The New Mexico Broadband Program
Summary of Pilot Region Engagement with NW Council of Governments (NWCOG)

Version 1, January 8, 2015

Prepared for:	Prepared by:
The New Mexico Broadband Program	**Columbia Telecommunications**
NM Department of Information Technology	**Corporation**
http://www.doit.state.nm.us/broadband/	http://www.ctcnet.us/

Summary of Tasks and Deliverables – NW Council of Governments (NWCOG) Pilot Region Engagement

This document is a summary compilation of CTC Technology & Energy's tasks and deliverables related to the New Mexico Broadband Program (NMBBP) Regional Broadband Implementation Plan (RBIP) pilot program engagement with the NW Council of Governments (NWCOG).

Specifically, CTC performed the following tasks:

1. We conducted a detailed assessment of the technology systems planned for AGC New Mexico's Career and Training Center, to ensure that these tools will meet AGC's future needs and enable its users to better collaborate with outside entities, such as the University of New Mexico;

2. We advised NWCOG and the Continental Divide Electric Cooperative on the opportunity to apply to the Federal Communications Commission's (FCC) Rural Broadband Experiments Program;

3. We developed and filed a bid in the FCC's Rural Broadband Experiments Program on behalf of Continental Divide Electric Cooperative;

4. In conjunction with Cirrus Consulting, an expert on digital literacy training and programs, we performed significant outreach to engage communities in the region around digital literacy.

Additional tasks are ongoing, including the following:

1. We are currently completing a feasibility study for a fiber-to-the-home (FTTH) deployment for Continental Divide Electric Cooperative; and

2. We are currently completing a technical design for a government network for the City of Gallup and its surrounding area.

Our deliverables for AGC and Continental Electric Divide are itemized in the table of contents below.

Lessons Learned

The positive outcomes of the RBIP pilot underscores the importance of facilitating engagement in local communities to develop local capacity to address their broadband needs. As the State considers how to incorporate the RBIP pilots into its long-term broadband strategy, CTC makes the two key recommendations based on its experience working with NWCOG:

Support coordination and planning in regions to encourage the development of local solutions

The RBIP played a critical role in facilitating coordination and planning among various stakeholders and policymakers around broadband availability and adoption. Such discussions are critical to developing opportunities for collaboration in the communities among government leaders, citizens, institutions, and service providers. Many of regions of New Mexico lack the capacity to more deeply engage on planning and coordination activities. The State should continue to support these discussions and provide both informational support (i.e., mapping data and related information) along with substantial technical support to aid communities in developing local solutions to address their broadband needs.

Support digital literacy efforts to increase demand and foster sustainable infrastructure

Digital literacy efforts have been very well received in the pilot areas, including by the regions' telecommunications service providers. These efforts are critical to not only increase digital literacy for citizens, but to also create a stronger market for broadband and related services in underserved and unserved areas that in turn, may give providers more confidence that there will be sufficient demand to match their investment in broadband infrastructure.

There are several digital literacy challenges that are consistent across the communities in the pilot areas. First, there is often a lack of coordination around existing community resources in training (i.e. equipment, facilities, knowledge base). Second, many communities lack dedicated funding to pay training staff or have no dedicated staff positions. Finally, even in communities without the prior two challenges, they may not have to ability to create enough outreach and awareness to ensure a training program is well utilized by the public.

Thus many communities around the State would benefit from a sustained effort to facilitate engagement among civic leaders and institutions around digital literacy training. In addition, they would benefit from access to expert consultation to provide them with a scaffolding of the process to organize and develop digital literacy, including sharing training resources and best practices. Finally, the State could directly fund or assist with finding other funding (i.e. grants) to support dedicated digital life.

