Grant Request Number	GRN-001081
Funding Program Name	Middle Mile Broadband Infrastructure Grant Program
Funding Request Name	Blue Ridge Advisory Services Group, Inc. - Middle Mile - GRN-001081
Applying Organization	Scott County Telephone Cooperative
Applicant Name	Robert Picchi

Primary Applicant Type

Identify the primary applicant type:

Single Entity
———
Primary Entity Type

Type of entity: Primary entity type, (A) a State, political subdivision of a State, Tribal government, technology company, electric utility, utility cooperative, public utility district, telecommunications company, telecommunications cooperative, nonprofit foundation, nonprofit corporation, nonprofit institution, nonprofit association, regional planning council, Native entity, or economic development authority; or (B) a partnership of two (2) or more entities described in (A).

What is the primary applicant's entity type?

Telecommunications Cooperative
———
Is parent/owner of applicant a foreign entity?

No
———
Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Gwendolyn Richardson; Scott County Telephone Cooperative; Operations Manager; grichardson@sctc.org
KeyPersonnel_Resume_Gwendolyn_Richardson
———

Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Matthew Hill; Scott County Telephone Cooperative; Chief Operating Officer / CTO; mhill@sctc.org
KeyPersonnel_Resume_Matthew_Hill
———
Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Robert Picchi; Blue Ridge Advisory Services Group; Collaborator; rhp@blueridge-group.com
KeyPersonnel_Resume_Robert_Picchi
———
Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Roger Fraysier; Scott County Telephone Cooperative; Executive Vice President; rfraysier@sctc.org
KeyPersonnel_Resume_Roger_Fraysier
———
Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - William Franklin; Scott County Telephone Cooperative; Chief Executive Officer; billfranklin@sctc.org

KeyPersonnel_Resume_William_Franklin

———

Organizational Charts

Each applicant shall submit any necessary organizational chart(s) detailing all of its parent companies, subsidiaries, and affiliates.

Letter of Support from Virginia for NTIA Midd-09-29-2022 12-52-Scott County Telephone Cooperative-GRN-001081.docx.pdf, Letter of Support from Tennessee for NTIA Mid-09-29-2022 12-53-Scott County Telephone Cooperative-GRN-001081.docx.pdf, SCTC Legal Entity Description-09-11-2022 02-08-Scott County Telephone Cooperative-GRN-001081.pdf

———

Organizational Details

Each applicant must also provide a narrative describing the applicant's readiness to manage a middle mile broadband network. This narrative should describe the experience and qualifications of key management set to undertake this project, the applicant's experience undertaking projects of similar size and scope, recent and upcoming organizational changes including mergers and acquisitions, relevant organizational policies, and ownership information consistent with 47 CFR § 1.2112.

This narrative shall denote who will own the assets at the end of award period. This response is limited to 6000 characters as an open field narrative.

In 1951, the Scott County Telephone Cooperative took shape to serve more than 420 sq. miles of Scott Co., Virginia, and 15 sq. miles of Hancock Co., Tennessee. Initially, SCTC focused on circuit switched telephony inside its native territory and purchased transport from Interexchange carriers at their POPs. As the industry changed, particularly after the MFJ in the early '80s, and the Telecom Act of 1996, it became completely clear to SCTC that to survive and drive economic development, SCTC had to edge out of their franchised area, develop new networks and capabilities, and develop more interconnections with other networks.

SCTC now serves over 11,000 customers in 5 counties in Southwest Virginia and 2 in Northeast Tennessee. To connect these markets, SCTC operates a 450-mile middle mile network. In addition to providing retail services to customers, SCTC has been working intensely for the past 20 years to establish expertise in operating carrier-grade middle mile and transport networks that go beyond the region.

To demonstrate SCTC's readiness to build and manage middle-mile, SCTC can point to several initiatives:

1. SCTC is a member of iRis Networks, who operates a 5,000-mile fiber network across Tennessee and parts of Alabama, Georgia, and Kentucky. iRis has direct connectivity to 350 E. Cermak in Chicago and 56 Marietta in Atlanta, two of the most important data centers in the Nation. SCTC has a Network-to-Network Interconnection with iRis in Johnson City, Tennessee, SCTC is a 10.6% owner of iRis with

several other cooperatives.

2. SCTC is a member of LIT Networks, LLC. LIT is a middle mile network that spans Virginia and portions of Georgia and North Carolina. LIT is comprised of 7 not-for-profit enterprises who each contributed dark fibers to interconnect, then light the fibers using technologically advanced Dense Wave Division Multiplexing (DWDM) transport gear. The LIT network is 2,500 route miles of fiber with direct fiber connection to Equinix Ashburn, 56 Marietta, and other mid-Atlantic data centers. LIT operates 32 Points of Presence and offers services from 10 Mbps to multiple 10 Gbps. SCTC is a 14.2% owner of LIT Networks.

3. In 2013, the Virginia Coalfield Coalition (VCC) – an economic development corp. – was selected by the Virginia Tobacco Commission to be a grant recipient to bring wireless communications to Southwest Virginia. The scope of work was to build a fiber network and towers to deploy a 4g wireless network. A national wireless carrier entered a partnership with the VCC to provide 4g LTE service. SCTC was selected as the all-requirements provider to build, operate, and maintain the fiber network. SCTC deployed 110 miles of middle-mile backbone fiber to connect 39 towers, and approximately 60 miles of laterals from the towers to the backbone.

4. SCTC's regional network consists of redundantly ringed fiber pathways across the region, each with multiple fiber strands in each cable sheath. These individual strands are lit using DWDM technology that enables multiple transmission pathways within each fiber strand. Currently, SCTC only uses eight wavelengths to enable up to 80 Gbps of throughput capacity strand but is currently in the process of expanding this to forty wavelengths.

To operate the SCTC network to carrier standards, a 24X7 Network Operations Center (NOC) is operated in Gate City, VA. The NOC provides monitoring, alarming, and a first layer of troubleshooting of network events. This NOC is utilized to dispatch technical resources to resolve issues pertaining to the fiber optic plant and/or the transport electronics.

These experiences demonstrably prove SCTC's readiness to operate the proposed middle-mile network. The network will be operated to carrier-grade standards.

Organizational Changes. SCTC anticipates no organizational changes, and no key staffing changes.

Who will own the assets at the end of the grant period? At the time of the award, the grant-assets will be treated as "restricted assets" held in trust for the NTIA. Gradually, as the short-lived assets such as electronics, are replaced or fully depreciated and upgraded, the exhausted asset will be removed from the restricted asset category. The replacement assets, funded by the Cooperative, will be categorized as unrestricted assets. Gradually, as long-lived assets are fully depreciated, they also will migrate from the restricted to the unrestricted category. At the eventual end of the award period, there will be no restricted assets. All assets will be owned by SCTC. Ultimately, the cooperative is owned by its members.

47 CFR1.211. ownership info: SCTC is owned by its members, equally. There are roughly 3,780 members. Each member owns roughly .026% of the Cooperative. Cooperatives live by the principle of "one member, one vote", so control is allocated evenly among the users of the Cooperative without regard to how much money each has spent or invested.

In general, 47 U.S. Code § 222 – requires every telecommunications carrier protect the confidentiality of proprietary information of customers. However, If required for this application, the Cooperative will

seek a dispensation from the confidentiality requirement and disclose its list of members (owners) to the NTIA.
No one member owns more than .026% of SCTC. No LLC, no limited partnership, and no general partnership, or individual member owns 10% or more of the Cooperative. There is no foreign ownership of SCTC.
SCTC is an FCC licensee. No controlling interest owns more than 10% of the Cooperative or its licenses. There are no investor protection agreements, including rights of first refusal, supermajority clauses, options, veto rights, rights to hire and fire employees, nor to appoint members to boards of directors or management committees. All Board members are elected by the membership. All board members and officers are US Citizens. There are 9 elected Board Members and 3 Officers of SCTC.
———

Form CD-511 (Certification Regarding Lobbying)

The applicant must upload a completed form that certifies that Federal funds have not and will not be used for lobbying in connection with this request for Federal financial assistance. A fillable Form CD-511 can be found in the MMG ZIP folder.

CD511-Executed-09-12-2022 05-30-Scott County Telephone Cooperative-GRN-001081.pdf, Completed CD511-Executed-10-14-2022 04-41-Scott County Telephone Cooperative-GRN-001081.pdf
———

Standard Form-LLL (Disclosure of Lobbying Activities)

Standard Form-LLL must be completed and submitted for those applicants that need to disclose lobbying activities that have been secured to influence the outcome of a Federal action. A fillable Form SF-LLL can be found in the MMG ZIP folder.

Standard Form LLL Not Applicable-09-12-2022 05-30-Scott County Telephone Cooperative-GRN-001081.pdf
———

SAM.gov Registration

Applicants are asked to upload a screenshot of their SAM.gov registration.

