UNITED STATES DEPARTMENT OF COMMERCE
The Inspector General
Washington, D.C. 20230

January 23, 2014

The Honorable Greg Walden
Chairman, Subcommittee on
Communications and Technology
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

The Honorable Cory Gardner
Subcommittee on Communications
and Technology
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

The Honorable Scott Tipton
U.S. House of Representatives
218 Cannon House Office Building
Washington, DC 20515

Dear Chairman Walden, Representative Gardner, and Representative Tipton:

This letter is in response to your May 9, 2013, request to review the National Telecommunications and Information Administration's (NTIA's) Broadband Technology Opportunities Program (BTOP) grant awarded to EAGLE-Net Alliance (ENA). We appreciate the Committee's continued commitment to effective oversight of BTOP, the Department's largest Recovery Act–funded program.

In response to your request, we reviewed the application submitted by the Centennial Board of Cooperative Educational Services (CBOCES); award amendments, including the transfer of the award to ENA; Award Action Request approvals; and other documentation associated with the implementation of the award. Additionally, we met with NTIA program and ENA project personnel and reviewed documentation supporting oversight of the award. We also interviewed representatives of incumbent telecom providers.

Your letter requested that we review the award and provide responses to 7 questions related to the ENA grant. In enclosure 1, we provide some background information on the grant, responses to your questions, and some additional issues noted during our review. Enclosure 2 outlines the objective, scope, and methodology of our inspection. Enclosure 3 provides details regarding three major geographic areas where ENA's market presence was disputed by other service providers.

If you have any questions or require further analysis of this matter, or if we can be of further assistance, please do not hesitate to contact me at (202) 482-4661, or Ann Eilers, Principal Assistant Inspector General for Audit and Evaluation, at (202) 482-2754.

Sincerely,

Todd J. Zinser

cc: Members of the Subcommittee on Communication and Technology
Members of the Committee on Energy and Commerce
Lawrence E. Strickling, Assistant Secretary for Communications and Information, Department of Commerce

Enclosure 1: Review of the National Telecommunications and Information Administration's Broadband Technology Opportunities Program Grant Award to EAGLE-Net Alliance

In September 2010, NTIA awarded a $100.6 million grant to CBOCES with the goal to bring affordable, high-capacity broadband services to rural and underserved school districts and other community anchor institutions (CAIs) (e.g., libraries, universities, community colleges, and hospitals) across Colorado. Immediately after accepting the award, the grant recipient began the process of transferring the grant to ENA, one of its operating units, to focus efforts on linking educational institutions to a network. The transfer was approved by NTIA and the National Oceanic and Atmospheric Administration (NOAA) Acquisition and Grants Office in February 2011.[1] Table 1 below provides an overview of the awarded grant.

Table 1. Sources of Funding for CBOCES/ENA BTOP Award

	Dollar Amount	Percent of Project
Federal share	$100,635,190	74
Recipient share	$34,665,587	26
Total	$135,300,777	100

Source: Department of Commerce Grants Online

Between January and December 2012, ENA made unapproved changes to its network plan, moving from a primarily microwave network to a predominately fiber-optic network comprised of new and leased fiber and some components of microwave. It based these actions on feedback from CAIs, who considered fiber-optic networks more reliable than microwave. ENA also reduced the number of CAIs it planned to reach with award funds from 234 to 131.[2] ENA's management stated that the reduction in the number of CAIs was necessary because loans it had counted on to use as matching funds did not become available and grant funds would be insufficient to cover the cost of reaching all approved CAIs. Thus, ENA will require funding beyond the grant award to reach the remaining 92 approved CAIs. Changing from a predominantly microwave network to a mostly fiber based network came as a surprise to some providers in the southeast region of the state, who have voiced complaints because they also provide fiber-based broadband services in that region and ENA would now become a competitor.

As of July 1, 2013, ENA had spent approximately 90 percent of its grant funds and connected 102 CAIs and 2 additional schools. On October 22, 2013, ENA selected Affiniti of Colorado as their network operator via an invitation to negotiate (ITN) process. ENA officials have said their intention is that the network will eventually be expanded to provide the connections identified in the award as amended in May 2013; however, ENA may not reach all CAIs within the grant period.

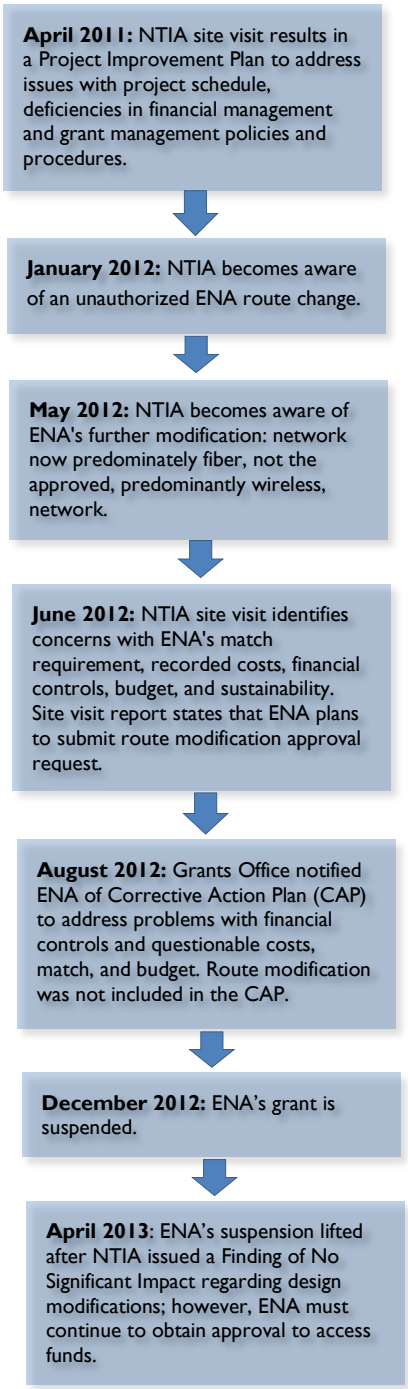
[1] NOAA provides grant management services to NTIA for the BTOP infrastructure awards, including ENA.