Table of Contents

The New Mexico Broadband Program

Technical Support to Northwest Region Council of Governments (NWCOG)

Version 2, October 27, 2014

Prepared for:	Prepared by:
The New Mexico Broadband Program	**Columbia Telecommunications**
NM Department of Information Technology	**Corporation**
http://www.doit.state.nm.us/broadband/	http://www.ctcnet.us/

Memorandum

New Mexico Broadband Program
Regional Broadband Implementation Plan

Date: October 27, 2014

To: Gar Clarke
            Broadband Program Manager
            Department of Information Technology (DoIT)
            State of New Mexico

From: Joanne Hovis
            President / Director of Business Consulting
            301.933.1488
            jhovis@ctcnet.us

Subject: *Evaluation of AGC New Mexico Career and Training Center and companion
            strategic analysis memo*

Evaluation of AGC New Mexico Career and Training Center

Date: September 12, 2014

To: Vicki Mora
               Chief Executive Officer
               AGC New Mexico

From: Eric Wirth
               Senior Project Engineer
               CTC Technology & Energy

Under the auspices of the New Mexico Broadband Program, CTC Technology and Energy (CTC) is assisting AGC New Mexico with an assessment of the technology systems planned for its Career and Training Center. The goal of CTC's engagement is to ensure that these tools will meet AGC's future needs and enable its users to better collaborate with outside entities, such as the University of New Mexico. The following details our review of the current capabilities, future requirements, and recommendations.

Current Capabilities

We find that the components AGC New Mexico purchased for its Career and Training Center are typical for such facilities. The room is equipped with network equipment, a server, WiFi equipment, presentation tools, and audio/visual equipment. We believe that the existing equipment will meet AGC New Mexico's need for providing training, educational courses, and career training from within the room. As with all electronics, however, the equipment will need to be replaced every three to seven years to maintain the center's functionality and reliability.

The following table summarizes the equipment purchased for the center based on vendor quotes provided by ACG New Mexico.

Description	Quantity
Sharp LC-80LE632U 80-Inch LED-lit 1080p 120Hz Internet TV	1
Merakl MX80 Cloud Managed Security Appliance	1
Meraki MR16 IEEE 802.lln 600 Mbps Wireless Access Point - PoE Ports	3
Merakl Cloud-Managed L2 24 Port Gigablt 370W PoE Switch - 24 Ports -Manageable - 24 x POE - 4 x Expansion Slots - 10/100/lOOOBase-T -Rack-mountable, Desktop	1
Epson Powerllte W17 LCD Projector- HDTV-16:10 - F/1.58 -1.72 - PAL,SECAM, NTSC - 1280 x 800 - WXGA - 10,000:1 - 2800 lm - HDMI - USB – VGA In - 283 W - 2 Year Warranty	1
Elite Screens VMAX2 Electric Projection Screen - 49" x 87'' - Matte White - 100" Diagonal	1
GE VH Series 1kVA, Double Conversion	2
AV Equipment (Mixer, Amplifier, Speaker, Mics)	1
Installation of Data Drops	13
Microsoft Office Professional Edition - License & Software Assurance - License & Software Assurance - 1 Unit - Volume - Microsoft Open Business - PC – English	2
Microsoft Windows Server Standard Edition - License & Software Assurance – 2 Processor - Microsoft Open Business - Single Language	1
Lenovo ThinkVision LT1913p 19" LED LCD Monitor - 7 ms - Adjustable Display Angle - 1280 x 1024 - 16.7 Million Colors - 250 Nit - 1,000:1 - SXGA - DVI - VGA - Black - ENERGY STAR 6.0, EPEAT Gold, TCO Certified Displays 6.0, TCO Certified Edge Displays 1.1, China Energy Label (CEL), RoHS, China RoHS, ULE Gold	1
Lenovo ThinkPad Edge 20C6008QUS 15.6" LED Notebook - Intel Core i7 17-4702MQ 2.20 GHz - Matte Black, Silver - 4 GB RAM - 500 GB HOD –DVD-Writer - Intel HD 4600 - Windows 7 Professional 64-blt - 1366 x 768 Display - Bluetooth	2
Cisco UCS C220 M3 SFF 2xE5-2609v2 2x8GB RAID-11 2x650W SD RAILS	1
V600 Cabinet enclosure,600X1200,S-PNL(2),F-DR FL VNT,R-DR SPVNT / KEY ,45U ,BLK	1
Cisco TelePresence Webcam - 2. 7 Megapixel - 30 fps - USB 2.0 - 1280 x 720 Video - CMOS Sensor - Auto-focus - Widescreen – Microphone	1

Table 1: AGC New Mexico Career and Training Center Equipment

In its current configuration, the room is capable of supporting videoconferencing and collaboration meetings for only a small group of participants if it is required that video from the room be transmitted to outside parties. Using the Cisco Teleprescence USB camera and microphone and a laptop, a group of one to three participants can participate in a video conference or use collaboration tools over the Internet (e.g., WebEX, GoToMeeting, and Adobe Connect). The limiting factor for the number of participants in a video conference is the ability of the USB camera to capture all of the participants' images. The USB camera has a limited field of view and can only accommodate a small group sitting in front of the laptop that is connected to the camera.

