

RECIPIENT NAME:MCNC
AWARD NUMBER: NT10BIX5570120
DATE: 03/12/2013

OMB CONTROL NUMBER: 0660-0037
EXPIRATION DATE: 12/31/2013

ANNUAL PERFORMANCE PROGRESS REPORT FOR BROADBAND INFRASTRUCTURE PROJECTS

General Information

1. Federal Agency and Organizational Element to Which Report is Submitted Department of Commerce, National Telecommunications and Information Administration	2. Award Identification Number NT10BIX5570120	3. DUNS Number 018946590
4. Recipient Organization MCNC 3021 Cornwallis Road, Research Triangle Park, NC 27709-2889		
5. Current Reporting Period End Date (MM/DD/YYYY) 12-31-2012	6. Is this the last Annual Report of the Award Period? <input type="radio"/> Yes <input checked="" type="radio"/> No	
7. Certification: I certify to the best of my knowledge and belief that this report is correct and complete for performance of activities for the purposes set forth in the award documents.		
7a. Typed or Printed Name and Title of Certifying Official Patricia Moody Chief Financial Officer	7c. Telephone (area code, number and extension) 9192481820	7d. Email Address pmoody@mcnc.org
7b. Signature of Certifying Official Submitted Electronically	7e. Date Report Submitted (MM/DD/YYYY): 03-12-2013	

OVERALL PROJECT PERFORMANCE INDICATORS

1. Please provide the following average cost figures for your project. Please review the instructions to determine how to calculate these figures. Write "0" in the second column and "N/A" in the third column if your project does not yet have this information. Depending on whether your project contains Middle Mile and/or Last Mile components, some metrics may not apply. Please provide a narrative description if the total is different from the target provided in your baseline plan (600 words or less).

Cost Indicator	Average Cost / Speed	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
Average cost per new mile (Middle Mile)	54,349	While newly constructed miles have been installed in the ground, they are not in service at this point, and per guidance are not included in this report. We are lower to baseline than forecasted because the miles counted toward this calculation are those miles that were cheaper to construct and operate at this point. More challenging and thus costly miles are built, but not yet considered completed and in service.
Average cost per household passed (Last Mile)	N/A	N/A to our project
Average cost per subscriber (Last Mile)	N/A	N/A to our project
Maximum broadband speed advertised (Middle Mile)	10Gbps	We anticipate initially that most expected service offerings requested from our user base will be 1Gbps through 10Gbps. The system being deployed, however, has capability to scale to 100Gbps as required.
Maximum broadband speed advertised (Last Mile)	N/A	N/A to our project
Average broadband speed provided (Middle Mile)	1Gbps	As it relates to services to the CAI's served, all are provisioned with 1Gbps capacity. Along the backbone routes of the network, which at this point we've deployed three such services, the average capacity for those is 10Gbps.
Average broadband speed provided (Last Mile)	N/A	N/A to our project

2. Please provide each facility name and type, the county where the facility is located, and census tract information for any facilities funded by your project during this annual reporting period. Report only facilities for which construction has been completed.

Facility Identifier / Name	Facility Type	County	Census Tracts
N/A	N/A	N/A	N/A

Add Facility

Remove Facility

3. Please identify (1) the total number of interconnection, peering, and/or transit agreements entered into during this annual reporting period; (2) the total number of agreements of each type that you are currently negotiating; and (3) whether you have denied any request for interconnection and if so, why. If you have not entered into any agreements, please write "N/A."

Interconnection Agreements (600 words or less)

To date we have entered in to two IRU agreements for dark fiber with wholesale and last mile carriers. The agreements were for one fiber across portions of the footprint totaling 1279 miles, and a second agreement for two fibers across 101 miles. We have not executed any other transit, peering, or interconnection agreements to date. Negotiations continue with eight additional providers for fibers in various portions of the constructed route. We have not denied any request for interconnection to the fiber routes.

Peering and Transit Agreements (600 words or less)

N/A

CAPACITY, UTILIZATION, AND CAPABILITY INDICATORS

4. Community Anchor Institutions: In the chart below, please provide information on the types of community anchor institutions capable of receiving service (i.e., anchor institutions connected to your network plus those passed by your network) as a result of BTOP funds.

Type of Community Anchor Institution	Total Number Within Service Area	Type of Community Anchor Institution	Total Number Within Service Area
Schools (K-12)	57	Public Housing	0
Libraries	52	Other Institutions of Higher Education	7
Medical and Healthcare Providers	2	Other Community Support Organizations	1
Public Safety Entities	11	Other Government Facilities	0
Community Colleges	45	Total Community Anchor Institutions	175

5. Please indicate the average increase in broadband speed provided to the community anchor institution customers as a result of your project, including a description of how this increase was calculated (600 words or less).

The CAI's that we currently serve operate on limited capacity 100M interfaces at most. As we deployed, we are putting them on to burstable 1Gbps links that interface directly with a 10Gbps path. Therefore based on what we know, their immediate increase with the equipment deployed gives them 900Mbps more in capability day one.