[2] The approved CAI count now stands at 223 due to the merging of 2 CAIs and the elimination of 10 overlapping CAI locations; however, ENA's plan is to reach only 131using federal funds.

ENA has experienced challenges in such areas as meeting award match requirements, project management, and financial controls. Consequently, since the issuance of the award, NTIA has had to provide substantial oversight. Figure 1, provided by NTIA, identifies NTIA oversight actions. This has included multiple site visits, technical assistance, and placing the recipient on a corrective action plan. Ultimately, NTIA suspended the award in December 2012 due to the grantee's failure to comply with the special award condition related to environmental and historic compliance, an action that could have eventually resulted in termination of the award. NTIA subsequently lifted the suspension in April 2013 after the grantee had addressed this issue. While the deficiency resulting in suspension had been identified earlier by NTIA, the bureau did not promptly address it and instead focused its efforts on addressing the considerable challenges related to matching share, project management, and financial controls.

Members of the Subcommittee on Communications and Technology of the House Committee on Energy and Commerce raised concerns about ENA's BTOP grant at a February 27, 2013, hearing.[3] Additionally, the grant received extensive media coverage.[4]

Figure 1. Corrective Action and Suspension Chronology for ENA's BTOP Grant



Response to Congressional Questions

1. At the time of transfer from the CBOCES, how did ENA change the planned network design in the original NTIA award? How has the planned network design changed during ENA's administration of the award?

We determined that no changes were made to the network design at the time of the transfer to ENA. CBOCES accepted the NTIA BTOP grant award on September 16, 2010. NOAA's Grants Office finalized the transfer of the award to ENA on February 14, 2011.

The CBOCES award and supporting documentation, including the network design, was transferred to ENA

[3] House Energy and Commerce Committee, Subcommittee on Communications and Technology, "Is the Broadband Stimulus Working?" February 27, 2013.

[4] For example: "Colorado's Grant Windfall Earns Ire," *Telcos News*, August 20, 2012; "Stimulus-funded Project Irks Some Rural Telecoms in Colorado," *Denver Business Journal*, September 7, 2012; "Waste is Seen in Program to Give Internet Access to Rural US," *New York Times*, February 11, 2013; "Congress to Review Suspended Eagle-Net Broadband Project Next week," *The Denver Post*, February 22, 2013.

unchanged. The original network design included a total of 4,729 network miles, comprised of 316 new fiber miles, 1,378 upgraded[5] and exitisting dark fiber leased miles, [6] and 3,035 microwave miles, as well as the connection of 234 CAIs. ENA did not submit a final network design change to NTIA until April 22, 2013, which was then approved by the NOAA Grants Office on May 7, 2013 after NTIA issued a Finding of No Significant Impact (FONSI), a required determination that the project does not have significant impacts on the quality of the environment.[7]

The preferences of CAIs for fiber over microwave, based on overall reliability, compelled ENA to propose substantial route and infrastructure changes. These route modifications resulted in the minimization of microwave infrastructure, the maximization of existing fiber leases, and the addition of new fiber build. ENA's revised network design thus includes a total of 4,175 network miles, which includes 1,070 new fiber miles, 2,390 miles of upgraded and existing dark fiber leases, and 715 miles of microwave miles, connecting 223 CAIs.

Table 2 provides a comparison of the original network design to the NTIA-approved revised network design. It shows a shift in project emphasis away from microwave miles to new, upgraded, and leased fiber-optic miles, which should provide a more reliable connection to the CAIs. The total network miles for the revised network design are 554 miles less than the original network, in part because fiber-optic cable is more expensive to deploy and lease. Although ENA stated that it plans to eventually reach all 223 CAIs included in its network plan, the final network design will only be achieved if additional, non-grant funding is secured. At a meeting held on January 7, 2014, ENA indicated that they are not currently seeking other funding sources beyond that provided by Affiniti of Colorado.

Table 2. Comparison of Original CBOCES and Revised ENA Network Designs

	Original CBOCES Design	Revised ENA Design
New fiber-optic miles	316	1,070
Upgraded and leased fiber-optic miles	1,378	2,390
Microwave miles	3,035	715
Total miles	**4,729**	**4,175**
Number of CAIs	234	223
Miles completed, as of June 30, 2013	2,895	2,895
Percent completed, as of June 30, 2013	61%	69%

Source: Approved Route Modification Request, ENA, NTIA

[5] That is, the existing CBOCES network upgraded with new equipment to increase network performance.