This small group setup can also support participating in traditional videoconferencing systems over the Internet if videoconferencing software is installed on the laptop and configured to work with an outside party's videoconferencing system over the Internet. These soft clients include Cisco Jabber Video, Polycom CMA Desktop, and Avaya Scopia.

Larger groups can use the Center to participate in events where video transmission from the room is not a requirement, but where large format displays are a requirement for viewing content in a group setting. These types of events might include remotely attending an event hosted by another entity in which the participants in the Center are primarily viewing content and collaborating via audio.

Future Requirements

Additional equipment and services will be required to enable groups of participants larger than about three people to collaborate using videoconferencing with entities outside of the Career and Training Center. Furthermore, if AGC New Mexico determines there is a need to produce video content in the Career and Training Center, such as lectures or interview panels, additional video production and recording equipment may be required.

We envision that the room could be equipped with a videoconferencing unit designed for large conference rooms or training rooms to accommodate both videoconferencing and video production requirements. These systems typically include one or more pan tilt zoon (PTZ) cameras and support for multiple monitors so that both the camera video (near and far end) and presentation content can be displayed at the same time.

The videoconferencing systems should also have at least one alternative video input so that content from the Center can be shared with other users, and should be compatible with the Center's existing audio-visual equipment in terms of video signal formats. These systems and their installation typically cost between $20,000 and $30,000, and can reach upwards of $50,000 even without recording capabilities. Given the cost, we recommend AGC New Mexico wait to make the investment in room-based videoconferencing systems until the need arises.

If AGC determines that events being hosted in the Career and Training Center do not require video, or that video can be limited to just the lecturer, then additional videoconferencing equipment may not be required. To host these types of events, AGC New Mexico will have to purchase a hosted collaboration service from one of the many commercial providers, including WebEx, GoToMeeting, and Adobe Connect. These services typically cost up to several hundred dollars per month depending on the number of participants and other features purchased with the service.

Collaborating with UNM

As a major collaboration partner, CTC had a discussion with the University of New Mexico to understand what collaboration and technology tools they currently use, their plans for the future technology, and how they envision collaborating with AGC New Mexico. While UNM is just one potential partner, we believe that the university represents a good benchmark for determining the viability of AGC's Career and Training Center configuration.

The UNM system uses a variety of collaboration tools, including Blackboard, Adobe Connect, and traditional (hardware-based) videoconferencing endpoints. UNM is also planning a deployment of Microsoft Lync with video capabilities. Each program or department at UNM can choose which collaboration tools it uses in order to communicate most effectively.

UNM operates a statewide network connecting all UNM campuses, community colleges, public universities, and high schools. Connecting to this network would allow AGC New Mexico to communicate with any of these institutions using the collaboration tools that the UNM system has in place. This connection could occur through a direct fiber link to the UNM network or through a VPN connection over the Internet. A VPN connection would entail little or no cost, while a fiber connection (which would enable a more reliable and high-capacity connection) would likely require a significant capital investment.

Summary of Recommendations

As mentioned above, we believe that the current Center technology configuration is sufficient to support training within the room and to participate in events hosted by other entities over the Internet. That said we would recommend the following next steps to position the Center to be leveraged more effectively with outside collaborators:

1. Work with UNM to set up a VPN connection or other temporary interconnection to the UNM network to facilitate collaboration with the University.

2. Investigate opportunities for a direct fiber interconnection with UNM.

3. Work with UNM to see what collaboration and videoconferencing tools can be leveraged by AGC New Mexico.

4. Purchase a hosted collaboration service at a monthly fee if additional collaboration tools are needed for AGC New Mexico to host its own meetings.

5. Purchase a room-based videoconferencing system when the need arises for video interaction on a larger scale than the current equipment can provide.

