Southside Technology Sub-Committee
Thursday, August 14, 2003
10:00 a.m.
Southern Virginia Higher Education Center
South Boston, Virginia

APPEARANCES:
The Honorable Clarke N. Hogan – Chairman
The Honorable Kathy J. Byron – Vice Chairman
The Honorable Thomas C. Wright, Jr.
The Honorable Mary Sue Terry
Mr. L. Jackson Hite
Mr. Claude B. Owen, Jr.
Mr. Tucker C. Watkins
Mr. Thomas W. Arthur

Commission Staff

Carthan F. Currin, III – Executive Director
Mary Cabell Sherrod – Manager of Communications and Committee Operations
Tim Pfohl – Grants Program Administration Manager
Britt Nelson – Grants Program Administrator – Southside
Anne Marie Cushmac – Senior Assistant Attorney General

DELEGATE HOGAN: Good morning, I'll call the meeting to order and welcome everybody. Call the roll.

MR. CURRIN: Mr. Arthur?
MR. ARTHUR: Here.
MR. CURRIN: Mr. Hite?
MR. HITE: Here.
MR. CURRIN: Mr. Owen?
MR. OWEN: Here.
MR. CURRIN: Ms. Terry?
MS. TERRY: Here.
MR. CURRIN: Mr. Watkins?
MR. WATKINS: Here.
MR. CURRIN: Mr. Williams?
MR. WILLIAMS: (no response)
MR. CURRIN: Delegate Wright?
DELEGATE WRIGHT: Here.
MR. CURRIN: Vice Chairman Byron?
DELEGATE BYRON: Here.
MR. CURRIN: Mr. Chairman?
DELEGATE HOGAN: Here.

What we hope to do today is try to come up with a plan that we could put in front of the Full Commission on the 15th of October. I'd like to think we could do it today but if we can't we can meet one more time and see if we can. I think we've got two or three pretty good ideas. Without spending a whole lot of time talking about it I'd like to hear from our presenters.

MR. CROASDALE: Mr. Chairman, we were talking about strategies for the Committee to consider and one of the items that came up in the discussion was where are there opportunities that we could develop and make available to us that were in place to help support small and medium sized businesses in trying to get cost effective broadband solutions.

One of the items that we considered at one time and it never was really off the table but had not been looked at recently and that was the Network Virginia contract administered by Virginia Tech. There is a commercial side to that contract which businesses can use and some businesses are already using that contract. The Ukrops grocery stores in Richmond are using it. I don't know what services they use it for but they are using the broadband services. I was just advised they do use Network Virginia. That is available for consideration. Today I think the issue we discussed last time it's something that's already in place and can be used. If the Committee would like to do something to let the businesses in the area know that this is an option that they can consider and see if it meets their needs, we should just put it out there. This is not the solution for everyone in southside. This is a solution for a select group of companies that want to do something immediately and they can look at the pricing schedules that are currently available and see if that is something they can afford or like to consider and take advantage of if it meets their needs.

Network Virginia and you can note from looking at the document and it shows Network Virginia website which gives the contract information and information about signing up. The good thing about the contract is that it is available throughout all of southside, throughout the entire Commonwealth of Virginia for over nine hundred sites. Most of those are state government and local governments and a number of school districts throughout the state.

The advantages of the contract is that basically it's available, the existing contract is available and you can get uniform pricing across the state so you know what the prices will be for the services per month. There's a well-known mechanism for dealing with trouble resolution. The structures in place for dealing with ordering and billing and trouble resolution or when you have a problem.

The thing with the contract is that there is one thing that should be considered and that is that the contract does allow for some construction costs like the local loop that is required so the company doesn't order services under the contract and then construction cost charges may be applied. That has to be specified. The Committee may consider if there is a site or a company's trying to connect and there is construction costs associated with getting connected services they may want to consider whether or not you deem that, that the company may want to consider that or covering a portion or all of the contract costs. That's one option and services are available to you immediately while we proceed down the road to do some other things, higher end services that may take more time. We will have more information presented about this contract and Mr. Pesce will give us that.

DELEGATE HOGAN: Would you tell us what Network Virginia is and make sure everybody understands?

MR. CROASDALE: I'll give you a brief history of what Network is. In 1995, Virginia Tech and community colleges they decided or they realized that for them to do primarily educational programs which is video conferencing we needed broadband. At that time I was not with Virginia Tech. I endorsed the plan and they proceeded out with an RFP. The backbone provider Sprint and the local loop providers, the exchange companies led by Vision Alliance which Verizon managed that. The local exchange companies and Sprint sort of decided that they needed services of T-1 and really DS-3 range and 45 megahertz per second for video conferencing. So, Network Virginia primarily an ATM network which provided services in that range. What we wanted to do is ensure that we could state with certainty anywhere in the Commonwealth that a monthly reoccurring charge would be a certain amount. We wanted a flat rate to charge across the state and we wanted to include all of Virginia. Those are the two key provisions in the contract and that's Commonwealth wide. The contract is continuously being upgraded and working on higher services at this time for the next generation and the primary contract is still in place. It has a commercial side that is available.