SAM ID-09-12-2022 10-44-Scott County Telephone Cooperative-GRN-001081..JPG
———

Executive Summary

Please describe how the applicant's proposal will advance the objectives of the MMG Program, as well as the specific objectives of outlined in the Notice of Funding Opportunity (NOFO);

An overview of the proposed route or service area(s), including information regarding rurality and socio-economic indicators in the area to be served by the proposed project.

This response is limited to 12000 characters as an open field narrative.

Project Area

The project area is a thirteen (13) county area of central Appalachia. The area includes Dickenson, Lee, Russell, Scott, Washington, Buchanan, and Wise Counties in far Southwest Virginia and Grainger, Hawkins, Sullivan, Washington, Union, and Hancock Counties in East Tennessee. Except for Washington and Sullivan Counties in Tennessee, the area is rural, low population density, and has greater poverty than either of the Tennessee or Virginia state averages, and substantially below the National average. Excluding Sullivan and Washington Counties in Tennessee from the project area, amplifies the disparity. (Washington and Sullivan Counties are included in the study area to achieve interconnect with major exchanges and Network to Network Interfaces (NNI) with non-regulated providers which will provide more cost-efficient connections to lower the cost of service in the 11 rural counties -- our true target market).

Consistent with low density and poverty, the area has significantly lower broadband penetration rates. There are many and differing reasons for the dearth of broadband. One of the largest contributors is the lack of middle-mile infrastructure to reach the unserved communities. The proposed project is to build a 155-route mile, middle-mile network, that leverages the existing infrastructure already built, owned and operated by Scott County Telephone Cooperative (SCTC), to access the unserved communities located principally in the 11 least served counties identified below.

Counties in Study Area	% Households with broadband Internet
1. Scott County, Virginia	67.3%
2. Russell County, Virginia	61.3%
3. Dickenson County, Virginia	68.1%
4. Lee County, Virginia	50.5%
5. Wise County, Virginia	66.9%
6. Buchanan County, Virginia	67.5%
7. Washington County, Virginia	76.3%
8. Hancock County, Tennessee	58.2%
9. Hawkins County, Tennessee	75.6%
10. Grainger County, Tennessee	72.6%
11. Union County, Tennessee	69.1%
12. Sullivan County, Tennessee	80.9%
13. Washington County, Tennessee	82.9%

Per the US Census Bureau, the 13- county study area has an average household with a broadband Internet subscription rate of 69%. This compares to the United States average of 85.2%.

SCTC is intimately familiar with the region of central and south-central Appalachia. SCTC intends to build the last-mile network to serve the unserved households in the region if no other service providers will do so. The middle-mile network funded under the NTIA MMG program, will be operated as an open-access network (OAN) to provide non-discriminatory access to any standards-based operator that

desires to serve customers. A grant requirement of several of our Virginia Tobacco Commission grants is the OAN requirement.

SCTC is in complete agreement with the NTIA's assertion that Broadband internet access is not a luxury, but a necessity, for all Americans, regardless of their age, race, or income, irrespective of where they live, what languages they speak, what resources they have at their disposal, and what specific challenges they may face in their daily lives. Recognizing broadband's fundamental role in today's society and its centrality to our nation's continued health and prosperity. SCTC will go one step further and state that without access to broadband, there can be no sustainable community development. The sparse population density, the mountainous rugged terrain, and the high cost of constructing networks in the region make it unlikely that there will ever be a market-based solution to the broadband problem. The regions economy has largely been dependent upon mineral and natural resource extraction – specifically coal and gas. The jobs have largely disappeared. As a result, those with sufficient resources have left the region. This generally has been the best educated residents with transferrable skills to a new industry. The result has been a shrinking population. Buchanan County Virginia lost 15.5% of its population in the 10-year period 2010 to 2020.
Broadband cannot solve all of the regions problems, but without broadband there is no hope.

Project Objectives
The MMG award requested by SCTC will accomplish two very important objectives of the program. 1) It will bring middle-mile infrastructure to the truly unserved and underserved communities of central Appalachia and enable SCTC and others to build last-mile infrastructure to provide affordable service. 2) because the proposed network architecture is a ring topology, and is integrated into existing SCTC network, it will provide a self-protected resiliency with multiple paths and few single points of failure.
Rurality and Socioeconomic indicators of the service area
As noted in the introduction of the executive summary, the area is rural:

Counites in Study Area	Persons in poverty, percent
Scott County, VA	17.6%
Russell County, VA	16.2%
Dickenson County, VA	19.3%
Lee County, VA	26.0%
Wise County, VA	20.3%
Buchanan County, VA	23.7%
Washington Co., VA	13.2%
Hancock County, TN	28.6%
Hawkins County, TN	15.5%
Grainger County, TN	14.2%
Union County, TN	16.9%
Sullivan County, TN	13.6%
Washington County, TN	13.2%

Per the US Census Bureau, fully 18.3% of the region's population lives in poverty. This compares quite unfavorably with the national average of 11.6%.
The median household income in 2020 dollars is as follows:

Counites in Study Area	Median household income (in 2020 dollars)
Scott County, VA	$41,540
Russell County, VA	$38,564
Dickenson County, VA	$30,116
Lee County, VA	$35,006
Wise County, VA	$41,285
Buchanan County, VA	$34,302
Washington Co., VA	$50,928
Hancock County, TN	$28,234
Hawkins County, TN	$45,318
Grainger County, TN	$44,703
Union County, TN	$45,143
Sullivan County, TN	$47,438
Washington County, TN	$48,923

The median household income in the 13-county study area is $40,855 annually. This is $24,000 less than the National average. The result is the residents of the region, on average, have an economic purchasing power of just 63% of the average American.
The region is also mostly rural. The population per square mile is as low as 30 in Hancock County, TN

High-level Budgetary Information
The proposed network is 155 route miles of 144 count fiber optic cable.

ELEMENTS	COST IN DOLLARS
SCTC established middle mile	$10,152,000
Engineering Design & Permitting	$775,000
155 Route Mile Outside Plant	$10,460,000
Electronic and Shelters	$7,265,000
Project Contingency	$1,850,000
Total Project Capital	$30,502,000

Of the total capital requirements of $30,502,000, SCTC will provide 33% match in in-kind middle mile fiber and electronics.

The cost per route mile for the new Outside Plant (OSP) is just under $73,000 per mile. This includes the cost of "make ready." Make ready is the cost incurred by an "attacher" to an existing utility pole associated with the facilities lines and equipment that are pre-existing on the pole. The owner of the pole determines what level of effort must be undertaken to make the pole suitable for the new cable

attachment. Then the new “attacher” must pay the make-ready and the pole owner performs the work. Sometimes the make ready cost includes a completely new utility pole.
All-in, with electronics shelters, the cost for the new middle-mile project will be about $131,290 per route mile. It is worth noting that inflation and supply chain disruptions have hit the telecommunications industry particularly hard. Fiber optic cable prices have doubled in the last 16 months. The cost of polymer innerduct has increased 90% in the past year. Vendors are quoting 24-month lead time for some communications equipment. SCTC manages a regular supply chain for communications equipment and have excellent supplier relationships. The cooperative is confident it can procure the materials within the outlined budget and complete the project within the proposed schedule.

Overview of Proposed Route
The proposed route will be 155 miles of new fiber cable that significantly improves the existing SCTC network architecture by creating 4 new rings, closes several unprotected laterals, opens dozens of unserved markets, and interconnects (via a network-to-network interface NNI) with East Kentucky Networks (EKN).
The existing SCTC network that will be leveraged is from Duffield, VA, to Lebanon in Russell Co., VA to Grundy, VA, in Buchanan Co., then east to Dickenson Co. and Wise Co, where we achieve our first interconnect with EKN in Pound, Virginia. The SCTC network then goes south and east toward Lee Co, VA., where we will achieve our second interconnect with EKN near Cranks, KY. This will create the ring topography that will provide the self-healing capability. The network then continues southeast to Claiborne and Grainger counties TN, then northwest through Hancock Co., and finally back to the SCTC Central Office in Duffield VA.

The new network builds proposed for the NTIA grant will be 24 miles from Union Co, TN., through Grainger County to create a new ring on the extreme southeast end of the SCTC network. Then, 36 miles of new construction from Grainger Co., TN., through Hawkins Co., TN., where SCTC will close one additional ring. Continuing northwest, SCTC will build 33 miles of new construction to Kingsport, TN., where another interconnection will be made with existing fiber, then 25 miles south to Johnson City, TN., then 25 miles northeast to Bristol, TN., and finally 9 miles of new construction with existing SCTC fiber in Washington Co., VA. In addition to this plan, 3 miles of new construction will be built to interconnect with EKN near Cranks, KY.