[6] *Dark fiber* is unused existing fiber-optic cable.

[7] A FONSI is required by regulations promulgated under the National Environmental Policy Act of 1969 (NEPA), Pub. L. No. 91-190 (1969), 40 C.F.R. §1508. See also the answer to question 6.

2. What percent of the original proposed CBOCES network has been completed? What percent of the project as revised by ENA has been completed?

There are multiple ways to measure completion, including funds drawn down, network miles completed or leased, and CAIs connected. According to the U.S. Treasury's Automated Standard Application for Payment (ASAP) system, as of June 2013, ENA had drawn down approximately $90 million of the $100.6 million grant, yet significant work remains to be completed, both against the original and revised network designs.

Amount of original CBOCES network completed. The original CBOCES network design included a total of 4,729 network miles, and the revised network design includes 4,175. As of June 30, 2013, ENA had completed 2,895 miles, which is 61 percent of the original network design and 69 percent of the revised network design. (See table 2 for the comparison of the original and revised network design.)

The original award application stated that the awardee would connect 234 CAI locations, primarily by microwave. However, as we have noted, ENA's subsequent approved route modification reduced the total number of CAIs to 223 locations due to the merger of 2 CAIs and the elimination of 10 overlapping CAI locations. As of June 2013, ENA had reached 102 CAIs, or 44 percent of the CAIs in the original plan. ENA's current plan is to reach a total of 131 of 223 CAIs with grant funds. The remaining 92 will only be connected if additional, non-grant funding is obtained.

Additionally, absent the addition of non-grant funds, ENA will not complete the ring design contained within the original CBOCES application, which would have reduced network disruptions.[8] According to ENA, the ring design remains in the plan; however, a final portion of the ring (a section of the network over Wolf Creek Pass) will only be completed if non-grant funds become available.

Amount of project completed as revised by ENA. The revised network contains 1,070 new fiber-optic miles and 2,390 miles of upgraded and existing dark fiber leases. This is a substantial departure from the original network plan, which was primarily microwave and utilized 1,694 miles of new and leased fiber. As noted above, ENA stated that the switch from microwave to fiber was primarily based on the increased reliability of fiber, since microwave signals can be easily interrupted by weather conditions such as heavy rain, winds, etc. Consequently, the final network design, according to ENA, will provide a more reliable connection for the CAIs. As of June 30, 2013, ENA had completed 2,895 miles, which is 69 percent of the revised network design. (See table 2 for the comparison of the original and revised network design.) Of the 223 CAIs, 102, or 46 percent of those included in the revised design, now have access to ENA's network. Due to funding limitations, ENA decided to rank the remaining 121 CAIs and, as a result, will use the remaining grant funds to focus on 29 of them. Once ENA connects the additional 29 locations, it will have successfully completed 3,206 miles, or 77 percent, of the 4,175-mile revised network design. The remaining 92 CAIs will be connected to the network as additional funding becomes available. If additional funding is not received, ENA will be unable to connect them.

[8] *Network rings* provide alternate routes for broadband traffic in the event of failure.

3. Under the original grant to the CBOCES, what percentage of the network was to be deployed to unserved areas of Colorado? How many unserved versus served customers, anchor institutions, and all other government entities were to be reached by that network? How did those percentages and numbers change under ENA's initial plan? How have they changed between ENA's original plan and now? How many customers, anchor institutions, and all other government entities have signed up since the original grant award and how many of them were previously unserved? How many potential customers within reach of the network are on the Western Slope? How many of those potential customers on the Western Slope have signed up?

While the CBOCES's BTOP application makes references to serving unserved and underserved areas, the focus of the project is connecting to CAIs. In answering question three, we looked at the criteria established within the BTOP Round 2 Notice of Funds Availability (NOFA).

The BTOP Round 1 NOFA, which established program rules and availability of grant funds, requires infrastructure projects to deliver broadband access to "unserved" and "underserved" areas; however, the BTOP Round 2 NOFA, in which the CBOCES (now ENA) award was made, does not. [9] In CBOCES's BTOP application, CBOCES noted that there are 12 regional service areas (RSAs) which make up the state of Colorado. CBOCES classified all regions as either unserved or underserved, but none as served. While the RSAs were determined by the Colorado Department of Education, ENA used 2000 Census data (the most recent Census data available at the time of the application) to determine whether each RSA was served, underserved, or unserved. Ten of these regions were classified as underserved, while two regions were classified as unserved.

Table 3 provides a summary of the original network, the modified network, and the portion of each that will reach unserved areas of Colorado.

Table 3. ENA Network Reaching Unserved Regions

	Total		Unserved		Percent	
	Original	Revised	Original	Revised	Original	Revised
Miles	4,729	4,175	635	515	13	12
CAIs	234	223	40	35	17	16

Source: ENA

[9] According to the *Notice of Funds Availability for Second Round—Fact Sheet*, January 2010, "NTIA no longer will require that an infrastructure project serve an unserved or underserved area; however, they will give priority to projects that are located in such areas and they do intend to carefully evaluate the extent to which proposed projects overbuild existing broadband infrastructure."

