QUARTERLY 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

NT10BIX5570011

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)

03-31-2013

6. Is this the last Report of the Award Period?

◯ **Yes**   ⦿ **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):

05-24-2013

Project Indicators (This Quarter)

1. Please describe significant project accomplishments completed during this quarter (600 words or less).

MCNC has previously reported that the original project, as well as the project modifications approved in spring of 2012, are complete. The associated miles in the project are 444 miles of new fiber and 1866 CAI's with improved or new connectivity. During the quarter MCNC finalized additional equipment engineering associated with the 100G upgrades for R1 universities in the state that was approved in late December, as well as preliminary work with NTIA on the approval of three additional telecommunication hut sites along the fiber network. Efforts of both were nearing completion by the end of the quarter.

2. Please provide the percent complete for the following key milestones in your project. Write "0" in the Percent Complete column and "N/A" in the Narrative column if your project does not include this activity. If you provided additional milestones in your baseline plan, please insert them at the bottom of the table. Unless otherwise indicated in the instructions, figures should be reported cumulatively from award inception to the end of the most recent reporting quarter. Please provide a narrative description if the percent complete is different from the target provided in your baseline plan (300 words or less).

	Milestone	Percent Complete	Narrative (describe reasons for any variance from baseline plan or subsequent written updates provided to your program officer)
2a.	Overall Project	98	As the project was initially outlined and funded, we are 100% complete from a deployment perspective.
2b.	Environmental Assessment	100	This task is 100% complete.
2c.	Network Design	100	This task is 100% complete.
2d.	Rights of Way	100	This task is 100% complete.
2e.	Construction Permits and Other Approvals	100	This task is 100% complete.
2f.	Site Preparation	100	This task is 100% complete.
2g.	Equipment Procurement	95	All elements of the project as initially funded and then approved during the course of the grant period have been completed. We show less than 100% here at this time to reflect the additional equipment approved at the end of the quarter for procurement and deployment during the extension period.
2h.	Network Build (all components - owned, leased, IRU, etc)	99	As it relates to dollars spent on the project, we are at 99% complete. The total number of miles built in the project is 444 and the total number of miles acquired was 314, for an overall total of 758 miles.
2i.	Equipment Deployment	95	All elements of the project as initially funded and then approved during the course of the grant period have been completed. We show less than 100% here at this time to reflect the additional equipment approved at the end of the quarter for procurement and deployment during the extension period.
2j.	Network Testing	100	N/A
2k.	Other (please specify):	0	N/A

3. To the extent not covered above, please describe any challenges or issues faced during this past quarter in achieving planned progress against the project milestones listed above. In particular, please identify any areas or issues where technical assistance from the BTOP program may be useful (600 words or less).

No significant challenges in continuing on the execution of the project were experienced.

4. Please report the following information regarding network build progress. Write "0" in the Total column and "N/A" in the Narrative column if your project does not include this activity. Unless otherwise indicated in the instructions, figures should be reported cumulatively from award inception to the end of the most recent reporting quarter. Please provide a narrative description if the total is different from the target provided in your baseline plan (600 words or less).

Indicator	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)

Indicator	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
New network miles deployed	444	The 444 miles represented here matches the original approved build and additional miles added during the project. Initial baseline established would have projected 467.1 miles for this quarter, but the forecasted amount included miles that NTIA allowed to be acquired under IRU (indefeasible right to use) once the project began and means this number will always track below baseline.
New network miles leased	314	Our projections on network miles leased have been inaccurate due to misinterpretation of network miles leased versus network miles upgraded in our baseline projections. The total of 314 miles reported here is made up of 197 from ERC and FRC routes communicated in the original application, 61 from the Morris Broadband acquisition, and 33 from the Balsam and Plateau IRU's approved during the project. The additional 23 miles as approved in the savings request have now been added for a total of 314 miles. This number will always be less than the final projection of 420 due to misunderstanding of accounting of these miles at baseline completion.
Existing network miles upgraded	197	These miles represent fiber that MCNC already had the rights to via IRU and presented in the project and BTOP then funded the equipment. Baseline always showed 0 throughout the project and were moved from the "network miles leased" area here in a previous quarter which is creating the variance to baseline.
Existing network miles leased	0	N/A
Number of miles of new fiber (aerial or underground)	444	The 444 miles represented here matches the original approved build and additional miles approved during the project.
Number of new wireless links	0	N/A
Number of new towers	0	N/A
Number of new and/or upgraded interconnection points	1,125	This final number is higher to baseline due to the additional approved builds during the project and our estimate for number of required handholds designed during engineering being low initially.

For questions 5 and 6 please include information relating to agreements that you are negotiating or have entered into, or that your sub recipient, contractor or subcontractor is negotiating or entered into.