In total, the network will leverage 12 existing POPs on the SCTC network and will require 22 new POPs. The POPs will be located in carrier-grade conditioned shelters. Some electronic upgrades will be required in existing POPs.
———
Level of Need

A description of the level of need in the proposed service area(s), including but not limited to communities considered unserved and/or underserved in the proposed service area(s), discussion of

the competitive landscape in the area, variations among service areas if there are any, or the general economic conditions in the proposed funded service area.

This response is limited to 12000 characters as an open field narrative.

The statutory purpose of the MMG program is to expand and extend middle mile infrastructure to reduce the cost of connecting areas that are unserved or underserved to the internet backbone. This is precisely what SCTC is setting out to accomplish through the MMG grant program.

SCTC has certified, and provided letters from, Terrestrial and Wireless internet service providers that will provide services in TN and VA if SCTC builds the middle-mile network.

These providers include:
Scott County Telephone Cooperative
iGo Technologies, Inc.
Twin Lakes Cooperative
These letters have been uploaded to the Portal.

In addition to these three last-mile terrestrial and wireless providers, there are several other providers who have expressed interest in servicing residents but must first understand the customer density, demographics, and capital requirements to serve those new customers. In addition to the three service providers mentioned above, SCTC believes the NTIA middle-mile investment will foment new entrepreneurial investment and emerging service providers.

Reducing Cost
The many communities listed below are unserved because there is a scarcity of middle-mile infrastructure that would enable last-mile terrestrial and wireless providers to access residents. Currently, in many of these communities the only internet service options are DSL service from an ILEC (over aging copper infrastructure), or satellite internet services.
Satellite and DSL plans typically promise delivery of 25 x 3 MBPS for between $79.00 and $49.95 per month, respectively. This is a cost of $3.16 and $2.00 per Megabit down, respectively.
SCTC's base internet service offering is a 100 x 100 MBPS service for $59.95 /month. The cost per Megabit will be reduced to just $.60 per Megabit – a cost reduction factor of between 3-to-5-fold, at a minimum. As speeds go up, the cost per Megabit comes down. A subscriber to the 1 Gigabit service will reduce their cost to $.1 (ten cents) per Megabit.
The following list, organized by county, was compiled through several DHCD-funded studies conducted over the last two years, and first-hand knowledge.

Virginia
Buchanan County
Bearwallow

Big Rock Conaway
Dismal River Road to Whitewood
Grundy/Vasant
Home Creek
Hurley
Hurricane Creek
Major Industrial Areas
Pea Patch
US 460 between Richlands and Vanzant
Whitewood
Oakwood
Council to Davenport

Dickenson County
Breaks
Clinchco
Hill Ridge
Haysi
Honey Camp
Lick Creek
Nora - 5 Mi Radius
Sandy Ridge - 12 mi Radius
Southern Half of Dickenson County
Cleveland
Clintwood to St. Paul
Dante

Lee County
District 5 (north of 58 Alt)
Blackwater
District 5 (north of 58 Alt)
Blackwater
Ewing
Flatwoods
Keokee
LMU Vet School
Rose Hill
St Charles
Blackwater

Russell County

Green Valley Rd
Lebanon (portions)
Honaker (portions near Swords Creek)
Nickelsville to Lebanon (30 mi)
Belfast Mills

Scott County
Duffield
Gate City to Duffield (Backside/Northside)
Dungannon
Ft. Blackmore
Gate City to Duffield (Backside/Northside)
Nickelsville
Nickelsville to Lebanon
Rural Scott Co.
Rye Cove
Twin Springs
Gate City to Duffield

Wise County
Powell Valley
Appalachia and the immediately surrounding coal camps
Blackwood
Areas north of the City of Norton
West of US. 23
Areas outside of Coeburn toward Scott County
Smaller communities northeast of the Town of Wise
Coeburn Mountain area (including Airport Road)
Northwest of St. Paul
Pound
Birchfield
Coeburn
Guest River
Hurricane

Tennessee
Claiborne County
Speedwell
Harrogate
Tazewell
New Tazewell

Powell Valley
Cave Spring
Hopewell
Little Sycamore

Hancock County
Sneedville
Kyles Ford
Treadway
Luther

Sullivan County
Bloomingdale
Piney Flats
Bluff City
Colonial Heights
Kingsport

Hawkins County
Church Hill
Mt. Carmel
Surgoinsville
Stanley Valley
Clinch
Edison
Shiloh

Grainger County
Washburn
Bean Station
Thorn Hill

Union County
Sharps Chapel
Maynardville
Braden Chapel

Washington County
Midway
Johnson City
Boones Creek

Economic Conditions

As described in the Executive Summary, the area is rural and somewhat economically challenged:

Counites in Study Area	Persons in poverty, percent
Scott County, VA	17.6%
Russell County, VA	16.2%
Dickenson County, VA	19.3%
Lee County, VA	26.0%
Wise County, VA	20.3%
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The median household income in the 13-county study area is $40,855 annually. This is $24,000 less than the National average. The result is the residents of the region, on average, have an economic purchasing power of just 63% of the average American.

———

State Collaboration Acknowledgement

NTIA strongly encourages prospective non-state applicants to coordinate and consult with the State Broadband Office or other coordinating body located in the jurisdiction in which the eligible entity proposes to deploy middle mile infrastructure to ensure that the proposal is consistent with the state's broadband plan and priorities. Please confirm collaboration and consultation.

Do you confirm collaboration and consultation with the appropriate organization?

Yes

———

State and Local Collaboration Narrative

Please provide information on the applicant's coordination with applicable State, Territory, Tribal, and local governments, including their awareness of the proposed project and any potential impact to respective service areas; and

Information regarding the applicant's involvement and coordination with community organizations or other relevant partners in the proposed service area.

This response is limited to 6000 characters as an open field narrative.

Executives of Scott County Telephone Cooperative have met with (in person or virtually) the leadership of broadband initiatives in both Virginia and Tennessee to review our plans to request a support for a middle-mile grant from the NTIA.

In Virginia, the broadband efforts are headed by Tamarah Holmes, Ph.D. in the Department of Housing and Community Development (DHCD), Office of Broadband. The Director expressed interest and support for the project noting that far Southwest Virginia is among the areas of greatest need in the Commonwealth. The Director has provided a letter of support for the initiative. SCTC intends to pursue Virginia Telecommunication Initiative (VATI) grants to build last-mile networks to unserved communities, after the middle-mile is completed. VATI grants are intended to prepare communities to build, utilize, and capitalize on telecommunications infrastructure with the goal of creating strong, competitive communities.

In Tennessee SCTC met with Tennessee Broadband Director, Taylre Beaty. The Broadband Office is part of the Tennessee Department of Economic and Community Development. Ms. Beaty also expressed support for the SCTC middle-mile project noting the importance of middle-mile network to open the unserved communities of Northeast Tennessee to service providers. Ms. Beaty noted that the SCTC plan is completely consistent with the objectives of the Broadband Office and the objectives of the Tennessee Broadband Accessibility Act. A letter of support is included.

———

Will the project connect middle mile infrastructure to last mile networks that provide or plan to provide broadband service to households in unserved areas?

Yes

———

Is the project connecting non-contiguous trust lands?

No

———

Do you commit to offering wholesale broadband service at reasonable rates on a carrier-neutral basis?

Yes

———

The eligible entity adopts fiscally sustainable middle mile strategies. This strategy should be described in the Budget Narrative.

Do you attest to this?

Yes

———

The eligible entity commits to offering non-discriminatory interconnect to terrestrial and wireless last mile broadband providers and any other party making a bona fide request. This policy will be described in the Interconnect Policy.

Do you attest to this?

Yes

———

The eligible entity identifies specific terrestrial and wireless last mile broadband providers that have(i) expressed written interest in interconnecting with middle mile infrastructure planned to be deployed by the eligible entity; and ii) demonstrated sustainable business plans or adequate funding sources with respect to such interconnection. This may be demonstrated in the Level of Need narrative of the Exec Summary.

Do you attest to this?

Yes

———

The eligible entity has identified supplemental investments or in-kind support (such as waived franchise or permitting fees) that will accelerate the completion of the planned project. Such acceleration may be described in the Project Timeline narrative.

Do you attest to this?

Yes

———

The eligible entity has demonstrated that the middle mile infrastructure will benefit national security interests of the United States and the Department of Defense. The benefits may be explained in the Benefitting National Security Interests Narrative.

Do you attest to this?