Evaluation of AGC New Mexico's Distance Learning Operations and Strategy

Date: October 27, 2014

To: Vicki Mora
               Chief Executive Officer
               Associated General Contractors – New Mexico Building Branch (AGC NM)

From: Joanne Hovis
               President
               CTC Technology & Energy

CTC Technology and Energy (CTC) is assisting AGC New Mexico with an operational assessment of its Career and Training Center and a strategic analysis of its programming; we are conducting our work under the auspices of the New Mexico Broadband Program, which has engaged CTC on a range of statewide broadband strategic planning initiatives.

Based on our evaluation, we believe that **AGC NM's Career and Training Center, partnerships, and programmatic approach to distance learning are aligned with best practices nationally, and reflect a solid strategy for training new and experienced workers**—which will benefit both the individual learners and the state's commercial construction industry.

Effective workforce development efforts such as this are widely understood, too, to have positive impacts on the state's economy as a whole. AGC NM's efforts are helping employers fill open jobs and helping individuals find new or improved improving employment, often in areas where skilled jobs are relatively scarce.

ACG NM's Career and Training Center Is Well Designed

Our assessment of the Career and Training Center at AGC NM's Albuquerque headquarters finds that the facility is state of the art and well-equipped, with a broadband connection that will support high-quality interactions with other sites across the state. As we noted in our detailed report, the Center is fully capable of supporting videoconferencing and collaborative meetings among groups of participants.

In its current set-up, the Center is ideally suited to (1) hosting larger groups who would be viewing content on large-format screens and collaborating via audio, or (2) hosting an instructor who would present to remote attendees across the state. In other words, the Center fully supports AGC NM's well-planned strategy of "serv[ing] as the focal point of a 'hub-and spoke' design allowing individuals from throughout the state to connect to and participate in career development, training or certification efforts."

AGC NM's Distance Learning Strategy Aligns with the State's Geographic and Economic Challenges

AGC NM has correctly noted that "[t]he challenges of New Mexico's geography and distance between communities (and construction projects) can be more easily addressed via distance learning tools." The International Society for Technology in Education (ISTE), among other authorities on the subject, has recognized distance learning enabled by broadband as an essential tool in creating access to education for geographically isolated students. What's more, by reducing or eliminating the time and cost required for students to travel to training, distance learning can be much more cost-effective than traditional, centralized classroom settings.

AGC NM's efforts to lower barriers to education and training—using the Career and Training Center as the hub for forward-looking partnerships across the state—are significant for the state's construction industry and, by extension, in terms of potential statewide economic impact. The National Center for Construction Education and Research (NCCER) has reported on research indicating that 40 percent of employers have entry-level vacancies because applicants lack necessary skills.[1] AGC NM's training and education efforts, including the Career and Training Center, directly address these needs for basic and advanced training for new workforce entrants in the state's construction industry.

AGC NM's Educational Collaborations Are Effectively Supporting Its Mission

AGC NM's approach to educational partnerships presents a roadmap for reaching more students and expanding the benefits of AGC NM's efforts. The organization's collaboration with the University of New Mexico–Gallup, especially, is a forward-thinking approach to meeting the needs for workforce development in rural areas.[2]

In this regard, the Career and Training Center could be the starting point for expanded training efforts using broadband-enabled technology across the state. Connecting to UNM's statewide network would allow AGC NM to communicate with any of these institutions and reach a much-expanded, geographically diverse student body.

As we noted in our analysis of the Center, this connection could occur through a direct fiber link to the UNM network or through a VPN connection over the Internet. A VPN connection would entail little or no cost, while a fiber connection—which would enable a more reliable and high-capacity connection—would likely require a significant capital investment. In either scenario, AGC NM would also benefit from expanded funding for operations.