6. What retail services are being provided by this project? Please describe below. (600 words or less). As an attachment to this report, please provide pricing plans (in \$ per month) associated with each retail service. Retail services description:

There are no planned retail service offerings associated with this project as MCNC does not provide residential or service to business enterprises. The two carriers that have signed on for dark fiber access will provide this service, but to date we do not have visibility in to how they will price their offerings, although we do know that it will be scalable service as required from 10Mbps up to 10Gbps as users warrant. Both carriers are wholesale carriers. Discussions with 1-2 residential providers are ongoing.

7a. What network management policies (e.g., bandwidth limitations, traffic prioritization) are in place for the services provided by your project? 7b. Have you ever limited or blocked consumers from accessing any lawful content, service, service provider, or application, or prevented any consumers from attaching any legal device to the network? If so, please explain why (300 words or less)?

The North Carolina Research and Education Network by policy does not limit/restrict access to the network. There is no prioritization of traffic placed on the backbone for IP based services. Lambda based circuits encompass their own payload, so by nature that traffic is prioritized within the circuit design. The only filtering policies on the IP backbone that are utilized relate to anti-spoofing related filters to protect our customers, and the IP based resources of the infrastructure itself. If a site is the target of or initiating a Denial of Service attack, from time to time network access will be limited to resolve those issues. We do have a service that our K-12 community users can procure related to content filtering to satisfy CIPA (Children Internet Protection Act) requirements.

8. If applicable, please provide the total number and the percentage of subscribers who have dropped the broadband service provided through this project (total number of households and/or businesses and the "churn rate") and the subscribers' reasons for discontinuing their service (600 words or less).

N/A

9. Please provide the following information regarding the number of fiber strand-miles:

Total Number of Strand-miles	Total Number of Active Fiber Strand-miles Used by Recipient	Total Number of Leased Fiber Strand-miles	Total Number of Dark Fiber Strand-miles	Total Number of Strand-miles Being Built		
				Active	Leased	Dark
197,412	2,092	1,481	65,287	43,632	0	84,920

10. If you wholesale dark fiber, please list your wholesale customers and the number of fiber miles you currently are leasing to those customers:

MCNC has sold dark fibers to two wholesale carriers, Broadplex and Dukenet Communications. The Broadplex agreement is for 1279 strand miles and the Dukenet Communications agreement is for 202 strand miles.

11. Please provide the following information regarding the facility collocation capacity:

Total Facility (total square feet for all facilities)	Number of Square Feet Used by Recipient	Number of Square Feet Leased	Number of Square Feet Available

3,600	224	0	3,376
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12. If you do not own collocation space, please describe how and where other network providers and/or customers interconnect with your network (600 words or less).

MCNC has deployed telecommunication huts as part of the project as outlined above. MCNC will additionally use a few select CAI's along the route to house the equipment that will operate the network. In these particular facilities MCNC does not control the ability to allow other carriers or entities to collocate. Above and beyond that, hand hands that are placed no farther apart than a mile act as interconnect points for splicing capability to the backbone to fibers another provider or user would build to those locations.

13. To the extent that you have made any subcontracts or sub grants, please provide the number of subcontracts or sub grants that have been made to socially and economically disadvantaged small business (SDB) concerns as defined by section 8(a) of the Small Business Act, 15 U.S.C. 647, as modified by NTIA's adoption of an alternative small business size standard for use in BTOP. Please also provide the names of these SDB entities (150 words or less).

MCNC's efforts for socially and economically disadvantaged small (SDB) business involvement has resulted in one prime contract and four subcontracts through our prime contractors with SDB concerns:

- SEPI Engineering and Construction, Inc - WBE
- CBW Communications Engineers - VBE
- Edwards Telecommunications, Inc. - VBE
- Minter Consulting - MBE
- Globenet Telecommunications, LLC - MBE
- Vertech International MBE
- MSM, Inc. MBE
- Dig-It MBE
- Coastline Cable Construction WBE
- HK&L, LLC WBE applied for
- Peachtree Telecommunications, Inc. WBE

14. Please describe any best practices/lessons learned that can be shared with other similar BTOP projects (900 words or less).

Work through your permitting process as quickly as possible, especially those involving railroads. Issues will undoubtedly surface that will take additional time.

Do not allow your contractors that you award work to to only focus on the easy elements of construction first without also addressing some of the difficult elements.

Award RFP's early. Implement stringent contracts for material delivery and construction delivery.

Expect your legal bills to be more than you anticipated.

Celebrate your successes and always look at the big picture.

15. Using the Excel spreadsheet template titled "Annual PPR CCI Addendum", please provide an updated list of Community Anchor Institutions (CAIs) that you have connected and plan to connect to your network.

16. Using the Excel spreadsheet template titled "Annual PPR CCI Addendum", please provide a list of community pairs that are receiving new or improved broadband service as a result of BTOP grant funds.

17. Please provide up-to-date network route maps in a single file, in a Google Earth compatible format (e.g., KMZ file).