

October 6, 2016

Virginia:

AT A CONTINUED MEETING of the Nelson County Broadband Authority Board at 4:00 p.m. in the Old Board of Supervisors Room located on the fourth floor of the Nelson County Courthouse, Lovingston Virginia.

Present: Thomas H. Bruguere, Jr. West District
Allen M. Hale – Chair
Thomas D. Harvey, North District – Vice Chair
Larry D. Saunders, South District – South
Gary W. Strong – Central District
Stephen A. Carter, County Administrator
Candice W. McGarry, Secretary
Debra K. McCann, Treasurer
Susan Rorrer, Director of Information Systems
Andrew Crane, Information Systems Technician
Dr. Andrew Cohill, Design Nine, Inc.

Absent: None

I. Call to Order

Mr. Hale called the meeting to order at 4:05 PM with four (4) members present to establish a quorum and Mr. Bruguere and Mr. Harvey joining the meeting shortly thereafter.

II. Work Session – Broadband Planning Project, Design Nine, Inc.

A. Overview of Proposed Buildout Plan

Mr. Carter noted that Design Nine had done an extensive build out plan throughout the County including most areas in Faber, Shipman, Piney River, Tyro, Arrington, and Afton. He noted that including Wintergreen, this entailed 75 miles of construction and a total buildout cost was provided. Mr. Carter advised that the build out plan had initially included Wintergreen and then it was taken out. Mr. Carter noted the overall footprint of the network, including Wintergreen and a network ring built along Route 56 north and south on Route 151 could be built for an estimated total cost of \$7,842,552.60. He added that the Authority could do the build out incrementally by location and a plan of finance could be put together. He also noted that an extensive pro-forma financial model had been provided that would not be discussed in detail during the present work session. He then noted that without Wintergreen, the rest of the build out cost was approximately \$4.6 Million. He added that the ring provided redundancy, they would construct the major extensions, and then would build out through neighborhood builds.

Mr. Strong questioned the maps noting that Arrington showed fiber going down Route 29 and he thought there was fiber already there. Mr. Carter noted that this line would be from Colleen South to the County line.

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Members questioned the deployment of wireless expansion and Dr. Cohill noted that cost estimates had been provided to upgrade towers and the first page of the Executive Summary recommended doing wireless.

Ms. Rorrer noted that nothing was set in stone on the proposed builds and when the Authority and County was ready to proceed; these could be tweaked based on exact areas to be served.

Dr. Cohill then advised that a quick win would be to do towers as soon as possible. Mr. Strong noted he did not see those in the build out plan and Mr. Carter noted those would be added.

Mr. Hale then suggested that they concentrate on reviewing the Executive Overview and not dig into the maps.

Dr. Cohill then noted that they recommended that the fiber build out was demand based in approach. He noted that the routes were selected for estimation purposes and to develop a baseline of what fiber elements would cost. He added that he was not recommending the only places that fiber should be built and he referenced that the County was collecting demand data. Mr. Carter added that this was all subject to more work and the Authority was seeing an uptick in subscriptions due to the current extensions being built and neighborhoods collaborating to get connected. He reiterated that they could see customers increase to 300 plus by January.

Mr. Saunders inquired as to there being any interest from other areas of the county and Ms. Rorrer noted that right now, people needed to be in close proximity to the fiber in order to organize and get connected. Mr. Carter noted that the interest had been all over the county and that a record was being kept of those who were interested. Mr. Harvey noted that the initial problem was that the installation cost estimates were too much and now individuals could figure out how to band together as a group in order to get those costs down. He added that he thought that going tower to tower was the way to go and Mr. Saunders suggested that they start looking to expand first where the interest was.

Mr. Harvey then noted that they had to start some of these legs going into other areas and Mr. Carter advised that the build out plan had been developed so that it could be done all at once or they could choose areas to do in phases. He noted that they could prioritize building those by who had the most people that would subscribe at day one. He added that the risk taken was building out and getting the subscriptions to support it.

Mr. Bruguere noted that a major issue was that school kids now had computers at home and could not get internet.

Mr. Carter reiterated that the buildout plan did not reach everyone in the county but it extended extensively so that it could be built out further. Mr. Harvey added that they would have to reach pockets of people which was their goal and they had to do it.