---

[1] Ryan Wilder, "The Shift in American Education," *NCCER Cornerstone*, Nov. 11, 2013. http://nccercornerstone.org/features/item/126-the-shift-in-american-education

[2] See, for example: Damon Scott, "AGC-NM builds on workforce development efforts in Gallup area," *Albuquerque Business First,* June 19, 2013. http://www.bizjournals.com/albuquerque/news/2013/06/19/agc-nm-builds-on-workforce-development.html

The New Mexico Broadband Program

Funding and Financing Analysis for Northwest Region Council of Governments

Version 1, October 31, 2014

Memorandum

New Mexico Broadband Program
Regional Broadband Implementation Plan

Date: October 31, 2014

To: Gar Clarke
                Broadband Program Manager
                Department of Information Technology (DoIT)
                State of New Mexico

From: Joanne Hovis
                President / Director of Business Consulting
                301.933.1488
                jhovis@ctcnet.us

Subject: Funding and Financing Analysis for Northwest Region Council of Governments

Funding and Financing Analysis for Northwest Region Council of Governments

Under the auspices of the New Mexico Broadband Program, CTC Technology and Energy (CTC) is assisting Continental Divide Electric Cooperative (CDEC), headquartered in Grants, New Mexico, with its application to the Federal Communications Commission's Rural Broadband Experiment (RBE) grant program—a significant new source of potential broadband funding for the Northwest Region.

The FCC's RBE application window opened on October 23, 2014 and closes on November 7, 2014. The application window was announced only a week prior to its opening, and the actual application was not available until October 23rd – which prevented CTC and Continental Divide from beginning the extensive application process sooner. To adequately and effectively respond to the FCC, CTC and CDEC staff will need most, or all, of the two-week application window.

Accordingly, this deliverable documents our work to date and confirms our planned completion, in collaboration with Continental Divide, by the application deadline on November 7, 2014.

Figure 1: Rural Broadband Experiment Application Log-In Page

Attached here are supporting documents that illustrate the framework and timeline within which we are completing this task; our progress to date; and our planned task completion. The attachments are:

1. FCC public notice of opening of RBE application filing window

2. CTC's timely and detailed instructions provided to Cesar Martin, Special Projects Manager at Continental Divide Electric Cooperative, on the day of the FCC's announcement. This e-mail also reflects the fact that Mr. Martin has had, and continues to have, extensive telephone conversations with CTC staff to coordinate the application process.

WIRELINE COMPETITION BUREAU ANNOUNCES DATE FOR OPENING OF RURAL BROADBAND EXPERIMENTS APPLICATION FILING WINDOW AND FINAL DEADLINE FOR APPLICATIONS
WC Docket No. 10-90

Today, the Wireline Competition Bureau (Bureau) announces the new date for the opening of the rural broadband experiments application filing window, as well as the corresponding application deadline.[3]

The application filing window for entities interested in participating in the rural broadband experiments will open on **Thursday, October 23, 2014 at 9a.m. EDT**. Applicants must complete and submit FCC Form 5610 to participate in the rural broadband experiments. As part of Form 5610, applicants must attach a dedicated bid form for each proposed project, a single descriptive data form listing all of their proposed projects, and certain project information.[4] A link to Form 5610 will be available at http://www.fcc.gov/encyclopedia/rural-broadband-experiments on October 23.

Applicants have 15 days from the opening of the filing window to submit Form 5610. Thus, the application filing deadline is **Friday, November 7 at 6p.m. EST**. Applicants are reminded that the application filing deadline is a firm deadline and are encouraged to file as early in the application filing window as possible to ensure that they have ample time to correct any errors that may occur with their application.[5]

Applicants are encouraged to review all of the informational materials released by the Bureau, particularly the rural broadband experiments webinar. The webinar covers each step of completing Form 5610, including how to upload and attach bid forms, descriptive data forms, and project information. In addition, the Bureau has made available templates of the bid form and descriptive data form, a sample project information submission, and guides dedicated to working with the rural broadband experiments census block list and completing the bid form. All these materials are available at http://www.fcc.gov/encyclopedia/rural-broadband-experiments.

For additional information on this proceeding, contact Ian Forbes (Ian.Forbes@fcc.gov) of the Wireline Competition Bureau, Telecommunications Access Policy Division, (202) 418-7400.

– FCC –

---

[3] On September 26, 2014, the Bureau announced a temporary delay of the application filing window and application deadline for participation in the rural broadband experiments. *See Wireline Competition Bureau Announces Further Details Regarding the Rural Broadband Experiments*, WC Docket No. 10-90, Public Notice, DA 14-1396 (Wireline Comp. Bur. rel. Sept. 26, 2014).