5a. If applicable, please provide the following information with regard to agreements with broadband wholesalers and/or last mile providers as a result of your project.

Indicators	
Number of signed agreements with broadband wholesalers or last mile providers	7
Number of agreements currently being negotiated with broadband wholesalers or last mile providers	4
Average term of signed agreements (in quarters)	70

5b. Please list the names of the wholesale and last mile providers with whom you have signed agreements (100 words or less). Providers:
Signed agreements completed to date are as follows:

1. ERC (dark fiber) through MCNC
2. FRC (dark fiber) through MCNC
3. FRC (lit service) through MCNC
4. Earthlink (dark fiber) through MCNC
5. Verizon Wireless (lit service) through FRC (subrecipient)
6. Morris Broadband (dark fiber) through FRC (subrecipient)
7. Pangea Internet (dark fiber) through FRC (subrecipient)

Conversations with Dukenet continue for round 1 routes, but have now expanded to include more of the footprint involved with the

round 2 project. While nothing has formally closed, we remain optimistic that an agreement will come to fruition. We have been involved with discussions with RST Communications out of Shelby, NC as well about fibers along the round 1 footprint.

5c. What wholesale services are being provided by this project? Please describe below. As an attachment to this report, please provide pricing plans (in $ per month) associated with each wholesale service provided by your product (100 words or less). Wholesale services description:

MCNC is not providing wholesale services. The Agreements and providers noted above will be providing wholesales services as these agreements are formalized and these providers begin deploying equipment and services in those regions.

5d. If you have designated a third party to operate all or a portion of your network, please provide the name and contact information for this third party, indicate if this entity is a sub recipient, contractor, and/or subcontractor, and describe with specificity the portion of your network this this third party operates (600 words or less).

FRC has been contracted to provide fiber maintenance (locates and break/fix) on the fiber. Now that construction is complete, they have assumed this responsibility. They will provide route maintenance on 100% of the newly constructed fiber. On fiber assets that they retain in the new fiber footprint, they will be in a position to provide wholesale services to other wholesale carriers, last mile carriers, and private enterprise. MCNC will be focused on the education, government, and public health sectors.

FRC Contact Info:

Mike Baldwin

Senior Counsel, Business and Legal Affairs

1500 Hampton Street, Columbia SC 29201

(803)-726-4053

MCNC Contact Info:

Tommy Jacobson

COO

3021 E. Cornwallis Road

Research Triangle Park, NC 27709

6. Please provide the data according to the type of subscriber. Write "0" in the Total column and "N/A" in the Narrative column if your project does not pass or serve a particular subscriber type. Unless otherwise indicated in the instructions, figures should be reported cumulatively from award inception to the end of the most recent reporting quarter. Please provide a narrative description if the total is different from the target provided in your baseline plan (300 words or less).

Subscriber Type	Access Type	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
Broadband Wholesalers or Last Mile Providers	**Providers with signed agreements receiving new access**	1	FRC is providing lit service under a master contract with Verizon Wireless to about 10 wireless towers in the western portion of the network.
	Providers with signed agreements receiving improved access	1	In advance of FRC lighting portions of the route on their own for the fibers they acquired in the route, they have contracted with MCNC for the next year to provide a 10Gbps lambda between New Bern and Wilmington on the MCNC network. Agreements for service have been limited due to most interest being in dark fiber.
	Providers with signed agreements receiving access to dark fiber	5	Dark fiber agreements communicated in previous reports for the arrangements with FRC (as part of the subrecipient agreement), ERC, and Pangea Internet. As noted above additional agreements with Earthlink and Morris Broadband completed during this quarter on portions of the new construction.

Discussions continue between FRC and Dukenet but nothing formally signed between these entities. We have seen more interest due to the round 2 network being marketed with the round 1 network now. We have discovered that some interest is there, but didn't start becoming more apparent until route was close to completion. There are two such agreements being contemplated. |
| | **Please identify the speed tiers that are available and the number of subscribers for each** | 2 | We do believe that Earthlink when they bought their fiber immediately placed it in to service, however we have no idea what speeds they are operating at. We would anticipate it has a range of up to 100G. Other wholesalers that have purchased we believe have not yet deployed but are offering speeds in the range of 10M to 100G.
The Verizon Wireless lit services identified above operate at 100M and the service MCNC is providing to FRC operates at 10G.

100M: 10 subscribers
10G: 1 subscriber |

Subscriber Type	Access Type	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
Community Anchor Institutions (including Government institutions)	**Total subscribers served**	1,866	We are now reporting 1866 CAI's. This is 4 less than was communicated in prior quarters. MCNC was advised by NTIA to remove 17 CAIs that were previously reported as improved because now they are counted on the MCNC Round 2 project as receiving new fiber builds.