Mr. Saunders then questioned if towers could reach more people more quickly and Ms. Rorrer noted that they could use GIS to show the more densely populated areas. She then passed around a current map showing yellow areas of population. She then noted that it was safe to say that the interest would be

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uniform across the county and it would be a matter of how knowledgeable they were about what was available.

Mr. Harvey then asked how many people were being served off of NCBA towers and Ms. Rorrer noted that there were two towers out of the five in use. Mr. Carter noted there were six with Gladstone and Hight Top could be a seventh. Mr. Saunders asked if the NCBA could use the Woods Mill tower through an agreement with AT&T and Ms. Rorrer noted that any ISP could lease space from them; however they were typically built for their own use.

Dr. Cohill advised that companies like SCS were already going directly to those companies for use. He added that they used point to point to go from tower to tower and then used fiber near the tower to light it up. He noted that this worked very well and was less expensive than fiber.

Mr. Hale then noted that the Authority has consistently said it would like to expand the network with towers and Mr. Bruguere added that they could reach more people in a shorter time and it was less expensive than fiber.

Members and staff discussed who would do this and Mr. Carter then advised that the County had greater financial ability to do it and it owned the network. Mr. Bruguere then asked if the Board of Supervisors could borrow funds and loan it to the Authority to be repaid and Mr. Carter noted that the payback may take a long time. Dr. Cohill then noted that there were a number of projects where an enterprise fund was created, funds were loaned, and paid back.

Mr. Hale noted that the prioritized build out plan in the executive overview was what they wanted to do, as well as make changes to the existing towers, adjust rates.....etc. as noted in the plan.

Mr. Saunders then asked if the Authority could lease towers and Mr. Bruguere added that there were Ordinance provisions that reserved space for the County. Mr. Carter confirmed this but noted that the County would still have to bear the costs. Mr. Hale then noted that they were all in agreement that if there was an existing tower and it was economically feasible, they should explore it.

Mr. Harvey then supposed that it would help ISPs get on the towers and Ms. Rorrer noted there was no reason to be involved in leasing when the ISPs could do it.

Mr. Strong then asked if the Authority needed to ask the County to create a detailed plan for the use of towers and Mr. Hale stated he thought so. Mr. Carter then advised that Design Nine could update the plan to include towers with costs etc. and then they could make decisions.

Mr. Harvey then challenged other Board members to find pockets of subscribers and suggested sending information out about the network through the schools.

Mr. Saunders then inquired how long it took to build a tower and put it into operation and Dr. Cohill noted sixty days if the site acquisition was done; if not 120 days including public procurement. Mr. Harvey added that engineering was also needed on sites.

Mr. Hale gave Shipman as an example and questioned how it could be reached by tower. Dr. Cohill noted a line of sight study would be done and then a determination would be made on where to put the towers. He added that sometimes it took a couple of hops. It was noted that the County had fiber to Oak Ridge and a tower at the Co-op that could reach a tower that would reach the entire Shipman area.

Ms. Rorrer noted that another important consideration may be where the wireless was already deployed versus where it was not.

Members then questioned next steps and Mr. Carter noted he thought it was to have Dr. Cohill come back with a plan and cost including towers with recommendations on where to go first. Mr. Hale noted that the question was how to connect the backbone with towers to serve other areas.

Mr. Bruguere questioned whether or not they should enlist input from the ISPs on this and Members thought potentially so, however it was noted that there was no one better than Supervisors to go out and talk to people in their districts. Mr. Carter reiterated that those registering interest were sent to all of the ISPs. Mr. Harvey added that there was a need to make personal contact. Mr. Carter then confirmed that SCS was following up on leads.

Mr. Hale then suggested that a next step was to look and see where there was service and where there wasn't and use the consultants and local ISPs to determine where they could expand. Mr. Harvey noted that the ISPs could give the best information on this. Ms. Rorrer confirmed that SCS had a very good database of who was looking for service.

Mr. Hale suggested that they offer to support efforts to meet their demand and that they state that the Authority was willing to add towers that would help. He added that they could bring areas that were undeserved the staff's attention.

Mr. Harvey noted that if they set up a community meeting on this, they would get a lot of interest. Mr. Bruguere supposed that there were many people on some type of service; however they could be shown what the Authority could provide and at what rates.