CBOCES network reaching unserved areas. CBOCES planned to deploy approximately 13 percent of the original network, including fiber, microwave, and CAI connections (see table 3) to areas of Colorado identified within the application as unserved. The original network design had the potential to reach 3,092 local Colorado government entities in addition to 40 unserved CAI locations. The RSA map prepared by the Colorado Department of Education shows only school districts. It does not show cities, towns, or geographic boundaries for what is considered the Westerm slope. Therefore, locations of potential customers are not indicated on the map, so it is unclear how many of these potential customers are located in the unserved areas. When the CBOCES award was transferred to ENA, no changes were made to the network design; therefore, these numbers did not change under ENA's initial plan.

ENA modified network. As a result of the route modifications approved by NTIA in May 2013, ENA will reach approximately 515 miles of the unserved areas.

As noted above, ENA's route modification request reduced the number of CAI locations from 234 to 223 due to the overlapping of 10 CAIs and the merging of 2 others. As a result, the total number of unserved CAIs is now 35. As of July 2013, the revised network has a potential to reach 3,450 local Colorado government entities, many of which are potential ENA customers. This is based on the presumption that the entire network will be completed, which will only occur if additional, non-grant funding is received.

Current customers. As of June 2013, there were 102 CAI locations that had access to ENA's network; 54 are current subscribers. Of the 102 locations, 11 CAIs located in the unserved regions are currently subscribing to ENA's services. ENA has also signed agreements with 18 non-CAI customers, of which 5 were previously unserved. These non-CAI customers consist of local Colorado counties, cities, and school districts. The customers located in the unserved areas are Colorado Telehealth Network, CSU Global-StillSecure, K2 Communications, the city of Longmont, and Wiggins Telecom.

Western Slope coverage. As of June 2013, ENA has provided network access to 23 CAI locations residing on Colorado's Western Slope; 2 locations currently subscribe to ENA's services while 6 have contracted for future ENA services. ENA's original plan included 75 Western Slope CAIs; however, the approved route modification request reduced this number to 74. ENA has not yet reached the remaining 51 CAIs located on the Western Slope; therefore, it is unclear if they will subscribe to ENA's services. Additionally, ENA has signed agreements with 7 non-CAI customers that are located on the Western Slope.

Additionally, if fully completed, the revised network will reach 3,272 local Colorado government entities that are also potential ENA customers. As stated above, potential customer locations are not shown on the RSA map; therefore, it is unclear how many of these potential customers are located on the Western Slope.

4. Where did ENA lay fiber next to existing fiber lines? How many and what percentage of the fiber miles ENA has deployed overbuild existing fiber? How much was spent on overbuilding as opposed to new deployment?

We found there is no generally agreed upon definition of "overbuild." Neither the Recovery Act nor the two NOFAs define the term. Use of the term varies: sometimes it is used to mean fiber lying directly next to existing fiber, while at other times it is used to mean bringing service into areas that already have service. Conscious of this imprecision and looking to the question of laying fiber next to existing fiber lines, we focused our review on instances where ENA fiber and competitor fiber were in proximity to each other and could potentially service the same CAIs.[10] Further, due to limitations on accessing competitor network maps, which contain proprietary information, we based our analysis on estimations derived from information available publically or provided by 4 incumbent telecom providers[11] who have raised concerns about the implementation of ENA's BTOP project and the use of grant funds for the laying of new fiber near existing fiber.

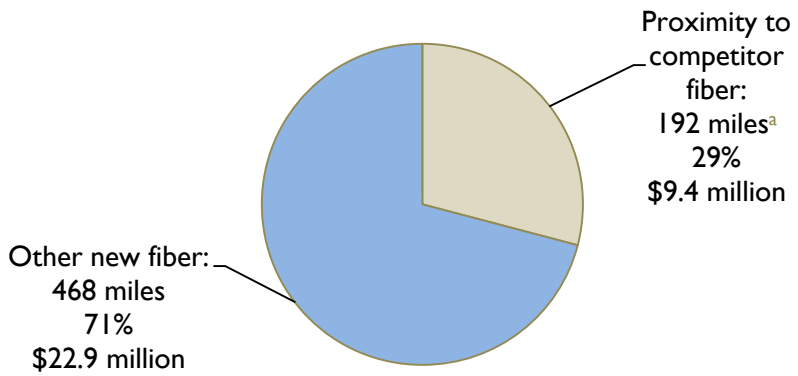
As noted above, the modified network design approved by NTIA in May 2013 relies extensively on fiber, as compared to the predominantly microwave network that had been proposed in the application. In the modified network plan, ENA plans to lease 2,200 of the total 3,460 fiber miles from other carriers and will utilize 190 miles of existing ENA fiber, which has been upgraded with new equipment. ENA plans to lay 1,070 miles of new fiber.

We analyzed areas of Colorado currently being serviced by 4 providers. Our analysis did not include fiber that was leased from other companies, microwave network miles, or fiber which is planned but not yet completed. Our analysis determined that ENA has newly laid approximately 192 miles, or 29 percent, of the new fiber in proximity to existing fiber. (See figure 2 for an illustration of our analysis.) This new fiber is about 7 percent of the entire network deployed as of May 2013.

[10] By "proximity," we mean where ENA fiber was laid within approximately 8 miles of existing fiber and where the beginning and end points were in the general vicinity of each other. We found that this generally follows the deployment of ENA and competitor fiber.