Additionally, we added 13 sites that were approved during this past year during project reroutes. 19 sites were approved as part of that process, but 6 were already included in the report as receiving improved access due to the initial project as funded. We do not include them again now to keep from double counting. Therefore, 1847 will be listed as receiving improved access and 19 will be listed as receiving new access, for a total of 1866.

As our understanding of the reporting requirements refined during the project, we now know that projections in our initial application and baseline are inaccurate due to misinterpretation of the guidance. Initial projections were based on community anchor institutions located in the counties in which our fiber route passes through, but not necessarily on-net with the North Carolina Research and Education Network (NCREN) today.

Based on the clarifications from a previous quarter, what we report here are CAI's that were already connected to the NCREN backbone in some capacity that have received improved access due to the deployment of fiber and higher grades of service (i.e. 10Gbps internet service) out of NCREN maintained facilities. |
| | **Subscribers receiving new access** | 19 | These 19 sites reported represent locations approved for new builds during the project that have now been completed as of this reporting quarter. |
| | **Subscribers receiving improved access** | 1,847 | We are now reporting 1847 CAI's. This is less than what was communicated in prior quarters. MCNC was advised by NTIA to remove 17 CAIs that were previously reported as improved because now they are counted on the MCNC Round 2 project as receiving new fiber builds.

Additionally, we added 13 sites that were approved during this past year during project reroutes. 19 sites were approved as part of that process, but 6 were already included in the report as receiving improved access due to the initial project as funded. We do not include them again now to keep from double counting. Therefore, 1847 will be listed as receiving improved access and 19 will be listed as receiving new access, for a total of 1866.

As our understanding of the reporting requirements refined during the project, we now know that projections in our initial application and baseline are inaccurate due to misinterpretation of the guidance. Initial projections were based on community anchor institutions located in the counties in which our fiber route passes through, but not necessarily on-net with the North Carolina Research and Education Network (NCREN) today.

Based on the clarifications from a previous quarter, what we report here are CAI's that were already connected to the NCREN backbone in some capacity that have received improved access due to the deployment of fiber and higher grades of service (i.e. 10Gbps internet service) out of NCREN maintained facilities. |
| | **Please identify the speed tiers that are available and the number or subscribers for each** | 0 | Most of our CAI's have improved access due to being on the improved middle mile infrastructure. That infrastructure now has capability for 100G. On the system deployed, direct point to point services as shown below are possible:

100M, 250M, 500M, increments of 1G, 10G, 100G.

For CAI's that have had new fiber constructed to their locations they have capability with the equipment deployed for services up to 10Gbps depending on what service level they choose. As their |

Subscriber Type	Access Type	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
			capabilities grow beyond the equipment deployed, we could upgrade that equipment through operational funds and improve their connectivity up to 100G.
Residential / Households	Entities passed	0	N/A
	Total subscribers served	0	N/A
	Subscribers receiving new access	0	N/A
	Subscribers receiving improved access	0	N/A
	Please identify the speed tiers that are available and the number of subscribers for each	0	N/A
Businesses	Entities passed	0	N/A
	Total subscribers served	0	N/A
	Subscribers receiving new access	0	N/A
	Subscribers receiving improved access	0	N/A
	Please identify the speed tiers that are available and the number of subscribers for each	0	N/A

7. Please describe any special offerings you may provide (600 words or less).

We are able to provide lambda based point to point based circuits between all NCREN POP's enabled by the new infrastructure and to portions of the central core (defined as the Charlotte to Raleigh corridor) of the NCREN network that existed prior to application. In addition, due to funding from the NTIA, the entire NCREN core operates at 100Gbps.

8a. Have your network management practices changed over the last quarter? ◯ Yes ◉ No

8b. If so, please describe the changes (300 words or less).

N/A

9. Community Anchor Institutions:
Using the table below, please provide a list by service area of the community anchor institutions (including Government institutions) connected to your network as a result of BTOP funds. Figures should be reported for the most recent reporting quarter only (NOT cumulatively). Also indicate whether your organization is currently providing broadband service to the anchor institution. Finally, provide a short narrative description with examples of how institutions are using BTOP-funded infrastructure (300 words or less).

Institution Name	Service Area (town or county)	Type of Anchor Institution (as defined in your baseline)	Are you also the broadband service provider for this institution? (Yes / No)	Narrative description of how anchor institutions are using BTOP-funded infrastructure
N/A	N/A	N/A	N/A	N/A

Project Indicators (Next Quarter)

1. Please describe significant project accomplishments planned for completion during the next quarter (600 words or less).

100G equipment approved by the NTIA for the R1 CAI's in our network will be ordered and deployed. We additionally expect to finalize environmental and engineering requirements of the three additional telecommunication huts approved by NTIA.