B. Proposed Wholesale Rate Structure Changes & Pro Forma Financials

The proposed rate structure was distributed as follows:

Local Wholesale Access Rates (Rates for Providers to Utilize the Network for Transport to an End User):

NCBA Proposed Service Types				
Service Tier	Service Class	Service Type	Recommended Wholesale Cost	Comment
Tier 1	Residential GPON	25/5 Mbps	\$25	Best Effort (maximum 32:1 split)
	Residential GPON	1000/1000	\$37	Best Effort, symmetric

		Mbps		(maximum 32:1 split)
Tier 2	Business GPON	25/25 Mbps	\$75	higher priority than Best Effort (maximum 16:1 split)
	Business GPON	50/50 Mbps	\$150	higher priority than Best Effort (maximum 16:1 split)
	Business GPON	100/100 Mbps	\$300	higher priority than Best Effort (maximum 16:1 split)
	Dedicated Business	250/250 Mbps	\$450	Active Ethernet, higher priority than Best Effort
	Dedicated Business	500/500 Mbps	\$850	Active Ethernet, higher priority than Best Effort
	Dedicated Business	1000/1000 Mbps	\$1000	Active Ethernet, higher priority than Best Effort
Tier 3	Wide Area LAN Service	100/100 Mbps	\$800	Active Ethernet, highest priority, supports QinQ (two or more connections may be needed)
	Wide Area LAN Service	500/500 Mbps	\$1280	Active Ethernet, highest priority, supports QinQ (two or more connections may be needed)
	Wide Area LAN Service	1000/1000 Mbps	\$1660	Active Ethernet, highest priority, supports QinQ (two or more connections may be needed)

Service Types:

- **Tier 1** – Transport service from the service provider’s port in the data center to a single customer location. Traffic is untagged at the customer. Circuit is typically asymmetric and priority is set at Best Effort across the core network. NCBA will observe a maximum 32:1 split.
- **Tier 2** - Transport service from the carrier or provider’s port in the colo to a single customer location. Traffic is untagged at the customer. GPON circuits are symmetric and the priority is set higher than Tier 1 for better performance across the core network. NCBA will observe a maximum 16:1 split on this service tier for GPON connections. Active Ethernet connections are symmetric and have a higher traffic priority than Tier 1 services. An example of this is a package of Internet access for a business with regular use of videoconferencing, heavy cloud-based service use, and large file uploads.
- **Tier 3** – Transport service between the carrier or provider’s port in the colo as well as between multiple customer locations (fee applies for each end-point outside of provider’s NNI). Passed traffic can be tagged or untagged as well as supporting Q-in-Q. The circuit is symmetric and traffic has the highest priority across the core network. An example of this would be a transparent LAN service to link two customer locations.

Non-Recurring Charges:

Non-recurring charges (NRC) are those costs incurred in connection with the installation of the fiber drop and ONT. The customer will be responsible for the payment of these cost on the following terms.

NRC not exceeding \$1500 will be discounted as follows:

<u>Term of Contract</u>	<u>Discount</u>
12 months	none
24 months	10%
36 months	20%
48 months	35%
60 or more months	50%

The undiscounted balance of NRC together with any NRC in excess of \$1500 may be amortized over the term of the original contract.

Colocation Charges for Providers within NCBA shelters:

Quantity	Monthly Cost
2 RU	\$75.
One-half rack	\$200.
Full Rack	\$350.

All rentals are based on a space available basis. Rental will include access to one 20 amp, 120 volt circuit. Redundant CC power (-48 volt) will be available as well. The Colocation charges include up to 20 amps of DC power. Additional DC power, subject to availability, will be priced at \$6.25 per amp in 10 amp increments.

Tower Access:

Option 1:

Location on Tower	Price per Month per Customer
Top thirty feet in 10 foot sections	\$275 per antenna for first three antennas (includes cables and ancillary equipment such as tower mounted amplifiers) \$150 per additional antenna installed by the same lessee.
Next thirty feet in 10 foot sections	\$175 per antenna for first three antennas (includes cables and ancillary equipment such as tower mounted amplifiers) \$90 per additional antenna installed by the same lessee.
Remaining access in 10 foot sections	\$50 per antenna (includes cables and ancillary

	equipment such as tower mounted amplifiers)
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All tower access charges are in addition to a site access fee of \$200 per month. Site access fee entitles lessee access to electric power (contracted for by lessee) and ground space for cabinet (10 square feet). Shelter colocation charges and local transport charges are additional as are lease space for placing shelters, generators or other equipment. Items not specifically addressed will be priced on an individual basis.