[11] The telecom providers are Blanca Telephone Company, Phillips County Telephone Company, Southeastern Colorado Power Association, and Eastern Slope Rural Telephone Association.

Figure 2: New Fiber-optic Lines Laid by ENA as of May 2013: 660 Miles and $32.3 Million



Source: OIG analysis

[a] This new fiber is about 7 percent of the entire network deployed as of May 2013.

Based on interviews with ENA and incumbent providers and the review of supporting documentation, we determined that, in the areas where new fiber was laid in proximity to existing fiber, ENA made efforts to partner with each service provider. This is demonstrated by ENA's issuance of requests for proposal (RFPs) and requests for information (RFIs), and by dialogue between the parties, as confirmed by both sides. Enclosure 3 provides detail on 3 major areas where we found ENA's market presence was disputed, and we noted their interaction with other companies. Our assessment was limited to the 4 specific incumbent telecom providers interviewed and is not a representation of the whole state. The overall mileage amount of fiber laid in proximity to existing fiber could be higher for the entire state.

At a July 2013 meeting with OIG, ENA reported that it has laid 660 miles of new fiber and estimated that the average cost of the new fiber was approximately $49,000 per mile. Based on these estimates, we determined that, for the area covered by our review, approximately $9.4 million was spent to deploy 192 miles in proximity to existing fiber. This number would likely have been higher if we had been able to compare all the miles of fiber laid by ENA. The analysis was limited due to lack of access to statewide competitor network maps.

5. How much of the original $100.6 million grant remains uncommitted? How much has been committed but remains to be disbursed? What are ENA's current monthly expenses? What is their current monthly revenue?

We found that, as of July 1, 2013, ENA had expended approximately $90.0 million in grant funds, leaving $10.6 million of undisbursed funds to complete the project. ENA stated that a planned cash match to the grant, in the form of loans, became unavailable and reduced the amount of cash available for the network by approximately $25 million. (For more information on the matching funds, see our response to question 6 below.) Because of the cash reduction, as well as the request from the CAIs for fiber instead of microwave, ENA has adjusted the project, reducing the number of CAIs to be reached with grant funding.

As of June 2013, ENA estimated that approximately $5.9 million of the available grant funds not yet disbursed were committed to work that has already been completed or for which a contract has already been signed. The remaining $4.7 million, which is not yet committed, was expected to be used to complete specific portions of ENA's network. Table 4 provides a summary of grant funds and their status as of July 8, 2013.

ENA provided us with preliminary financial data for its fiscal year (FY) 2013 (July 1, 2012–June 30, 2013). Based on that data, we determined that ENA's monthly expenditures average $273,068; its average monthly revenue is $94,799. On June 28, 2013, ENA provided its pro-forma projections, which included a plan to address the shortfall and forecasted a decrease in expenses for FY 2014 due to lower office space cost (ENA is currently seeking lower-cost office space) and an expected decrease in personnel costs (ENA expects a significant decrease in salaries, wages, and benefits after October 2013 due to the completion of much of its network). Additionally, ENA issued an invitation to negotiate (ITN) in May 2013, which sought proposals for an entity to operate the network. The ITN process is now completed and a network operator has been selected. As a result, ENA expects to realize a decrease in operating costs.

Table 4. Expended, Committed, and Uncommitted ENA BTOP Grant Funds (in Millions of Dollars)

Description	Expended	Committed	Uncommitted	Total
Federal funds drawn	90.0			90.0
Estimated future draws		1.4		1.4
Contracts		4.5		4.5
Pending agreements			3.4	3.4
Other planned expenses[a]			1.3	1.3
Total	**90.0**	**5.9**	**4.7**	**100.6**

Source: U.S. Treasury ASAP system and ENA

[a] Includes administrative, engineering, equipment, circuit, and closeout costs.

6. Have the terms of the grant been upheld by ENA in contracts with private businesses to ensure sustainability? Have the terms and conditions of the contracts with all proposed customers been satisfied—including those requiring matching contributions? If not, why not?

With regard to upholding agreements with customers, meeting matching requirements, and complying with the terms of grants, we found the following:

Upholding contract and satisfying customers. We are unaware of any situations in which ENA is not meeting its commitments to customers. As part of the BTOP equipment audit[12] currently being completed by OIG, we conducted interviews with 12 school representatives currently subscribing to ENA's network to determine if the schools were satisfied with their services. In all instances, the school representatives stated that they were receiving the services they expected. Based on these interviews, we determined that ENA is satisfying its contracts with customers.

Matching requirements. Only partners included in the application for the BTOP award pledged matching cash and in-kind contributions. However, we have noted that ENA has requested, and NTIA has approved, a change in the source of matching contributions. This occurred because matching contributions contained in the application for the award were no longer available for the project. Only the composition of the match, not the total amount, changed.

