>
No more than 50% of the households in the census-designated community [or other area] have access to facilities-based, terrestrial broadband service at greater than the minimum broadband transmission speed;
No fixed or mobile broadband service provider advertises broadband transmission speeds of at least 3 mbps downstream in the census designated community [or other area]; or
The rate of broadband subscribership for the census-designated community [or other area] is 40% of households or less.

**BTOP - Service Status:** Underserved

<b>BTOP - If Service Status is "Underserved" please select at least one applicable option from this list.</b>
No more than 50% of the households in the proposed funded service area have access to facilities-based, terrestrial broadband service at greater than the minimum broadband transmission speed;
No fixed or mobile broadband service provider advertises broadband transmission speeds of at least 3 mbps downstream in the proposed funded service area;
The rate of broadband subscribership for the proposed funded service area is 40% of households or less.

**Total Square Miles of Service Area: 16,102**



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**Total Population : 123,411**

**Total Number of Households: 33,266**

**Total Number of Businesses: 1,000**

**Total Number of Critical Community Facilities, Anchor Institutions and Public Safety Entities: 1,039**

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## **N. Uploads**

In order to improve system performance and help ensure that all applicants are able to complete their applications by the deadline, we have changed the way your application PDF is created. This PDF contains all of the information you entered throughout the Easygrants data entry screens. PDF copies of all documents that have been uploaded can be viewed and printed separately from the **Main page of the application after you submit**. These will continue to be available to you in read-only format after your application has been submitted.