Yes

———

Please describe:

As noted earlier in this application this network middle-mile buildout will improve SCTC's overall middle-mile network by closing several unprotected fiber laterals. The more reliable network will be used to improve national security in three ways :

1.) Mineral Gap Data Center Campus in Wise, Virginia is a highly secure, compliant, and regulated Uptime Institute Certified Tier III data center campus. Mineral Gap was built to provide U.S. agency clients and their contractors a state-of-the-art private solution to rival on-premises secure data center. The proposed NTIA middle mile buildout will harden the network and provide for greater redundancy and network protection.

2.) SCTC serves a number of AT&T FirstNet towers. The FirstNet mission is to deploy, operate, maintain, and improve the first high-speed, nationwide wireless broadband network dedicated to public safety. FirstNet is one of the recommended improvements for public safety that came out of the 9/11 terrorist attacks. FirstNet must be reliable, highly secure, and interoperable. Improving the SCTC middle-mile will ensure that first responders get more information quickly and help them to make faster and better decisions.

3.) SCTC provides the Internet service, connectivity, and wide area networking connectivity to the Lee and Scott County School systems. This has been particularly critical during COVID. An educated population is critical to our national interests and the success of our Nation.

———

Project Duration

Number of Years

4

———

Project Timeline Narrative

The narrative requires the Applicant to describe a project with critical path, including key milestones for implementation of the project, preparations, and risk factors; and a capital investment schedule evidencing that the applicant will complete build-out and the initiation of service within five years of the date on which the entity receives the grant and will meet interim buildout requirements set forth herein and in any other binding document.
If the project is able to be accelerated with supplemental investments or in-kind support to meet a statutory purpose, this should be explained.

This response is limited to 6000 characters as an open field narrative.

Project Timeline Narrative

The statutory purpose of the MMG program is to expand and extend middle mile infrastructure to reduce the cost of connecting areas that are unserved or underserved to the internet backbone.

The supplemental investment and in-kind support being provided by Scott County Telephone Cooperative (SCTC), is approximately 705 sheath miles of existing fiber optic cable and 12 existing electronics locations (POPs) valued at over $10 million.
The in-kind support will be leveraged to integrate with the new MMG construction. The in-kind contribution is part of SCTC's existing middle-mile network and is connected to Tier 1 data centers in Ashburn and Atlanta through multiple NNIs. Leveraging SCTC's in-kind investment will enable SCTC to reduce the time to reach the many unserved residents that the new NTIA funded MMG will access. Additionally, once in these markets, SCTC's access to wholesale internet will radically reduce the cost of internet service -- in some cases residents will see a cost reduction from $11 per megabit to $.1 (ten cents) per megabit.

New MMG timeline
SCTC has established network architecture standards for middle-mile network. SCTC has defined the fiber type, construction techniques, distances for splice points, and optical equipment.
SCTC anticipates awards being made on February 16, 2023.
The first step will be to issue an RFP for field staking & permitting. SCTC has defined the network routing, so the field staking & permitting will identify the precise foot-by-foot network deployment, and where the POPs will be located. This will be some combination of lidar technology and field "sticking" the poles. At the end of the process, SCTC will have in hand a complete inventory of poles to attach to, rail crossing, VDOT and TDOT bridge, tunnel, and highway crossings, private easement crossings, and stream and wetlands crossings. This process will take 18 months and will be completed by June 2024. By November of 2024, all permits will be in hand.
Material orders will be placed in early 2024 to provide for the anticipated long lead time on some

materials.

Pole attachment applications will be filed as they are prepared during the 18-month Field Staking, Drafting, and Permitting stages. The utility pole-owners will set about performing the “make-ready” changes to their infrastructure. Make ready will be completed by August 2025.

SCTC will begin installing the POPs and the mainline construction in a parallel fashion, while the make ready activities are being conducted. As sections of make-ready are completed, crews will deploy middle-mile fiber cable on a segment. Shelter installation and middle-mile fiber deployment will be completed in February 2026.
Fiber splicing and testing will be completed by September 2026. DWDM electronics installed, tested, and burnt in by the end of January 2027. The network will be groomed with the existing network. The project will be completed in February 2027.
———
Project Timeline File

Applicants are asked to upload a timeline which will denote key milestones for implementation of the project, including but not limited to field survey, network design, equipment/material procurement, environmental assessment, permitting, construction, network testing, network activation and completion.

Central Appalachian Broadband Timeline-09-19-2022 05-16-Scott County Telephone Cooperative-GRN-001081.pdf
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Is an extension being requested?

No
———
Special Rules for Tribal Governments and Native Entities

The Infrastructure Investment and Jobs Act permits the Assistant Secretary, in consultation with Tribal governments and Native entities, to waive, or specify alternative requirements, in connection with most directives governing the MMG Program if the Assistant Secretary finds that waiver or modification of the requirement is necessary for (a) the effective delivery and administration of middle mile grants to Tribal governments or (b) the construction, improvement, or acquisition of middle mile infrastructure on trust land.

Is a waiver or alternative requirements requested?

No
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Fair Labor Practices

Applicants must have a demonstrated record of and plans to be in compliance with federal labor and employment laws as described in III.H in the NOFO. This will help ensure that projects are carried out in accordance with the law, assist NTIA in ensuring that a prospective awardee is capable of carrying out activities funded by an award in a competent manner in compliance with all applicable federal, state, and local laws; and promote the effective and efficient completion of high-quality middle mile broadband infrastructure projects by ensuring a reliable supply of skilled workers and minimizing disruptive and costly delays.

This response is limited to 6000 characters as an open field narrative.

As certified in the attached letter from the SCTC Chief Executive Officer, the Cooperative has always been in compliance with federal labor and employment laws. Anything else is simply illegal. SCTC has been in existence since 1952. In our 70-year history the Cooperative has always complied with the law in every dimension.

SCTC has a full-time director of Human Resources. The Director is responsible for ensuring that SCTC has a well-trained, knowledgeable, and professional staff. Part of that training includes insuring compliance with Fair Labor Standards Act and training.

OSHA law violations: In 70 years SCTC has had one OSHA-reportable event. In 2006, an employee in a bucket truck failed to chock the wheels of the vehicle before raising the bucket. When the bucket was elevated, the truck began to roll, and the employee was ejected from the bucket. The employee sustained injuries, recovered, and returned to work. That employee is in SCTC's active employee roles today.

There was an OSHA citation and fine. Virginia operates an OSHA-approved State Plan covering most private sector workers and all state and local government workers. Virginia Occupational Safety and Health (VOSH) is the state's OSHA organization.

SCTC implemented a new safety program targeting the linemen for more intensive safety training regarding line work in bucket trucks. Safety training is reinforced annually. Some training programs such as first aid are reinforced bi-annually. Safety training hours are tracked by employee to ensure compliance.

Today, new hires in the lineman ranks are graduates of Mountain Empire Community College, Lineman Program. Each graduate comes to SCTC with a Certified OSHA 10 card, indicating they have completed 10 hours of OSHA training.

Fair Labor Standards Act (FSLA) violations. SCTC has never had a violation of the Fair Labor Standards Act. Today, the minimum starting wage for any employee is $15.90 per hour. Skilled workers such as

linemen will start at $25.90 per hour. When required for any Federal grant we apply the Davis-Bacon Act prevailing wage for a region, which may be different than SCTC's normal pay scale but is always higher than the FLSA minimum. SCTC pays overtime pay and keeps employee time and pay records. SCTC displays an official poster outlining the requirements of the FLSA.

Contractors. SCTC's written plan includes requiring every contractor to certify in their contract with SCTC that they are both OSHA compliant and FSLA compliant. SCTC also requires proof of insurance from every contractor that includes workers comp and general liability. SCTC has an inspector on every job. Part of that inspector's job is to ensure safe practices in the construction area. SCTC inspectors will shut a job down if they spot an unsafe practice. All contractors are VDOT certified with the required traffic-control training, or they cannot work in a VDOT right of way.

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Officer Certification

In order for NTIA to evaluate an applicant's demonstrated record of and plans to be in compliance with federal labor and employment laws, each applicant must provide examples of items described in III.H in the NOFO. Applicants are asked to upload a Certification from an Officer/Director-level employee (or equivalent) of the applicant evidencing consistent past compliance with federal labor and employment laws by the applicant, as well as contractors and subcontractors.

Certification of Strong Labor Standards - SCT-09-20-2022 01-51-Scott County Telephone Cooperative-GRN-001081.pdf

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Highly Skilled Workforce

To ensure that applicants have the technical and operational capacity to carry out the project, applicants must submit a plan for ensuring that the project workforce will be an appropriately skilled and credentialed workforce (including by the applicant and each of its contractors and subcontractors). The plan for a highly skilled workforce should include the information described in III.I in the NOFO.

This response is limited to 6
000 characters as an open field narrative.

All SCTC employees are required to either have certifications in the technical/operational field or prove equivalent work experience. Once employed, SCTC constantly re-invests in employee training and certifications.