Preference will be given to providers wishing space higher on the towers. The NCBA may limit the size of antennas or duration of leases for antennas located below the top 80 feet.

Tower leases will be accepted based on maximum allowable loading of a tower. If, in the sole discretion of the NCBA, an analysis of the structural integrity of the tower is deemed necessary, then the costs of the analysis will be borne by the lessee.

Option 2:

WIRELESS INTERNET SERVICE PROVIDERS (WISPs) may enter a master lease for tower space on all NCBA owned or operated towers. The tower access charge under the master lease (the “Master Tower Access Charge”) shall be \$2,000 per month. For each tower the NCBA adds to its system subsequent to the adoption of this rate schedule, the Master Tower Access Charge shall automatically increase by \$250 per month. The Master Tower Access Charge also includes any colocation charges in available shelters and cabinets located at the tower sites as well as 10 square feet of ground space for lessee’s cabinet. The location of the tower space leased pursuant to this paragraph shall be determined in the sole discretion of the NCBA. If, in the sole discretion of the NCBA, an analysis of the structural integrity of a tower is deemed necessary, then the costs of the analysis will be borne by the lessee.

These rates apply to towers operated by the NCBA. Rates for towers leased by the NCBA may be subject to approval by the lessor.

Increase in Rates:

Rates are firm for a contract or lease term which does not exceed five years.

For contract and lease terms exceeding five years, the contract or lease shall provide for either of the following payment adjustments: (a) if an extension of an original term is month-to-month or year-to-year, then beginning with the first month of the extension, payment shall be increased 3%, and thereafter by 3% on each subsequent annual anniversary, or (b) if the term is for five years with a right of renewal in five year increments, then upon each renewal payment shall be increased 12%.

Penalty and Interest:

Any sum due NCBA and unpaid by the due date shall be assessed a 10% penalty and carry interest at the rate of 12% *per annum*.

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Ms. Rorrer noted that staff had taken Dr. Cohill's recommendations and had shaped up the rate schedule to address residential vs business class and active vs passive services; including a description of these services. She noted that they had added a one circuit residential GPON 1GB that would allow 1GB service to be marketed and sold. It was noted that 1GB = 1000 MB. She added that they still may want to tweak the prices of each circuit. Ms. Rorrer then noted that the amended schedule added a second option for tower access leasing providing an option for WISPS to lease all towers for one monthly fee. She noted that this allowed them to deploy on all towers and not to have to pick and choose; getting more bang for their buck.

Ms. Rorrer noted that there was previously a tower discount; however this pricing brought 7-8 towers into play for \$250 per tower at \$2000 per month with a provision to increase the fee by \$250 should new towers be added.

Mr. Strong then asked what was meant by "best effort" and he understood that there was a fixed bandwidth pool and capacity was divided.

Dr. Cohill noted that "best effort" referred to the given priority to data as it traversed the network. He noted that 25/5 service was provisioned to rate limit for ISPs. He added that for example, a 25/5 circuit was sold and it was delivered over a 1GB GPON connection with no more than a 32 bit split. He noted that all 32 users would have to be on at the same time for it to be limited.

Mr. Strong then questioned whether or not with a 1GB best effort 32:1 split, you had to have more than a 1GB for that to work. Dr. Cohill, noted you would not, that was the bandwidth of the connection to the network then there was a rate limited amount of IP connection. It was noted that one provider wanted to sell 1GB that was delivered over the same connection as the 25/5.

Mr. Strong added he was struggling with that and Ms. Rorrer noted she thought it was important that when the Authority sold a circuit of a certain size, that the Authority was not the limiting factor, the speed was limited by the ISP's backhaul. It was noted that 1GB was an extreme amount of bandwidth and it was difficult to define and prioritize these without there being some limitation based on traffic.