Revised grant match. In the initial award, ENA listed 11 different sources of cash and in-kind match contributions totaling $34.7 million. The cash match of approximately $22 million was comprised of cash contributions and loans, which later became unavailable due to ENA's inability to meet the lender's requirements. On April 23, 2013, ENA submitted an Award Action Request (AAR), which requested a move to a single-source, in-kind match provided by the Colorado Department of Transportation (CDOT). In an agreement dated May 8, 2012, CDOT had agreed to grant, free of charge, access to Rights-of-Way (ROWs), which allowed ENA to lay fiber in the ROW areas. At the time of the AAR approval on May 7, 2013, the agreement was already in place, and ENA had laid much of the fiber in the ROW without incurring costs that would have otherwise been required if the agreement had not been negotiated. ENA was not required to provide or gain approval for additional match secured beyond what was noted in the approved award; therefore, the value of the ROW had not been assessed or claimed as match until the original cash match was no longer available. ENA engaged a private firm to assess the value of the ROW, and the firm determined that the value of the ROW, approximately $39 million, exceeded the match requirement of $34.7 million. ENA requested, and the NOAA Grants Office subsequently approved, the change to a single-source match.

Noncompliance with grant terms and conditions. The terms and conditions of the ENA grant, contained in special award conditions (SACs) that are assigned to each grant, do not require contracts with private businesses. The SACs for the ENA grant address areas including compliance with reporting, environmental assessment, match, and other applicable regulations. The NOAA Grants Office uses these SACs to determine if the grant recipient is in compliance with the grant terms.

The Grants Office suspended ENA's grant on December 6, 2012, for material non-compliance with the Environmental Assessment (EA) SAC. The EA SAC required that any

[12] OIG project number BTOP000156, *BTOP Equipment Review*, to (1) determine whether NTIA has the personnel and processes in place to effectively monitor grantees' equipment acquisitions, (2) assess whether grantees have appropriately acquired, tested, and implemented the most effective equipment, and (3) evaluate whether grantees are on track to complete the BTOP projects on schedule and achieve project goals.

modifications of the approved project scope be submitted to and approved by NTIA prior to the implementation of the modifications. As part of its approval process, NTIA reviews the changes and completes an EA, which is required by NEPA. Without NTIA approval as required by the EA SAC, ENA modified their network design when it moved from a primarily microwave network to a predominantly fiber-based network. Additionally, ENA changed certain network routes to alter the path where fiber would be laid to reach the planned CAIs, which also required NTIA approval to ensure compliance with ENA's EA SAC. After the NOAA Grants Office suspended the grant, ENA submitted a modification approval request to include all network route modifications. NTIA completed the required EA, approved the project changes, issued a FONSI, and recommended that the NOAA Grants Office lift the grant suspension, which it did in April 2013.

Ensuring sustainability is a concern. In October 2013, ENA selected a partner to help it manage network operations and provide additional capital to complete portions of the planned network that cannot be completed with grant funds. (ENA will retain ownership of the BTOP-funded portion of the network.) In the ITN issued May 6, 2013, ENA states that the network operator will assume day-to-day operations of the network. Further, the ITN stated that ENA was "seeking for the Network Operator to provide an initial capital investment of [$8 million] that will be used towards completing the network consistent with [ENA's mission], building out Customer connections and other working capital requirements." ENA's belief is that this arrangement will improve sustainability by leveraging the expertise and economies of scale of existing service operators. In an announcement dated October 22, 2013, ENA stated that it had reached an agreement with Affiniti of Colorado. ENA's sustainability will depend on its ability to sign up customers, some of which may have existing agreements with service providers that have already invested in networks to service specific areas.

7. What is the proposed schedule for future build out with the unallocated funds? Where will deployment occur? When would deployment under ENA's revised plan be complete and when will customers, anchor institutions, and all other governmental entities have access to broadband services?

As noted in Table 4, ENA had $10.6 million of unspent grant funding as of July 1, 2013, with only $4.7 million of those funds uncommitted. At that time, we found that 102 CAIs and 2 additional customers currently have access to ENA's broadband service. Of those, 56 currently subscribe to ENA's service or ENA has won the contract to provide future services.

The NOAA Grants Office approved ENA's request to extend its grant period from August 31, 2013, to December 2014, at which time services are projected to be available to 29 additional school districts on the Western Slope, as well as other customers located near the CAIs. This should bring the total number of CAIs that can be connected using existing BTOP grant funds to 131. As we have noted, our understanding is that as additional funding becomes available, ENA will extend service to the remaining 92 CAIs.

We met with NTIA and ENA to discuss the project schedule for connecting the remaining CAIs. NTIA stated that ENA prioritized them based on the estimated cost to complete the connections, core network requirements, the status of construction already begun, and established E-Rate contracts.[13] Additionally, ENA focused on leveraging economies of scale that could be realized by including schools in close proximity or on the same route. ENA stated that, for the remaining grant funds, it will focus on connecting 29 school districts in the Western Slope region.

At a July, 2013 meeting, NTIA stated that work has begun at 16 of 29 locations (6 involve heavy construction, 6 involve negotiation of indefeasible rights of use agreements,[14] and 4 involve microwave connections), and construction was scheduled to begin at 2 more locations in August 2013. The remaining 11 are on hold pending fiber lease negotiations with an incumbent provider. Table 5 lists the school districts that have been prioritized for completion with existing grant funds.