For SCTC contractors/subcontractors, our RFPs outline all technical requirements. Bidders must demonstrate proficiency and competency before bidding on the project. An external engineering firm reviews the bids and requirements and reviews the qualifications with bidders' operational

management. Bidders deemed unqualified, or who have failed to demonstrate a highly-skilled workforce are not considered.

As noted in Fair Labor Practices portion of this application, SCTC has a relationship with Mountain Empire Community College, Lineman Program. Each graduate comes to SCTC with 15 weeks of physically demanding training consisting of , 2 weeks of worksite safety (OSHA-10), and 3 weeks of Class A commercial vehicle drivers training.

That SCTC is an Incumbent Local Exchange Carrier, has successfully operated a telephone company for 70 years, operates hundreds of miles of middle-mile fiber optic plant, and is an owner/operator of both iRis Networks and LIT Networks is both prima facie evidence and proof beyond doubt of our highly skilled workforce.

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Advancing Workforce Development

A skilled workforce is critical to meeting infrastructure buildout timelines under the Infrastructure Act and connecting households across the country to reliable, affordable, high-speed broadband. A well-trained workforce will also allow for the safe deployment of sustainable networks. To meet the workforce needs of the MMG Program, applicants must make appropriate investments to develop a skilled, diverse workforce. Each applicant must provide as part of its application examples of items described in III.J in the NOFO.

This response is limited to 6000 characters as an open field narrative.

As noted in the Fair Labor Practices, SCTC seeks job applicants with certifications and or equivalent work experience. Unless necessary to look externally, SCTC technical positions are filled by internal applicants who have extensive knowledge and proved hands-on experience/training prior to being promoted. SCTC constantly cross-trains employees to have them capable to perform various jobs within the operations department. SCTC positions filled externally are typically the lineman positions and we seek applicants who have the Lineman's Certification or equivalent experience. SCTC uses vendor-specific training to our employees for new electronics and software.

SCTC strictly applies equal opportunity practices within its own workforce and requires contractors to certify the same. The SCTC board of directors unanimously passed the following resolution:

Scott County Telephone Cooperative is an equal opportunity provider and employer.
In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, this institution is prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political

beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident. Specific details on filing follow in the board resolution.

Scott County does not have a particularly diverse population. According to the US Census Bureau 2021 fact finder, the following is the makeup of our population:

White alone, percent 97.40%
Black or African American alone, percent 0.90%
American Indian and Alaska Native alone, percent 0.30%
Asian alone, percent 0.20%
Native Hawaiian and Other Pacific Islander alone, percent 0.10%
Hispanic or Latino, percent 1.60%

Because of its size, SCTC is not required to formally track diversity in the labor pool. However, SCTC is committed to a diverse workforce, and works closely with state and local agencies to draw qualified and diverse applicants for our positions.

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Climate Resiliency

Please demonstrate that the applicant has sufficiently accounted for current and future weather- and climate-related risks to new MMG Program infrastructure projects. In particular, each applicant should clearly demonstrate how it is conducting the items listed in III.K in the NOFO.

This response is limited to 6000 characters as an open field narrative.

The greatest changing climate / weather hazards for the service area are flooding and fire. The recent extreme flooding in Eastern Kentucky, and Whitewood Virginia are examples of regional flooding from localized heavy rain bands. Fire has not been a significant threat, but with climate change it could easily become a threat as there are multiple national forests in our region (Cherokee, Washington, and Jefferson).

SCTC is in many ways dependent upon others' planning for climate and weather risks. SCTC's outside plant is typically deployed on infrastructure owned and operated by electric utilities. SCTC has joint-use agreements in place with these utilities. Most investor-owned utilities are self-insured for outside plant. Electric cooperatives are insured by a cooperative pool. It is also important to note that electric utility distribution standards are dictated by the various utility commissions as they will only permit "reasonable and prudent" capital expenditures in the electric utility rate base.

When electric utility poles are damaged by weather of climate driven events, the electric utility must first restore the electric distribution plant. This is typically driven by standards established by the North American Electric Reliability Corporation (NAERC). Reliability standards are enforceable in all

interconnected jurisdictions in North America. The many reliability councils within NAERC typically have joint-restoration agreements among their members to dispatch resources when a climate event affects an area of the reliability council.

All the proposed Central Appalachian Broadband service area is located within the Southeastern Reliability Corporation (SERC). There are several working committees at SERC that address reliability from a climate and weather perspective.

Once the damaged electric distribution system is replaced / repaired, SCTC line crews re-attach the fiber cable. If the fiber cable is ADSS and deployed in the electric distribution space, the electric utility will restore the service. Because fiber cable is all dielectric and frequently has a protective shield or core, it is common for the network to continue working even when a utility pole is knocked down.

Beyond the steps taken by NAERC and SERC to harden the electric distribution system, SCTC has procured insurance from McGriff insurance brokers for its outside plant; the underwriter is Hartford. Additional steps taken by SCTC include:

SCTC POP shelters are located on elevated platforms to reduce the risk of damage from flooding.

All wireless towers are developed to TIA-222 Revision G standards, the latest and most rigorous standards for ice loading and wind loading.

Battery backup is provided at each POP with at least 8 hours of back up electric service.

Backup generators are installed at most POPs and all mission-critical POPs. These typically store 48 hrs. of fuel.

SCTC maintains a mobile generator that can be dispatched to a site if necessary.

All POPs are grounded to carrier-grade standards to mitigate lighting-strike damage.

POPs are typically not located in heavily wooded sites.

SCTC typically reviews its service restoration plans annually and updates the plan as needed. SCTC provides service to many mission-critical services such as 911, and is required to do so.

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Civil Rights and Nondiscrimination Law Compliance

Prior to distributing any MMG Program funding to a prospective awardee, NTIA will require the prospective awardee to agree, by contract or other binding commitment, to abide by the non-discrimination requirements set forth in III.J in the NOFO.

Do you agree to abide by the non-discrimination requirements?

Yes

———

Certification of Technical Capability

Each applicant must supply a certification attesting that it is technically qualified to complete and

operate the proposed project.

SCTC Certification of Technical Competence bu-09-22-2022 03-29-Scott County Telephone Cooperative -GRN-001081.pdf

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Interconnect Policy

The Applicant must describe in detail the nondiscrimination, interconnection, and network management practices that would be adopted for the project facilities. The Applicant should describe how it will comply with nondiscrimination and interconnection obligations, particularly with connectivity to the public Internet and physical interconnection for the exchange of traffic. In addition to describing network management practices, the Applicant should disclose any practices in place to block access to illegal or harmful content.

This response is limited to 6000 characters as an open field narrative.

SCTC has always operated its network as an open access network. As a small ILEC, SCTC knows the importance of creating many Network-to-Network Interconnections (NNIs) to increase the value of our network and the value to our members and customers.

Metcalfe's law states that every time you add a new user to a network, the number of connections increases proportionally to the square of the number of users. The law further states that the value of a network is proportional to the square of the number of nodes in the network. Simply stated as we add connections our network value increases exponentially.

Many of SCTC's early network expansions were funded by the Virginia Tobacco Region Revitalization Commission (the Commission). The Commission reasoned that it would be impossible to revitalize local economies that had been devastated by the loss of tobacco revenue without providing access to 21st century technology tools. The Commission provide SCTC with numerous grants to build middle mile networks to reach unserved communities and then build the last-mile FTTH network to serve residents. The Commission has 1 overarching principal / restrictions for its grants – the networks must be operated as open access networks with non-discriminatory pricing.

SCTC has a published Interconnection Policy. It can be viewed at https://www.sctc.org/terms-conditions/interconnection-policy/

SCTC embraced this principal and has been operating its network as an open access network since 1996. Bob Allen, the then CEO of AT&T during divestiture and deregulation, famously once said "every telecom operator will each be one of three things to all others, a customer, a supplier, and a competitor. Sometimes on the same circuit." He was right, and this can only happen with complete open access. The ultimate beneficiary of this practice is always the customer, as new competitors strive to innovate and drive down costs.

SCTC accomplishes open access in a number of ways:

SCTC can lease dark fiber on our network. These leases can take the form of an ownership through an IRU construct, or it can be a simple lease. Rates for these leases are always negotiated on an Individual Case Basis (ICB) as every lease is unique. Discounts are provided for leasing an entire ring, versus point -to-point, term, number of colocation sites, etc.

SCTC permits other operators to build to our POPs and we will lease space inside our shelter for an operator to locate their equipment and we will lease shelf space or entire racks of conditioned space. We use a standard rate for space and power.

SCTC can build into an operator's POP and provide them both transport and, if required, wholesale internet.

