

RECIPIENT NAME:University System of New Hampshire

AWARD NUMBER: NT10BIX5570082

DATE: 03/20/2013

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 NT10BIX5570082	3. DUNS Number 111089470
4. Recipient Organization University System of New Hampshire 51 College Road Service Building 107, Durham, NH 03824-3585		
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 Scott A Valcourt Director	7c. Telephone (area code, number and extension) 6038624489	
	7d. Email Address sav@unh.edu	
7b. Signature of Certifying Official Submitted Electronically	7e. Date Report Submitted (MM/DD/YYYY): 03-20-2013	

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)	40,000	Estimated at 40K due to fixed price contract with New Hampshire Optical Systems. Actual average is trending toward 53K per mile. Some sections of make-ready have cost over 250K per mile.
Average cost per household passed (Last Mile)	0	No households available for subscription in 2012 as network is under construction. Construction occurred later than baseline estimates due to delays in match funding and longer than expected make ready time frames.
Average cost per subscriber (Last Mile)	0	No subscribers in 2012 as network is under construction. Construction occurred later than baseline estimates due to delays in match funding and longer than expected make ready time frames.
Maximum broadband speed advertised (Middle Mile)	10GB	No variance from plan.
Maximum broadband speed advertised (Last Mile)	1GB	No variance from plan.
Average broadband speed provided (Middle Mile)	1.3GB	No variance from plan.
Average broadband speed provided (Last Mile)	0	0 at this time due to current construction

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
University of New Hampshire	Co-lo (USNH Data center)	Strafford	330170802
Keene State College	Co-lo (USNH Data center)	Cheshire	33005971401
DSCI	Collocation Facility	Hillsborough	33011001900

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)
 1. NHOS has dark fiber IRU agreements with 4 entities. Three of the entities have requested confidentiality agreements. The fourth entity is the University of New Hampshire.
 2. NH FastRoads has been in negotiations with three Internet service providers and is finalizing an agreement with a network service provider, but no agreements were signed in 2012. New Hampshire Optical Systems is currently negotiating agreements for use of dark fiber and is working to connect the NH BTOP Network with BTOP assets in Maine, Massachusetts, and Vermont.
 3. No one has been denied requests for interconnection.

Peering and Transit Agreements (600 words or less)

 None

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)	369	Public Housing	0
Libraries	241	Other Institutions of Higher Education	25
Medical and Healthcare Providers	500	Other Community Support Organizations	27
Public Safety Entities	222	Other Government Facilities	292
Community Colleges	13	Total Community Anchor Institutions	1,689

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).

Average broadband speed is estimated to increase by 9.5Gbps, approximately a 20x increase.

Keene State College aggregate 400Mbps to 10Gbps, delta = 9.6 Gbps

UNH aggregate 600Mbps to 10Gbps, delta = 9.4 Gbps

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:

New Hampshire Optical Systems provides wholesale dark fiber for lease on a fiber mile basis. Pricing plan is attached.

NH FastRoads will provide retail last mile services but is still under construction and pricing plans have not yet been established.

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)?

7a. USNH is using BTOP Optical network equipment to light fiber between the University of New Hampshire and Keene State College. The equipment is dividing a 10GB wave into 1GB VLANs. Bandwidth is being allocated for Internet services, video conferencing, and disaster recovery. We use Quality of Service (QOS) for voice and video services.

7b. No consumers have been limited or blocked from accessing lawful content, service, service provider, or application or prevented any consumers from attaching any legal device to the network.

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).

0

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
185,276	2,659	19,152	74,503	7,260	3,456	78,246

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

USNH 9108 fiber miles

Company A 1050 fiber miles

Company B 1000 fiber miles

Company C 50 fiber 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
8	8	0	0

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).

These locations are collocation facilities for the USNH fiber leased from NHOS. There will be additional interconnect points as NHOS fiber is completed and becomes available for lease but this was not the case as of December 31, 2012.

DSCI Corp (commercial co-lo facility), 1 Sundial (ISP/carrier hotel), Manchester, NH - UMAINE is leasing a rack at DSCI and UNH has an agreement with UMAINE to share use of that rack and has installed BTOP DWDM equipment in that rack. This site is currently utilized to provide the USNH interconnection between the University of New Hampshire data center and the Keene State College data center.

ADDITIONAL RESPONSE TO Q11 - The remaining two sites below are owned by the University System of New Hampshire and are not available for commercial co-location use. BTOP DWDM equipment is installed in one rack (4 sq ft) at each facility:

- Keene State College Data Center, 229 Main St, Keene, NH
- University of New Hampshire Data Center, 1 Leavitt Lane, Durham, NH

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).

None

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

Project recommends utilizing current and very conservative make-ready costs estimates and timelines because:

Make-ready time frames have exceeded estimates. This is due to a combination of factors including some areas having more make-ready needed than originally expected (especially in urban areas, highway crossings and major route intersections). Other factors include the number of third party make-ready moves that need to occur and higher than expected costs to complete make-ready.

The process to coordinate third party moves was more complex than expected and we have worked closely with the New Hampshire Public Utilities Commission and state and federal officials to work around obstacles that have arisen during construction.

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).