Table 5. Colorado School Districts Prioritized by ENA for Connection Using BTOP Funds

School Districts		
Aguilar Reorganized 6	Huerfano RE-1	Ridgway R-2
Alamosa RE-11J	La Veta RE-2	Salida R-32
Buena Vista R-31	Mancos RE-6	San Luis BOCES (Alamosa)
Center 26 JT	Meeker RE1 (Meeker, CO)	Sangre de Cristo RE-22J
Cotopaxi RE-3	Moffat 2	Sargent RE-33J
Custer County C-1	Moffat County 1	Sierra Grande R-30
Del Norte C-7	Monte Vista C-8	Silverton 1
Dolores County RE2	Montezuma RE-1	Steamboat Springs RE-2
Dolores RE-4A	Mountain Valley RE 1	Uncompagre BOCES
Hoehne Reorganized 3	Ouray R-1	

Source: ENA

NTIA has approved ENA's request for an extension of its grant period, which will allow it additional time to connect the 29 prioritized schools with its remaining grant funds. At this writing, ENA had provided the following summary regarding the 29 prioritized schools:

[13] E-Rate is a program supported by the Federal Communications Commission's Universal Service Fund for schools and libraries. The purpose of the program is to help schools and libraries to obtain affordable telecommunications services, broadband Internet access, and internal network connections.

[14] *Indefeasible Rights of Use* (*IRU*) refers to the exclusive right to use a specified amount of fiber capacity for a specified amount of time.

- 21 of the 29 have been completed.
- ENA is working on wireless connections for 4: Buena Vista, Salida, Custer County, and Cotopaxi. With the exception of Cotopaxi, these should be completed by December 31, 2014.
- Agreements are being negotiated for 3: Dolores, Mancos, and Steamboat Springs, which should be completed by December 31, 2014.
- ENA continues to work on connecting Silverton to the network.

In addition to reaching the 29 priority school districts in the Western Slope, ENA planned to connect an additional 11 facilities during the 2013 construction season. These 11 facilities are shown in table 6. At this writing, NTIA reports that ENA has completed connections to 9 of these sites, is in the process of connecting Eaton School District RE 2, and has cancelled its plans for Galeton.

Table 6. School Districts to Be Connected by ENA Using BTOP Funds

School Districts	
Ault-Highland SD (Weld RE 9)	Galeton
Burlington	Limon Public Schools RE 4J
Cheyenne Wells	Northeast Colorado BOCES
East Central BOCES	Widefield School District 3
Eaton School District RE 2	Yuma School District – 1
Elbert School District 200	

Source: ENA

Additional Findings

The ENA award is a complex grant and has experienced numerous challenges. As part of our review, we found that two-thirds of the grant funds had been spent before NTIA addressed violations of the grant terms and conditions that resulted in suspension of the award. ENA faces additional challenges, including the project's inability to fully achieve the award's intended results and continued internal control issues. We found that the project will involve additional miles of constructed and leased fiber, with some of the completed fiber being laid in proximity to existing fiber.

Additionally, we determined that ENA did not lay new fiber to connect Agate schools. This is a topic that received attention in the press, at the February 2013 House subcommittee hearing on broadband grants, and is noted in your May 9 letter requesting us to review this award, where it was highlighted as a specific example of ENA's improper administration of the grant. ENA leased fiber to complete a short lateral connection from its main network route to Agate, which provides an alternative should Agate schools choose to alter their current service plan.

A. Implementation of the award has been challenging, and two-thirds of the grant funds had been spent before NTIA addressed the problems that resulted in its suspension.

NTIA provided early and continued oversight of the ENA award (see figure 1 for chronology of NTIA's grant oversight.) Nonetheless, the issue that prompted the suspension of the award—that is, early, material changes in design and routing—was only identified, and corrective action initiated, well into implementation of the award.[15] It wasn't until NTIA reviewed ENA's response to the Corrective Action Plan (CAP) in September 2012, at which point ENA had already drawn down $66.1 million, that the bureau noted that required approvals had not taken place. The terms and conditions of the grant required ENA to have already submitted the route change request and for NTIA to have issued a FONSI, the required environmental assessment without which the award cannot go forward.

We met with NTIA regarding the time lag between NTIA's awareness of the problems with environmental and historic compliance and the suspension of the award. NTIA senior officials responsible for the award said that they were addressing other issues (i.e., financial management controls and match) and that ENA's unapproved route modifications did not rise to the level of award suspension. Our review found that NTIA had provided substantial oversight of the award, but that earlier action should have been taken on environmental and historic preservation issues associated with route changes.

B. ENA faces additional challenges.

ENA continues to face challenges in award execution and administration.

1. ENA will not provide the network coverage intended in the initial design. As noted above, ENA had planned to reach 234 CAIs. Due to the change in network design, modification of the CAI list to include only 223 sites, and subsequent prioritization of CAI sites, ENA will now only reach 131 CAIs with grant funds. More specifically, ENA has determined that it will prioritize connecting 29 Western Slope school districts. The remaining 92 CAI sites will only be connected if non-grant funding is secured. Affiniti of Colorado, as part of its agreement with ENA, will provide funding to expand the network beyond this grant period. At this writing, ENA does not plan to complete the original ring design, which would have reduced network disruptions.

2. Weaknesses in ENA's financial internal controls remain. ENA's independent auditor's report for the year ending June 30, 2012, identified material weaknesses[16] with internal controls over financial reporting. Specifically, the report found that ENA did not monitor grant and non-grant disbursement coding, which resulted in some non-grant

[15] Under the terms of the suspension, ENA could continue to operate on a reimbursement basis, allowing it to pay staff and vendors, although it was not permitted to proceed with construction.