[4] *Wireline Competition Bureau Announces Application Process for Entities Interested in Participating in the Rural Broadband Experiments*, WC Docket No. 10-90, Public Notice, DA 14-1203, paras. 16-17, 36 (Wireline Comp. Bur. rel. Aug. 19, 2014).

[5] As explained during the rural broadband experiments webinar, the FCC Auction System reviews bid forms and descriptive data forms for errors after submission. Applicants will be contacted if there are any errors in their submissions, and are expected to rectify such errors by the application deadline to ensure successful processing. Any project with a bid form that is not successfully processed by the application deadline will not be considered for funding.

CTC E-Mail to Continental Divide Electric Cooperative

From: Cheryl Johnson
Sent: Thursday, October 16, 2014 5:03 PM
To: Cesar Martin
Cc: Heather Mills; Sabrina Gosnell
Subject: Information needed for FCC RBE application process
Importance: High

Cesar,

Our staff has reviewed the example online forms and information requirements for the RBE application process. The FCC announced the application filing window today (http://www.fcc.gov/document/wcb-announces-rural-broadband-experiments-filing-window), so we must work quickly. The window will open on October 23 and will close on November 7.

What we will be populating for you includes the following requirements:

- Form 5610 must be filed for your organization
- A separate dedicated bid form must be filed for each proposed project
- A single descriptive data form listing all proposed projects
- Additional required information

The information that we require from you to complete this application process includes:

- **FRN number and log-in password**. To search to see if you have an FRN, go to https://apps.fcc.gov/coresWeb/simpleSearch.do. If you do not have an FRN number you will need to apply for that as soon as possible at https://apps.fcc.gov/coresWeb/regEntityType.do.

Form 5610

- Applicant Information
  - Legal Classification (consortium, corporation, general partnership, government entity, individual, LLC, LLP, limited partnership, trust, unincorporated association)
  - Name
    - Entity Name
    - Jurisdiction of Formation
  - Address

- Responsible Party – Corporation (Officer or Director)

- Contact Individual (point person for all correspondence)
  - Name

- Phone
- Fax
- Email
- Address

- Authorized Bidders - At least one, up to three

- Agreements
  - Any and all agreements entered into with any party
  - Add up to 3 initially, and can add more later
    - Entity Name
    - FRN
    - Individual name
    - FRN

- Ownership Disclosure [disclosable interest holder/DIH or FCC Regulated Business]
  - <u>DIH</u>
    - Entity name
    - Entity type
    - FRN
    - *OR*
    - Individual Name
    - FRN
    - *Address will be required for entity or individual*

  - Type of ownership (all that apply)
    - Direct
    - Indirect
    - Officer
    - Director
    - Key management personnel
    - Management contract
    - Other
  - Type of ownership
    - Common Stock [specific drop-down]
    - General Partnership Shares [specific drop-down]
    - Limited Partnership Shares [specific drop-down]
    - Membership shares
    - Option to acquire equity
    - Proprietorship
    - Preferred stock (specify both voting and convertible types)
    - Warrant
    - Other
  - % of interest held in applicant
  - Jurisdiction of formation

- FCC Regulated Business
  - Business
  - Principal business
  - FRN
  - Percent of interest held by applicant

Bid Form

- A dedicated bid form is required for each proposed project
  - Project ID
  - Entity FRN
  - Category Type
  - CBFIPS
  - Total Support Requested
  - Total Eligible Locations
  - Total Extremely High Cost Locations
  - Contingent Bid Project IDs

Descriptive data form

- Only one should be submitted, listing all proposed projects
  - Bid Project ID
  - Entity FRN
  - Category Type
  - Entity Type
  - Provider Type
  - Technology Type
  - Is applicant already designated an ETC Y/N?
  - If selected, will applicant elect 30% upfront funding Y/N?

Please call me if you have any questions.

Cheryl L. Johnson
Senior Analyst
CTC Technology & Energy: Engineering and Business Consulting for the Public Sector
Columbia Telecommunications Corporation
Branch Office: 3939 Quail Ave. N, Robbinsdale, MN 55422
Office: 763.535.4565 | Fax: 301.933.3340
cjohnson@ctcnet.us | www.ctcnet.us

Headquarters: 10613 Concord Street, Kensington, MD 20895
Office: 301.933.1488 | Fax: 301.933.3340

The New Mexico Broadband Program

FCC Rural Broadband Experiment Application for Continental Electric Divide Cooperative, Inc.