Mr. Strong then confirmed that the 1GB service was not throttled if nobody else was using the circuit.

Dr. Cohill noted that the NCBA rate structure denoted what services the Authority would be delivering and it explained that it would be shared and at what levels. He added that cable companies split 200:1 sometimes and that the 1GB bandwidth would work very well. He noted that nothing deceptive was being proposed and the difference between 25/5 and 1GB was not what NCBA was promising, it was what the ISPs were telling people they were delivering. He added that it was the difference between the IP connection coming through the ISP versus the hauling of the bits across the NCBA network and one had little to do with the other. He noted that every ISP, unless paying business class, would sell services to many subscribers and all users were competing for bandwidth.

Mr. Strong then related that he had a fiber connection and was experiencing intermittent frames when viewing a sports channel. Dr. Cohill noted that this was a provider backhaul problem and had nothing to do

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with the physical network. Dr. Cohill then noted that was why the Authority wanted an open access network so people had service choices.

Mr. Hale then questioned whether or not in Option 2 of Tower Access, the location was at the discretion of the Authority and the WISPs could be put at the bottom. Ms. Rorrer noted that only the space below the top 30 ft. of space would be available for use. She noted that it was really a WISP rate and it was questioned whether or not if the top space was open were they free to have it. Mr. Bruguiere noted that the Authority should make WISP services a priority and he asked if the Authority built towers, who had the prime spot, WISPs or Cellular Providers. Mr. Hale noted that this had been discussed before and the Authority wanted to provide wireless Internet service, not cell services. Ms. Rorrer noted that they could distinguish between those that supported cellular. Mr. Bruguiere then noted that his area was dying for cell service and that Verizon had four (4) permitted towers in his area and had not built any of them.

Dr. Cohill noted that from a revenue perspective, the Authority would do better with at least one cellular carrier on the towers. He noted this was a marketing issue and if they restricted WISPs, none would locate on the towers.

Mr. Hale then supposed that this could easily be resolved when signing up. Mr. Bruguiere then stated that providing Internet service should be made a priority on towers. Ms. McCann related that the Authority currently only had one (1) cellular carrier on a tower and most of them preferred to have their own towers.

Mr. Carter then noted that staff had extensively discussed the leasing of dark fiber and it had been removed from the rate schedule because it was not in the Authority's best interest to do this. He added that it was removed with concurrence from Dr. Cohill and Phil Payne. He added that it was a NTIA requirement that only a small amount be available and Ms. Rorrer added that it was thought that the dark fiber should be retained for the Authority's own use.

Mr. Bruguiere then asked how the dark fiber would be utilized and Mr. Carter noted that the fiber would be lit by the person leasing it; and Ms. Rorrer noted it became very complicated and it took away the Authority's ability to provide more services.

Mr. Strong then asked if symmetric service required two (2) fibers and Dr. Cohill noted it did not, it used two (2) different colors of light.

Ms. Rorrer noted that only at the 1GB level would the service be best effort.

Dr. Cohill noted a distinction between IP back-haul and circuits. He noted that the Authority had no control over the oversubscription rate for actual internet. He added that it did not matter what the Authority did, they had no control over the actual quality of the service to the customer. He agreed it was important to be truthful on what was promised to be delivered.

Mr. Harvey then noted that the Authority network was open access and subscribers could make a change if they were not satisfied with their service.

Mr. Hale then suggested that the Authority adopt the proposed resolution and authorize a public hearing on the proposed rates.

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Staff then noted the timeline for public hearing notices as follows:

Minimum Timeline per Code of VA §15.2-5431.25

October 6, 2016: Adopt Resolution **R2016-06** Authorizing Public Hearing

October 13, 2016: First Publication of Notice of Public Hearing in NC Times

October 20, 2016: Second Publication of Notice of Public Hearing in NC Times

October 20, 2016 to December 19, 2016: Sixty (60) Day Notice Period per Code of Virginia §15.2-5431.25 (B)

December 20, 2016 thereafter: Conduct the Public Hearing

In response to questions, Dr. Cohill noted that if Ting charged \$89.95 for 1GB service, they would pay \$25 to the Authority and then it would be up to them on what they charged the customer.