By virtue of LIT Networks, our collaboration with 6 other regional operators, a 2,500-route-mile network has been put in place with NNIs between all operators. An advanced Dense Wave Division Multiplexing (DWDM) transport system runs over the network. SCTC has direct fiber connectivity to Equinix Ashburn, 56 Marietta, and other mid-Atlantic data centers. This access has driven the cost of Internet in our region to a much lower price. Many regional operators have interconnected with SCTC to take advantage of the connectivity to a Tier 1 Network Access Point (NAP).

Lit Networks is a bright shining example of the benefits of an open access network. Any member of LIT can sell services anywhere across the network.

Network management practices.

SCTC operates a 24X7 NOC. Our Network Management System is Ciena's Manage Control and Plan (MCP) software. MCP provides software control of networks throughout the full operational lifecycle: network planning, device commissioning, service fulfillment, service assurance, and network utilization monitoring. With MCP's unified interface, operational workflows can be completed quickly using the intuitive Graphical User Interface (GUI) or open Application Programming Interfaces (APIs). At any point in time, MCP offers a real-time, accurate view of the network and service topology and associated capacity, utilization, and performance metrics. This enables users to perform planning and optimization of multi-layer networks, whenever needed, to meet dynamic capacity and performance demands. Ciena's MCP domain controller provides a solid foundation for advanced analytics apps that extract insights from the wealth of metrics generated by the network. These insights drive well-informed operational actions that help optimize network performance. All told, the fully integrated suite of MCP Applications delivers intelligent network control to the network operations user.

Blocking Harmful Content

Based on technical analysis, Internet blocking to address illegal content or activities is generally inefficient, often ineffective, and frequently causes unintended damages to Internet users. However, SCTC fully adheres to any local, state, or federal laws regarding content. SCTC notifies customers of any copyright infringement notices are received, and we reserve the rights to suspend services if a member / customer does not adhere to SCTC's acceptable use policy.

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Technical Overview

Please describe targeted last mile service objectives, including last mile service provider letters of commitment, agreements, or contracts; and a description of the proposed service offerings, including the pricing of the services to be offered over the proposed facility.

This response is limited to 6000 characters as an open field narrative.

The last-mile service objectives are to build fiber laterals from the new middle mile network and then develop Fiber to the Home (FTTH) networks in un-and-under-served communities. SCTC will, in most cases, be the last-mile provider. This is SCTC's core business. We have included a letter certifying that SCTC is a last-mile provider and intends be the last-mile provider in these markets.

Where SCTC cannot practically or economically develop a last-mile fiber-based solution, SCTC will work with regional Wireless Internet Service Providers (WISPs) to deploy a wireless solution. SCTC will provide wholesale transport and wholesale Internet for the WISP.

SCTC's service offerings are many. Residential services include voice (both circuit switched and IP), long distance, video (multi-channel broadcast and IP streaming), and Internet service.

Residential packages are available via SCTC's legacy copper network, so the Cooperative must distinguish our fiber-only services.

From the NTIA middle mile project, only fiber-based services will be offered.

SCTC's network is configured as an actively switched Ethernet network. Active Ethernet is a relatively simpler protocol that uses less complexity and signaling overhead to provide higher transmission speeds and greater throughput capacities. It allows a greater direct control of actual packet routing and traffic management that provides more granularity for grooming data flow and for analysis/trouble -shooting when needed. SCTC currently uses a combination of Ciena and Calix hardware to light their network. SCTC's current standard deployment gear can provide each end-user with up to 1Gbps of bandwidth. But, with alternate interface cards, speeds up to 10Gbps can be provided to the end-user without deploying special hardware.

Residential Internet on SCTC's Fiber Network:

25M/12M *Fiber Locations Only -- $59.95
50M/25M *Fiber Locations Only -- $79.95
100M/50M *Fiber Locations Only -- $89.95
200M/100M *Fiber Locations Only -- $99.95
500M/200M *Fiber Locations Only -- $109.95
1G/500M *Fiber Locations Only -- $130.95

For anchor institutions, SCTC commits it will provide a minimum of 1 GBPS synchronous service.

For those who have high-speed Internet service, the regional impact of the SCTC deployment will be to drive down retail internet cost from the present cost of between $13.30 per megabit to $.40 per megabit (depending upon service provider and package) to between $2.30 per megabit to $.13 per megabit (again depending upon package).

SCTC also offers several packages for both residential and small business customers. Dedicated internet or transport services are quoted on an Individual Case Basis (ICB) as in the case of our cell tower backhaul customers.

In addition to high-speed Internet, SCTC offers basic phone service which includes unlimited local minutes, number porting is available, as well as long-distance plans.

Multi-channel video service is offered in several programming tiers. Premium tiers, movie tiers, and HBO, Starz/Encore, Cinemax, or Showtime are all available. Packages run from $28.00 per month to $75 per month plus ala carte premiums. TV DVR services are also available for $12.95 per TV.

Home security monitoring is also available. Prices range from $23 to $34 per month based upon package and term.

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Applicants are encouraged to upload supplemental documentation.

Certification of intent to serve last mile SC-09-22-2022 03-30-Scott County Telephone Cooperative-GRN-001081.pdf, iGo Letter of Support SCTC-09-22-2022 03-30-Scott County Telephone Cooperative-GRN-001081.pdf, Twin Lakes LLetter of Support SCTC-09-22-2022 03-30-Scott County Telephone Cooperative-GRN-001081.pdf

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Competitive Landscape

The Applicant should describe existing middle mile offerings in the area, if any, including competitor data if applicable. This should include a description of the proposed service offerings, including the pricing and technology of the services to be offered over the proposed facility. Where possible, Applicant's project should be able to demonstrate a decline in middle mile costs that are likely to flow through to consumer broadband prices.

This response is limited to 6000 characters as an open field narrative.

For a region that has, on average, only 69% of households with high-speed Internet subscriptions, there are many regional providers.
The Incumbent Local Exchange Companies in the following counties, are:
Tennessee

1. Grainger County, TN Frontier
2. Union County, TN Century Link
3. Hancock County TN AT&T
4. Hawkins County TN AT&T
5. Sullivan County TN Century Link
6. Washington CO TN Century Link

Virginia

1. Scott County, VA Scott County Telephone Cooperative
2. Lee County, VA Verizon
3. Wise County, VA Verizon
4. Russell County, VA Verizon
5. Dickenson County, VA Verizon
6. Buchanan County, VA Verizon
7. Washington County, VA Century Link

ILECs in the region:
AT&T Fiber (formerly AT&T U-verse) is the FTTH offering of AT&T. The AT&T fiber availability map displays that AT&T Fiber is available in some portions of the regions SCTC intends to serve. However, we can certify that AT&T Fiber is not available in the specific communities we have identified. The service is DSL. The speeds do not meet the threshold for a "served" community. Reliability, distance limitations, and availability plague the region.
Frontier is the ILEC in many counties. Service is provided via DSL over a legacy network. The speeds do not meet the threshold for a "served" community. Several citizen assessments have been performed over the past few years. Frontier has low customer satisfaction. Common complaints are slow speeds and unreliable service/frequent outages. Frontier does not offer any FTTH service in the region.
Verizon Legacy is the ILEC in many counties where they have not divested of the business to Frontier. As with Frontier, Verizon service is offered over a legacy copper DSL network. The speeds do not meet the threshold for a "served" community. Reliability, distance limitations, and availability plague the region.
CenturyLink is the incumbent local exchange carrier in many parts of the study region. CenturyLink still has their legacy network in place and have not invested in upgrading their network. As a result, low customer satisfaction rates due to speed and reliability are common.
Scott County Telephone Cooperative (SCTC), a local ILEC headquartered in Gate City, is the applicant to the NTIA MMG program. SCTC serves 420 square miles of Scott County with some service in

Tennessee. Their current service territory includes parts of Russell, Wise, Dickenson, and Lee Counties, and the City of Norton. SCTC provides voice, video, and high-speed Internet and has been aggressively upgrading to an all FTTH network, as practical. Internet speed up to 1 GBPS service are available.
The following Cable Operators are in the region:
Charter / Spectrum has limited network operations in Southwest Virginia and Eastern Tennessee. Spectrum's local network is primarily in Buchanan and Tazewell counties, with some network in Russell County. Charter has an operational office in Richlands, with a head-end site in Cedar Bluff. Spectrum's network covers the Town of Tazewell, a good portion of Tazewell County, Grundy, and Richlands. Charter utilizes a hybrid-fiber-coaxial cable network architecture. Base Internet speed is 200 X10 and up to 980 X 20 MBPS.
Comcast operates a hybrid-fiber-coaxial system throughout specific targeted population-dense ranges of the study area. Comcast is doing little in terms of upgrades. Internet speeds offerings are comparable to Charter / Spectrum.
CPC Broadband (formerly CPC OptiNet) is a subsidiary company of the Cumberland Plateau Planning District (PDC). It was organized to serve Russell, Dickenson, Tazewell, and Buchanan Counties. Partnering with Bristol Virginia Utility's OptiNet division (now Point Broadband) the Company has obtained over $37 million in grant funding for the construction of 700 miles of fiber optic broadband backbone that is now serving almost 900 industrial, commercial, governmental and educational institutions in the region.
Wireless Internet Service Providers
iGo, a WISP founded in 1994, is a Virginia-based Internet service company, providing wireless and fiber high speed Internet service to its customers who include residential and commercial clients. In 2017, iGo also began offering telephone service to its Internet customers. SCTC provides transport and wholesale Internet to iGo. Wireless service offerings range form 10 to 70 MBPS.
HillCom, Inc is a family-owned wireless Internet service provider located in Dickenson County. HillCom has approximately 600 customers (95% are in Dickenson County), with a mission to provide service to the entire county. Service offering is 50 MBPS on the wireless network. SCTC provides transport and wholesale Internet to HillCom.