Version 1, November 6, 2014

Prepared for: **The New Mexico Broadband Program** NM Department of Information Technology http://www.doit.state.nm.us/broadband/	Prepared by: **Columbia Telecommunications** **Corporation** http://www.ctcnet.us/

Memorandum

Date: November 6, 2014

From: Joanne Hovis
                President / Director of Business Consulting

To: Gar Clarke
                Broadband Program Manager
                Department of Information Technology
                State of New Mexico

Subject: *RBE Application for Continental Divide Electric Cooperative*

The following application narrative was developed by CTC in collaboration with Continental Divide Electric Cooperative (CDEC), and were submitted to the Federal Communications Commission (FCC) on CDEC's behalf for the Rural Broadband Experiments program. This narrative accompanied all required maps and other supporting data for CDEC's submittal.

FCC Rural Broadband Experiments Application Narrative

Background:
Continental Divide Electric Cooperative Inc. ("CDEC") is a member-owned, non-profit electric cooperative providing electric service to 23,525 meters in five counties located in west central New Mexico. CDEC's proposal includes all of Cibola and parts of McKinley, Sandoval, Bernalillo and Valencia counties. CDEC also serves four Native American tribal entities – the Pueblo of Acoma, the Pueblo of Laguna, the Pueblo of Zuni and the Navajo Nation. CDEC's service territory spans 7,270 square miles.

CDEC is fully committed to building a long-lasting FTTH solution that will foster economic development and present CDEC members with opportunities that, thus far, are available only in urban communities. Many residential households, commercial businesses and anchor institutions have sought these services, only to find they are unavailable.

Bringing a robust, reliable fiber optic network to CDEC's sparsely populated service area is reminiscent of the Rural Electrification Administration's efforts back in the 1930s and '40s. The Investor Owned Utility ("IOU") provider model was, and still is very difficult to sustain under currently existing demographic and geographic circumstances. These areas currently not served by IOUs continue to be passed over by investor-owned communication counterparts.

CDEC has 3772 miles of electric distribution infrastructure that spans just west of Albuquerque, N.M., all the way to the Arizona border and roughly 50 miles on both sides of Interstate 40. CDEC's footprint is roughly 7,270 square miles. CDEC also has a well-versed customer service department with an experienced utility staff. CDEC has in-house capabilities to provide bundled billing services, collections and back-office support that include hardware and software maintenance. Headquartered in Grants, N.M., CDEC also has a district office in Gallup, N.M. CDEC is a legitimate candidate to construct, maintain, administer and double as an ISP for a fiber-optic network that would cover its entire service area.

Project Details:
The CDEC Broadband project will extend broadband to the five counties located in west central New Mexico including all of Cibola and parts of McKinley, Sandoval, Bernalillo and Valencia counties. CDEC also proposes to serve four Native American tribal entities – the Pueblo of Acoma, the Pueblo of Laguna, the Pueblo of Zuni and the Navajo Nation with broadband. CDEC's current electric service territory spans 7,270 square miles.

The proposed project will use fiber-to-the-premises and other broadband facilities to offer voice and broadband service of at least 25 Mbps downstream/5 Mbps upstream to residential and small businesses.

The proposed project area includes over 100 anchor institutions with most serving multiple locations.

Service Offerings:
The planned voice and broadband service offerings include voice-only service that will not exceed $30 per month and a minimum 25 Mbps downstream/5 Mbps upstream broadband-only offering that will not exceed $70 per month for unlimited usage. The planned bundled voice-broadband offerings will be voice, plus data service of at least 25 Mbps downstream/5 Mbps upstream for $85 per month for unlimited usage.

The planned Lifeline offering will be $9 per month for unlimited local and long distance voice service. There will be a discounted broadband plan for low-income consumers who qualify for the Lifeline program, offering a $19 broadband product of at least 5 Mbps downstream/3 Mbps upstream. Qualifying Lifeline consumers will be permitted to apply the Lifeline discount to bundled voice and data services.