Mr. Hale supposed that this would vary depending on the services obtained. It was noted that this was open for discussion after the public hearing and the limitation was that the Authority could not raise the rates if lower rates were advertised.

Ms. Rorrer then noted that the Tier 3 pricing needed to be corrected due to a math mistake. She noted that those prices needed to be cut in half.

Mr. Strong then asked if things could be added to the schedule after it was advertised and Mr. Hale reiterated that they could make changes after the public hearing and Mr. Harvey added that the pricing could be less, but not more. Ms. Rorrer noted that they could give more but could not take anything away.

Mr. Strong then moved to approve resolution **R2016-06** as amended and Mr. Bruguiere seconded the motion.

Members then discussed a date for the public hearing and decided upon 6:00 PM, January 10, 2017.

There being no further discussion, Members voted unanimously (5-0) by roll call vote to approve the motion and the following resolution was adopted:

RESOLUTION R2016-06
NELSON COUNTY BROADBAND AUTHORITY
REVISION OF ESTABLISHED SCHEDULE OF RATES, FEES AND CHARGES AND
AUTHORIZATION FOR PUBLIC HEARING

WHEREAS, Pursuant to §15.2-5431.25 (B) and (C) of the Virginia Wireless Service Authority Act, the Nelson County Broadband Authority may fix and revise rates, fees and other charges after a public hearing at which all of the users of such facilities; the owners, tenants or occupants of property served or to be served thereby; and all others interested have had an opportunity to be heard concerning the proposed rates, fees and charges; and

WHEREAS, after the adoption by the authority of a resolution setting forth the preliminary schedule or schedules fixing and classifying such rates, fees and charges, notice of a public hearing, setting forth the

proposed schedule or schedules of rates, fees and charges, shall be given by two publications, at least six days apart, in a newspaper having a general circulation in the area to be served by such systems at least 60 days before the date fixed in such notice for the hearing.

NOW, THEREFORE, BE IT RESOLVED, by the Nelson County Broadband Authority that the revised schedule fixing and classifying proposed rates, fees, and charges is as follows:

Local Wholesale Access Rates (Rates for Providers to Utilize the Network for Transport to an End User):

NCBA Proposed Service Types				
Service Tier	Service Class	Service Type	Recommended Wholesale Cost	Comment
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	Residential GPON	1000/1000 Mbps	\$37	Best Effort, symmetric (maximum 32:1 split)
Tier 2	Business GPON	25/25 Mbps	\$75	higher priority than Best Effort (maximum 16:1 split)
	Business GPON	50/50 Mbps	\$150	higher priority than Best Effort (maximum 16:1 split)
	Business GPON	100/100 Mbps	\$300	higher priority than Best Effort (maximum 16:1 split)
	Dedicated Business	250/250 Mbps	\$450	Active Ethernet, higher priority than Best Effort
	Dedicated Business	500/500 Mbps	\$850	Active Ethernet, higher priority than Best Effort
	Dedicated Business	1000/1000 Mbps	\$1000	Active Ethernet, higher priority than Best Effort
Tier 3	Wide Area LAN Service	100/100 Mbps	\$400	Active Ethernet, highest priority, supports QinQ (two or more connections may be needed)
	Wide Area LAN Service	500/500 Mbps	\$640	Active Ethernet, highest priority, supports QinQ (two or more connections may be needed)
	Wide Area LAN Service	1000/1000 Mbps	\$830	Active Ethernet, highest priority, supports QinQ (two or more connections may be needed)

Service Types:

- **Tier 1** – Transport service from the service provider’s port in the data center to a single customer location. Traffic is untagged at the customer. Circuit is typically asymmetric and priority is set at Best Effort across the core network. NCBA will observe a maximum 32:1 split.
- **Tier 2** - Transport service from the carrier or provider’s port in the colo to a single customer location. Traffic is untagged at the customer. GPON circuits are symmetric and the priority is set higher than Tier 1 for better performance across the core network. NCBA will observe a maximum 16:1 split on this service tier for GPON connections. Active Ethernet connections are symmetric and have a higher traffic priority than Tier 1 services. An example of this is a package of Internet access for a business with regular use of videoconferencing, heavy cloud-based service use, and large file uploads.
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Non-Recurring Charges:

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NRC not exceeding \$1500 will be discounted as follows:

<u>Term of Contract</u>	<u>Discount</u>
12 months	none
24 months	10%
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48 months	35%
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The undiscounted balance of NRC together with any NRC in excess of \$1500 may be amortized over the term of the original contract.