[16] A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis.

expenditures being recorded in the grant expense account. ENA did not correct the error until after it was identified by the external auditor. The report also found that ENA did not have a structure in place to ensure proper prior approval of grant fund drawdowns and the maintenance of supporting documentation. The report noted that the same issues had been identified the previous year.

During our review, we analyzed detailed FY 2013 financial data and noted continuing inconsistencies resulting from poor internal financial controls. For example, ENA provided us with two financial reports for the fiscal year ending June 30, 2013. They provided one in mid-June, just prior to close-out for the year, and another in mid-July, which should have closed out the year. While the two reports should show identical monthly results for the 11 months through the end of May 2013, the monthly totals in the two reports did not match. In response to our request for clarification, ENA stated that they do not close their financial records for prior months and that the discrepancies between the two reports were due to adjustments that had been made to all prior months after the mid-June report had been compiled. In a subsequent communication with ENA, we were informed that an internal financial review showed the need for additional adjustments. In order to strengthen internal financial controls, increase the accuracy of financial reporting, and decrease the risk of inappropriate manipulation of financial information, corrections should be made in a timely manner and financial records closed out each month, consistent with conventional financial reporting best practices.

Enclosure 2: Objectives, Scope, and Methodology

We were asked to respond to 7 questions posed by Congress. In order to answer the questions competently, we established five objectives for our review. These objectives included determining: (1) if ENA's network design changed after the transfer of the grant from CBOCES or during the grants administration; (2) how much of the project has been completed and what is planned with the remaining grant funds; (3) if ENA has laid fiber-optic cable next to existing fiber; (4) the amount of monthly expense and revenue recorded by ENA; and (5) if grant terms and conditions of the grant are being met. In answering these questions, we also identified findings that we are reporting.

The scope of the review was NTIA's BTOP grant number NT11BIX5570001 made to ENA. The total estimated cost of the grant was $135,300,777, comprised of $100,635,190 in federal share and $34,665,587 in required cost share, in this case largely comprised of in-kind contributions. The performance period of the grant is from September 1, 2010, to December 31, 2014. We conducted our review from May 2013 through July 2013.

The methodology included:

- interviewing ENA project, NTIA program, and NOAA Grant Office officials;
- reviewing the original CBOCES grant application and award documents, grant transfer documentation, and project design modification approval requests;
- reviewing performance and NTIA site visit reports and other documentation associated with NTIA's oversight;
- interviewing concerned parties; and
- reviewing network design maps.

We reviewed internal controls significant within the context of the review by interviewing ENA officials. We found that corrective actions are needed to improve internal controls. These issues are discussed in the "Additional Findings" section of Enclosure 1.

We did not rely on computer-processed data. Instead, we reviewed documentation submitted by the grant recipients; therefore, we did not test the reliability of information technology system controls.

We performed fieldwork at NTIA headquarters in Washington, DC, and the ENA business offices in Broomfield, Colorado. Our work was performed in accordance with the *Quality Standards for Inspections* (January 2012) issued by the Council of the Inspectors General on Integrity and Efficiency. These standards require that we perform work to obtain sufficient evidence to support the findings contained herein. We believe the evidence obtained provides a reasonable basis for the findings. The review was conducted under authority of the Inspector General Act of 1978, as amended, and Department Organizational Order 10-13 (April 26, 2013).

Enclosure 3: Three Major Areas Where ENA's Market Presence Was Disputed

Northeast Quadrant: Overlap with Phillips County Telephone Company (PC Telcom)

- Approximately 90 miles of new fiber built by ENA near existing fiber.
- PC Telcom did not respond directly to the dark fiber RFI or RFP from ENA. PC Telcom did respond via Colorado Communications Transport response. However, the proposal offered lit fiber (that is, fiber already in use), which was allowable but not preferable per NTIA guidance.
- PC Telcom currently has a 3-year partnership agreement with ENA to provide service to CAIs in the northeast region. However, long-term partnership agreements have not yet been reached due to disagreements on terms and conditions of the agreement.
- PC Telcom did not provide ENA with its network maps.
- ENA stated that the proposal presented by PC Telcom for partnerships were more costly than constructing new fiber.

Southeast Quadrant: Overlap with Southeastern Colorado Power Association (SECOM) and Eastern Slope Rural Telephone Association (ESRTA)

- Approximately 22 miles of new fiber built by ENA near existing fiber.
- ENA's initial network design suggested that this portion of the network would primarily be microwave, which did not pose concerns for local providers. However, ENA's current design shows that the network is primarily leased fiber, with portions newly constructed.
- Both SECOM and ESRTA responded to the RFI; however, the proposals submitted did not meet the requirements of the RFI, as the proposals offered only lit fiber or included non-compete clauses, which are not allowed by program regulations.

Southwest Quadrant: Overlap with Blanca Telephone Company (BTC)

- Approximately 80 miles of fiber built by ENA near existing fiber.
- ENA stated that RFI for dark fiber was sent to BTC. However, BTC claimed that they did not receive it and therefore did not respond to it.
- ENA and BTC agree that communications have been ongoing to try and reach an agreement to allow partnering which would include leased fiber from each other for redundancy (i.e. backup) purposes.
- ENA noted that at the time of the grant application and award, BTC did not have fiber in this area. However, ENA stated that BTC had constructed some portions of fiber lines prior to the grant award.