Other Regional Service Providers
Formerly BVU OptiNet, Point Broadband was organized in 2018 as the combination of Duffield-based Sunset Digital and Bristol-based BVU OptiNet. The organization is part of a family of telecommunications enterprises headquartered in West Point, Georgia called ITC Holding Company, LLC.

Service from the new middle mile project:
SCTC intends to be the last-mile service provider to unserved and underserved communities that are opened up by virtue of the new middle mile network. SCTC intends to build FTTH network to residences. As noted in Q2 of this section of the application SCTC intends to offer service
Residential Internet on SCTC's Fiber Network:

25M/12M *Fiber Locations Only -- $59.95
50M/25M *Fiber Locations Only -- $79.95
100M/50M *Fiber Locations Only -- $89.95
200M/100M *Fiber Locations Only -- $99.95
500M/200M *Fiber Locations Only -- $109.95
1G/500M *Fiber Locations Only -- $130.95

For anchor institutions on the network, SCTC commits to providing 1 GBPS synchronous service.

SCTC also offers several packages for both residential and small business customers. Dedicated internet or transport services are quoted on an Individual Case Basis (ICB) as in the case of our cell tower backhaul customers.

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Type of technology to be used in proposal:

Fiber Optic Technology

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Each applicant of an award to build middle mile infrastructure using fiber optic technology shall certify that the proposed project, upon completion, will include direct interconnection facilities that will facilitate the provision of lit broadband service, at speeds not less than 1 Gigabit per second for downloads and 1 Gigabit per second for uploads to anchor institutions located within 1,000 feet of the middle mile infrastructure, as detailed in the Template CAI below.

Do you agree to certify to the above?

Yes

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Upload Template CAI. Required for Fiber Optic Technology, optional for Wireless or Other.

MMG Community Anchor Institution Final - Vers-09-28-2022 10-14-Scott County Telephone Cooperative-GRN-001081.xlsx

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An eligible entity applying for a middle mile grant may seek, and the Assistant Secretary may grant, a waiver of the requirements set out in the previous paragraph, in full or in part, to the extent the eligible entity demonstrates that the requirement is not technically or economically feasible.

Do you plan to apply for a waiver? If yes, please attach the waiver application in the Application Workspace, the Application Information section, Required Documents under Required Document Question 4 "Additional Waiver Upload".

No

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Network Route Maps

Applicants should provide a physical network map that includes the following (if applicable):

The Project Area and those unserved and underserved areas which it will enable.
Applicant‘s pre-existing service area that demonstrates current service levels.
The physical path of the network‘s transmission medium (e.g., backbone and lateral cable routes, microwave links), transmission type, technology, operating bandwidth, capacity (e.g., dark vs. lit strand count), and cable placement (e.g., aerial, burial) should be displayed.
Points of interconnection (purely passive and non-environmentally controlled nodes, e.g., splice points are optional):Provider Facilities
Collocation Facilities
Private Interconnection Points with partnering service provider/private network

Wireless towers and associated coverage areas.
Anchor institutions within 1,000 feet, if desired.
Additionally, the maps should delineate between network and facilities that are:Part of the Applicant's/key partners' existing network;
Proposed as part of this project;
Leased from a third party;
Utilized under some alternative arrangement; or
Relevant to interconnection with either Last Mile or Middle Mile service providers.

PLEASE NOTE: Only ESRI Shapefiles will be accepted and uploaded.

Proposed_Bristol_to_Abingdon-09-28-2022 10-15-Scott County Telephone Cooperative-GRN-001081.zip, Existing_Backbone-09-28-2022 10-15-Scott County Telephone Cooperative-GRN-001081.zip, Proposed_Hwy_421_to_Cranks_KY-09-28-2022 10-16-Scott County Telephone Cooperative-GRN-001081.zip, Proposed_Johnson_City_to_Bristol-09-28-2022 10-16-Scott County Telephone Cooperative-GRN-001081.zip, SCTC_Cell_Towers-09-28-2022 10-17-Scott County Telephone Cooperative-GRN-001081.zip, Proposed_Kingsport_to_Johnson_City-09-28-2022 10-16-Scott County Telephone Cooperative-GRN-001081.zip, Proposed_Kingsport_to_Surgoinsville-09-28-2022 10-16-Scott County Telephone Cooperative-GRN-001081.zip, Proposed_Thorn_Hill_to_Surgoinsville-09-28-2022 10-16-Scott County Telephone Cooperative-GRN-001081.zip, NTIA_Existing_POPBuildings-09-28-2022 10-17-Scott County Telephone Cooperative-GRN-001081.zip, Proposed_Buildings-09-28-2022 10-17-Scott County Telephone Cooperative-GRN-001081.zip, NNIs-09-28-2022 10-18-Scott County Telephone Cooperative-GRN-001081.zip, Proposed_Hwy_33_Bridge_to_Washburn-09-28-2022 10-15-Scott County Telephone Cooperative-GRN-001081.zip

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Data Submission Specification

There is a template "Upload Template Data Submission Specification" which shall be uploaded. Applicants must complete the table with information for all interconnection points proposed for the network. This table has three required fields: Point Name, Latitude and Longitude. This should accommodate all of the points of interconnection (passive, non-environmentally controlled points of interconnection, e.g., splice points, may be excluded), collocation facilities, central offices, head ends, and other centralized facilities, network access points to Last Mile service providers, Internet peering points, and towers.

NTIA Network Data Submission SCTC (003)-09-28-2022 10-19-Scott County Telephone Cooperative-GRN-001081.xlsx

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Network Diagram

The Applicant must provide a high-level network diagram to be uploaded for the project that is a representation of the network, capacities, and facilities. The diagram must clearly denote which of the network elements already exist. The diagram should show:

The links between the network nodes. The types of facilities used in connecting the network elements (fiber, wireless microwave, etc.).

The points of interconnection and collocation facilities, including Internet peering points, access to local exchange carriers, central offices, or cable head ends.

The proposed aggregation node facilities that will provide the egress point(s) from the broadband backbone to the networks of the selected service provider(s), named Last Mile service providers, and the selected named Internet Service Provider(s) in the new infrastructure.

The Applicant should show which technologies are used and include bandwidth capacity constraints.

Logical Network Map-09-22-2022 03-40-Scott County Telephone Cooperative-GRN-001081.pdf, Technology Utilized and Capacity-09-23-2022 11-48-Scott County Telephone Cooperative-GRN-001081.pdf

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Environmental Narrative

Any project-related activity that may adversely affect the environment must not be undertaken prior to the completion of the environmental review process prescribed by NTIA. Doing so may jeopardize

consideration of the application.

All Applicants for MMG projects must comply with the National Environmental Policy Act, the National Historic Preservation Act, and the Endangered Species Act, and other applicable environmental regulations.

Please provide a service-area environmental description that describes the physical project area and its surroundings (e.g., disturbed or developed land vs. open space; adjacent natural resources, such as rivers, wetlands, or forestlands; and any protected lands or resources in or near the project area), including site photographs and aerial photographs (e.g., Google Earth or Google Maps images), if the project includes construction and/or ground disturbing activities.

This response is limited to 12000 characters as an open field narrative with image files to be uploaded.

Environmental Description:

As noted in portions of this application, the area of deployment for the SCTC middle-mile network is Central Appalachia. The region's geography is a rugged, mountainous, with rocky areas of steep ridges and narrow river valleys. SCTC subscriber density is 6.1 customers per mile.

There are several National Forests in the region including the Jefferson and Washington National Forests in Southwest Virginia and the Cherokee National Forest in Northeast Tennessee. There are also several lakes, rivers, and streams in the valleys of the region. There are four principal watersheds in the study area: the Clinch-Powell, the Holston, the Big Sandy, and the Upper Tennessee watershed. Eventually, these watersheds flow to the Tennessee River, the Ohio River, and finally the Mississippi River.