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Quantity	Monthly Cost
2 RU	\$75.
One-half rack	\$200.
Full Rack	\$350.

All rentals are based on a space available basis. Rental will include access to one 20 amp, 120 volt circuit. Redundant CC power (-48 volt) will be available as well. The Colocation charges include up to 20 amps of

DC power. Additional DC power, subject to availability, will be priced at \$6.25 per amp in 10 amp increments.

Tower Access:

Option 1:

Location on Tower	Price per Month per Customer
Top thirty feet in 10 foot sections	\$275 per antenna for first three antennas (includes cables and ancillary equipment such as tower mounted amplifiers) \$150 per additional antenna installed by the same lessee.
Next thirty feet in 10 foot sections	\$175 per antenna for first three antennas (includes cables and ancillary equipment such as tower mounted amplifiers) \$90 per additional antenna installed by the same lessee.
Remaining access in 10 foot sections	\$50 per antenna (includes cables and ancillary equipment such as tower mounted amplifiers)

All tower access charges are in addition to a site access fee of \$200 per month. Site access fee entitles lessee access to electric power (contracted for by lessee) and ground space for cabinet (10 square feet). Shelter colocation charges and local transport charges are additional as are lease space for placing shelters, generators or other equipment. Items not specifically addressed will be priced on an individual basis.

Preference will be given to providers wishing space higher on the towers. The NCBA may limit the size of antennas or duration of leases for antennas located below the top 80 feet.

Tower leases will be accepted based on maximum allowable loading of a tower. If, in the sole discretion of the NCBA, an analysis of the structural integrity of the tower is deemed necessary, then the costs of the analysis will be borne by the lessee.

Option 2:

WIRELESS INTERNET SERVICE PROVIDERS (WISPs) may enter a master lease for tower space on all NCBA owned or operated towers. The tower access charge under the master lease (the “Master Tower Access Charge”) shall be \$2,000 per month. For each tower the NCBA adds to its system subsequent to the adoption of this rate schedule, the Master Tower Access Charge shall automatically increase by \$250 per month. The Master Tower Access Charge also includes any colocation charges in available shelters and cabinets located at the tower sites as well as 10 square feet of ground space for lessee’s cabinet. The location of the tower space leased pursuant to this paragraph shall be determined in the sole discretion of the NCBA. If, in the sole discretion of the NCBA, an analysis of the structural integrity of a tower is deemed necessary, then the costs of the analysis will be borne by the lessee.

These rates apply to towers operated by the NCBA. Rates for towers leased by the NCBA may be subject to approval by the lessor.

Increase in Rates:

Rates are firm for a contract or lease term which does not exceed five years.

For contract and lease terms exceeding five years, the contract or lease shall provide for either of the following payment adjustments: (a) if an extension of an original term is month-to-month or year-to-year, then beginning with the first month of the extension, payment shall be increased 3%, and thereafter by 3% on each subsequent annual anniversary, or (b) if the term is for five years with a right of renewal in five year increments, then upon each renewal payment shall be increased 12%.

Penalty and Interest:

Any sum due NCBA and unpaid by the due date shall be assessed a 10% penalty and carry interest at the rate of 12% *per annum*.

BE IT FURTHER RESOLVED, that the Nelson County Broadband Authority does hereby authorize a public hearing to be held on the proposed revised schedule of rates, fees, and charges at 6:00 PM on January 10, 2017 as prescribed by §15.2-5431.25 (B) of the Virginia Wireless Service Authority Act and hereby resolves that the proposed revised schedule of rates, fees, and charges shall be in effect for the interim period until formally approved.

C. Network Operator & Outside Plant Services

Network Operator:

Mr. Carter recommended that the Authority Board authorize the issuance of a Request for Proposals (RFP) for the same or revised scope of Network Operator services. It was noted that it was not in the Authority's best interest to have an ISP providing these services and they were currently not receiving the services that they were contracted to provide. He added that Ting had expressed an interest in not serving in that role in the future and preferred to be an ISP only.