Continued negotiations are ongoing with four additional providers regarding access to dark fiber. At this point we are unable to place specific confidence on any of them, but we anticipate potentially closing one additional agreement bringing our total agreements to 8 with 6 dark fiber agreements.

2. Please provide the percent complete for the following key milestones in your project. Write "0" in the Planned Percent Complete column and "N/A" in the Narrative column if your project does not include this activity. If you provided additional milestones in your baseline plan,

please insert them at the bottom of the table. Unless otherwise indicated in the instructions, figures should be reported cumulatively from award inception to the end of the next reporting quarter. Please provide a narrative description if the percent complete is different from the target provided in your baseline plan **(300 words or less)**.

	Milestone	Planned Percent Complete	Narrative (describe reasons for any variance from baseline plan or any other relevant information)
2a.	**Overall Project**	98	As originally awarded, we are 100% complete. The balance of work left by end of next quarter would be the placement of the telecommunication huts as part of the project modification.
2b.	**Environmental Assessment**	100	This task is 100% complete
2c.	**Network Design**	100	This task is 100% complete
2d.	**Rights of Way**	100	This task is 100% complete
2e.	**Construction Permits and Other Approvals**	100	This task is 100% complete
2f.	**Site Preparation**	100	This task is 100% complete
2g.	**Equipment Procurement**	100	This task will be 100% complete next quarter
2h.	**Network Build (all components - owned, leased, IRU, etc.)**	100	This task will be 100% complete next quarter
2i.	**Equipment Deployment**	100	This task will be 100% complete next quarter
2j.	**Network Testing**	100	This task is 100% complete
2k.	**Other (please specify):**	0	N/A

3. Please describe any challenges or issues anticipated during the next quarter that may impact planned progress against the project milestones listed above. In particular, please identify any areas or issues where technical assistance from the BTOP program may be useful (600 words or less).

We do not anticipate any challenges based on the remaining work to be performed.

Infrastructure Budget Execution Details

Activity Based Expenditures (Infrastructure)

1. Please provide details below on your total budget, cumulative actual expenditures (for the period ending the current quarter), and cumulative anticipated expenditures (for the period ending next quarter) for each line item, including detailed disbursements of both matching funds and federal funds from project inception through end of this quarter (actual) or next quarter (anticipated). Actual and anticipated figures should be reported cumulatively from award inception to the end of the applicable reporting quarter.

Cost Classification	Budget for Entire Project			Actuals from Project Inception through End of Current Reporting Period			Anticipated Actuals from Project Inception through End of Next Reporting Period		
	Total Cost (plan)	Matching Funds (plan)	Federal Funds (plan)	Total Cost	Matching Funds	Federal Funds	Total Costs	Matching Funds	Federal Funds
a. Administrative and legal expenses	$466,201	$169,207	$296,994	$469,390	$103,660	$365,730	$470,000	$103,794	$366,206
b. Land, structures, right-of-ways, appraisals, etc.	$740,417	$97,261	$643,156	$458,212	$101,191	$357,021	$458,212	$101,191	$357,021
c. Relocation expenses and payments	$0	$0	$0	$0	$0	$0	$0	$0	$0
d. Architectural and engineering fees	$1,904,780	$420,649	$1,484,131	$1,964,828	$433,910	$1,530,918	$1,985,000	$438,365	$1,546,635
e. Other architectural and engineering fees	$0	$0	$0	$0	$0	$0	$0	$0	$0
f. Project inspection fees	$0	$0	$0	$0	$0	$0	$0	$0	$0
g. Site work	$0	$0	$0	$0	$0	$0	$0	$0	$0
h. Demolition and removal	$0	$0	$0	$0	$0	$0	$0	$0	$0
i. Construction	$26,410,266	$6,370,055	$20,040,211	$26,625,672	$6,417,625	$20,208,047	$26,300,643	$6,345,846	$19,954,797
j. Equipment	$8,990,427	$3,229,401	$5,761,026	$8,585,017	$33,139,870	$5,445,147	$9,285,135	$3,294,483	$5,990,652
k. Miscellaneous	$0	$0	$0	$0	$0	$0	$0	$0	$0
l. SUBTOTAL (add a through k)	$38,512,091	$10,286,573	$28,225,518	$38,103,119	$40,196,256	$27,906,863	$38,498,990	$10,283,679	$28,215,311
m. Contingencies	$0	$0	$0	$0	$0	$0	$0	$0	$0
n. TOTALS (sum of l and m)	$38,512,091	$10,286,573	$28,225,518	$38,103,119	$40,196,256	$27,906,863	$38,498,990	$10,283,679	$28,215,311

2. Program Income: Please provide the program income you listed in your application budget and actuals to date through the end of the reporting period.

a. Application Budget Program Income: $0	b. Program Income to Date: $0