At this point, all the proposed network is intended to be deployed on previously disturbed land, on existing utility poses, owned by electric utilities, with whom SCTC has existing pole attachment agreements. As such, it is not anticipated that any additional Phase I environmental reports will be required. In the case of the 22 new POPs, we are committed to follow any and all prescribed environmental permitting.

SCTC needs to point out that our network is only designed conceptually. Until a design-basis permitting is performed (foot-by-foot design), it is unknown precisely what wetlands permits, phase I environmental studies, special-use permits, rail and bridge crossings, and soil erosion permits will be required.

SCTC has completed extensive network in the region and has had to go through many environmental permitting processes in the past. SCTC is committed to 100% compliance with the law, including National Environmental Policy Act, the National Historic Preservation Act, and the Endangered Species

Act, and other applicable environmental regulations.

SCTC is uploading a sample of Phase I environmental studies that were performed in support of the deployment of the VCC wireless project. This should provide the reviewers with some additional insights into the region.

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Upload Map Images:

Phase I ESA Report Vansant Cochran Dolphin Ro-09-23-2022 11-49-Scott County Telephone Cooperative-GRN-001081.pdf, Tacoma NEPA-09-23-2022 11-56-Scott County Telephone Cooperative-GRN-001081.pdf

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Negotiated Indirect Cost Rate Agreement

This is a document published to reflect an estimate of indirect cost rate negotiated between the Federal Government and a Grantee's organization which reflects the indirect costs (facilities and administrative costs) and fringe benefit expenses incurred by the organization. This must be completed, if applicable.

Negotiated Indirect Cost Rate Agreement-09-23-2022 12-12-Scott County Telephone Cooperative-GRN-001081.PDF

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Template Table of Funded Partners and Unfunded Collaborators

List all funded and unfunded project collaborators, including partners, subrecipients, match providers, major contractors/supplies, details on role/scope of work for project. A fillable Template of Funded Partners and Unfunded Collaborators can be found in found in the MMG ZIP folder.

Table of Partners and Collaborators-09-23-202-09-30-2022 11-11-Scott County Telephone Cooperative-GRN-001081..xlsx, Table of Partners and Collaborators Corrected-10-14-2022 04-42-Scott County Telephone Cooperative-GRN-001081.xlsx

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Certificate of Operational Capability

Each applicant must supply a certification from an officer-level employee (or individual of comparable rank) attesting to the applicant's operational capability to complete and operate the proposed project.

If the applicant has provided a voice and/or broadband internet access service, it must supply a certification from an officer-level employee (or individual of comparable rank) attesting that it has filed FCC Form 477s and the Broadband DATA Act submission, if applicable, to the extent required during this time period and otherwise complied with the Commission's rules and regulations.

Alternatively, the applicant must explain any pending or completed enforcement action, civil litigation, or other matter in which it was alleged to have failed to comply with Commission rules or regulations.

If the applicant has operated only an electric transmission or distribution service, it must submit qualified operating or financial reports that it has filed with the relevant financial institution for the relevant time period along with a certification that the submission is a true and accurate copy of the reports that were provided to the relevant financial institution.

If applicable, the applicant must submit a certification from an officer-level employee (or individual of comparable rank) that is has operated a middle mile broadband network for at least two years or that it is a wholly owned subsidiary of such an entity and must specify the number of years the applicant or its parent company has been operating.

SCTC Certification of Technical Competence bu-09-23-2022 12-02-Scott County Telephone Cooperative -GRN-001081.pdf

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Certification of Financial Capability

Each applicant must supply a certification from an officer-level employee (or individual of comparable rank) attesting that it is financially qualified to meet the obligations associated with a project, that they will have available funds for all project costs that exceed the amount of the grant, and that they will comply with all MMG Program requirements, including service milestones.

Certification of Financial Capability final-09-28-2022 01-50-Scott County Telephone Cooperative-GRN-001081.pdf

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Letter of Credit

During the application process, each applicant must submit a letter from a bank meeting eligibility requirements consistent with those set forth in 47 C.F.R. § 54.804(c)(2) committing to issue an irrevocable stand-by letter of credit, in the required form, to the applicant. The letter shall at a minimum provide the dollar amount of credit offered and the issuing bank's agreement to follow the terms and conditions of NTIA's model letter of credit. NTIA shall publish on its website a model letter of credit substantially similar to the model letter of credit established by the Federal Communications Commission in connection with the Rural Digital Opportunity Fund (RDOF - Rural Digital Opportunity Fund Order, 35 FCC Rcd at 773-77, Appx. C.).

NTIA will ensure, prior to issuing a middle mile grant award, that each eligible entity obtains an acceptable, irrevocable standby letter of credit in a value of no less than 25 percent of the award amount.

Each eligible entity shall provide with its letter of credit an opinion letter from its legal counsel clearly stating, subject only to customary assumptions, limitations, and qualifications, that in a proceeding under Title 11 of the United States Code, 11 U.S.C. § 101 et seq. (the "Bankruptcy Code"), the bankruptcy court would not treat the letter of credit or proceeds of the letter of credit as property of the winning bidder's bankruptcy estate under Section 541 of the Bankruptcy Code.

VA510 RTFC Commitment Letter Middle Mile 0929-09-29-2022 05-19-Scott County Telephone Cooperative-GRN-001081.pdf, Legal Opinion Letter-09-29-2022 05-19-Scott County Telephone Cooperative-GRN-001081.pdf

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Audited Financial Statement (Previous 3 Years)

Each applicant shall submit financial statements from the most recent fiscal year that are audited by an independent certified public accountant. If the applicant is not audited in the ordinary course of business, in lieu of submitting audited financial statements it must submit unaudited financial statements from the three prior fiscal years and certify that it will provide financial statements from the three prior fiscal years that are audited by an independent certified public accountant by an NTIA specified deadline.

***You must provide 3 years of audited financial statements.**

2021 SCTC Audited Financial Statements-09-20-2022 01-57-Scott County Telephone Cooperative-GRN-001081.pdf, Scott County Telephone 2020 and 2019 Audited -09-20-2022 01-57-Scott County Telephone Cooperative-GRN-001081.pdf, 2019 and 2018 Final Consolidated Financial St-09-20-2022 01-57-Scott County Telephone Cooperative-GRN-001081.pdf

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Historical Financial Statements (Previous 3 Years)

Each applicant shall submit financial statements from the three prior fiscal years that are audited by an independent certified public accountant. If the applicant is not audited in the ordinary course of business, in lieu of submitting audited financial statements it must submit unaudited financial statements from the three prior fiscal years and certify that it will provide financial statements from the three prior fiscal years that are audited by an independent certified public accountant by an NTIA specified deadline.

***You must provide 3 years of historical financial statements.**

2021 SCTC Audited Financial Statements-09-20--09-29-2022 05-24-Scott County Telephone Cooperative-GRN-001081.pdf, 2019 and 2018 Final Consolidated Financial St-09-29-2022 05-24-Scott County Telephone Cooperative-GRN-001081.pdf, Scott County Telephone 2020 and 2019 Audited -09-29-2022 05-23-Scott County Telephone Cooperative-GRN-001081.pdf

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Budget Narrative

Applicants will create and submit a budget narrative that adequately describes all proposed activities and costs for their grant-funded project. Applicants must complete the file template, fill in all required information, and upload the file
. The file must be uploaded as a Word file, and not converted to a PDF. You can find additional guidance in the MMG Application Guidance.

MMG Template Budget Narrative Final SCTC-09-2-09-29-2022 09-37-Scott County Telephone Cooperative-GRN-001081.docx, MMG Template Budget Narrative Final SCTC upda-10-19-2022 12-16-Scott County Telephone Cooperative-GRN-001081.pdf, MMG Template Budget Narrative Final SCTC upda-04-21-2023 03-06-Scott County Telephone Cooperative-GRN-001081.pdf

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Template Detailed Budget Justification

The Detailed Budget Justification spreadsheet must reflect the cost categories that appear on the SF-424 and SF-424C and include itemized calculations for each cost placed under those categories. A fillable Template Detailed Budget Justification can be found in found in the MMG ZIP folder.

MMG Template Detailed Budget Justification dr-09-28-2022 01-46-Scott County Telephone Cooperative-GRN-001081.xlsx

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Any other funding provided for this project?

No

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Template Pro Forma

Pro forma financial projection and analysis related to the project's sustainability, inclusive of subscriber (e.g., last mile network connections, other wholesale services), across an eight-year forecast period. A fillable Template Pro Forms can be found in the MMG ZIP folder.

MMG Template Pro Forma Final SCTC-09-28-2022 -09-29-2022 09-49-Scott County Telephone Cooperative-GRN-001081.xlsx

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