Mr. Bruguire noted that being the network operator was too much for the Authority to do itself and Mr. Carter agreed; noting that it may be possible in the future if the Authority wanted to add staff. Mr. Hale noted that he thought that should be a long term objective and that they should proceed with an RFP. It was noted that the network operator contract was annually renewable on December 1st and it was questioned if the Authority could even find another one before then. Ms. Rorrer advised that they should just start the process and Ting would provide the services as long as they were needed. She added that concern had been expressed from the other ISPs that Ting may have an unfair advantage. She noted that Rockbridge just hired one and there were people out there that were willing to do it.

Mr. Strong asked if there would be an opportunity for Authority members to edit the RFP and Mr. Carter noted there would be and he would send it out for comment.

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With no objections noted, Members agreed by consensus to move forward with Issuing the RFP for Network Operations.

Mr. Hale then reiterated that this was a recommendation of Design Nine.

OSP (Outside Plant) Services:

Mr. Carter noted that staff has had an issue identifying other companies to provide this service and CCTS had picked up the pace recently. Dr. Cohill noted the need for emergency break fixes and that a firm was needed that had a splice truck etc. for this. He noted that drop work was more easily done by somebody local. It was noted that there was a firm in Bedford looking for work, they could be an option, and this needed to be explored before a solid recommendation was made.

Mr. Strong inquired if restoration was in the contract with the installer and Mr. Carter noted it was in the contract with CCTS. Dr. Cohill noted that this should be in both contracts.

Mr. Bruguere asked who was responsible if a property was not properly restored, and Mr. Carter noted that CCTS was and they would be notified until the problem was fixed.

D. Network Incentives- Discounts, Amortization of NRCs & Neighborhood Builds

Mr. Carter advised that the proposed rate structure just endorsed by the Board maintained the discounts and the ability to amortize over five (5) years. He noted that these had been continued and last year, the discount was to be re-evaluated in one year.

In discussing the neighborhood build policy, it was noted that \$4,000 applied to an individual. It was also noted that they were allowed to amortize up to that cost and in a neighborhood situation that added up; therefore it was cut back to \$2,500 for amortization. Ms. Rorrer noted that they also got a discount of up to \$1,500 from the Authority. She added that a person in a neighborhood build who was not in on the build initially, would have to pay the same build cost in the future; however they could amortize up to \$4,000 dollars.

Mr. Carter reiterated that they could still get discounts of up to \$1,500 if they got both the ISP discount and the Authority discount.

Ms. McCann then noted that the rate structure did not limit the amount that could be amortized and Mr. Harvey noted he thought a person could only amortize up to a certain amount beyond the discounted amount.

In response to questions on how this was handled, Ms. McCann noted that the Authority billed the installs to the ISP and they got a \$750 discount and then the customers were billed the balance of the install over whatever their contract term was. She added that how the ISP got it from their customer was up to them. Ms. Rorrer added that they paid this monthly and it did not cost them anything up front.

E. Network Marketing

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Mr. Carter noted the schedule of the marketing plan and stated that an insert would be sent out with the tax bills. Members and Staff briefly discussed edits that could be made to the insert and Mr. Carter noted that it would already be sent out as is. Mr. Crane noted that there had been a lot of interest generated from the last insert.

F. Central Virginia Electric Cooperative (CVEC) Broadband RFI

Mr. Carter noted that he had sent in a response letter to the CVEC Request for Interest (RFI) and had asked for a meeting to discuss the possibility of the Authority responding on a more limited scale. He noted that he had received no response from them thus far. It was noted that the deadline for final submittal was the end of November and he would call them if he did not hear anything soon. He added that the RFI was for service to 38,000 of their customers and that was beyond the Authority's reach right now. Mr. Hale suggested that not much time be spent on that right now and Mr. Carter agreed. He added that he would propose to use the infrastructure in the County to provide services; however they wanted this to be CVEC system wide.

III. Other Business (As May Be Presented)

There was no other business considered by the Authority Board.

IV. Adjournment

At 5:50 PM, Mr. Strong moved to adjourn and Mr. Bruguiere seconded the motion. There being no further discussion, Members voted unanimously by voice vote to approve the motion and the meeting adjourned.