DELEGATE HOGAN: Thank you. Now we'll hear quickly from Karen Jackson.

MS. JACKSON: Our interest in the whole southside economic development and southwest with the Commission is that back during the last session CIT was tasked with the application of a budget amendment to oversee and coordinate and try to have some type of coordination for broadband activities across the state. Due to the budget limitations we have experienced the center experienced funding cuts. I'm the staff of one covering the entire state and we're a little bit tight on the spread of the numbers. What we were trying to do is that instead of working the supply side where the capital needs are quite intensive CIT's Center for Innovative Technology has turned an eye towards working on the demand side.

Working with communities that don't have broadband and trying to ascertain what kind of information is available, what kind of services are already provided in the communities and then finally to aggregate all the needs of businesses, pull it together in a format that then can go back and forth and actually provide a viable business base that they can work with the two and make broadband happen. The piece that's missing out of that is that a lot of the communities do not have any free capital to put in to provide some kind of incentive and make a viable business case in a lot of scenarios. We've got to envision it at a cost that can meet the pain level for those companies. The pain level around the state is that some people don't want to have to pay any more for the broadband then they might have to pay by the dial up. That's where our interest is to try to pull all the interested parties together in a particular locality or area and get them together and put the demand together and then go back and work with the providers and make these needs fit together for that particular community. That's why the recommendations today are of particular interest to us. The idea of making sure that you have connections to the industrial parks directly addresses the economic development attraction side of the equation for broadband. Typically you have an attraction side, an existing business side, a citizen side and then the public sector side. That's the way you segment the broadband demand.

The Network Virginia piece coupled with the industrial park piece is a direct way to approach not only getting connectivity with the existing business sector but also preparing the community for any attractions that might be coming in as well as making them a marketable commodity when you're talking about site selection and people across the board.

The Network Virginia piece specifically is an immediate solution where people can connect onto that today. That's not something that needs to be planned for but someone can take advantage of Network Virginia now. That's an interim solution. What's been proposed under the industrial park's that's something that will take a little longer in order to get that in place. We have offered that we would be willing to partner with the Commission to work on the demand aggregation and make sure the communities in the southside that are not prepared to undertake broadband are brought to a level where they are ready and then potentially the Commission's money can be used for leverage for the demand that is there to get service provided at an equitable cost. I've worked with HUD on numerous occasions over the past seven or eight years and we'd be more than willing to partner with Virginia Tech to make sure that the communities and businesses out there are all aware of what they can accomplish through Network Virginia and to help in any way we can to make sure that the services are made available. Thank you.

DELEGATE HOGAN: Thank you. We'll now hear from Mr. Nick Pesce who's been retained to help the Committee to deal with various issues and we're looking forward to his thoughts about this.

MR. PESCE: I want to start with some basic terms. We all have different ways of expressing telecommunications terminology so I plan to give you a little presentation on this. As a matter of fact I was talking to some of the Verizon people and we even talk a different language. What I'd like to start talking about is that we're going to talk about bits per second, megabits per second. The way we can express them and I'd like to show you this for a second. We're going to talk about network, some people may come up with questions and I want to make sure that everyone understands what's being said.

Assume you have a furniture business and have millions of employees. You need to have a road to get them there and they need to get to work on time. So, that means you have thousands of cars and all these cars and all these cars in a certain amount of time. Let's say you have to get a million cars in per second in order to get all your employees in, in ten minutes and this is a big company. You have this road that goes through an interconnect and this is the local aspect. Then the next piece and some people would call this the backbone and this is the interchange point and the phone company calls it an exchange and

then there's a backbone network, which is higher speed or can handle more cars. Then there's a last piece that's called Point of Presence where you connect with the Internet. I'll be touching on this as we go along.

As Delegate Hogan stated I was asked by the Commission to do some research and come up with some recommendations. I'm going to start with where I'm going and what my recommendations are and I'll explain how we got there. First of all, what I'm recommending is a low end of services we have to come up with the right size and what I'm saying is that the prices are still too high on the low end for what I believe small businesses, schools, government and non profit. I'll prove that as we go along and I'll explain this and give you an example. For the last piece, which Karen Jackson already touched on, is the industrial park. We have a problem there and we'll have to come up with a solution for the parks and yes, it's probably going to take longer.

Let's go to the next slide. The agenda for this presentation is the background information, support information and then talk about bite size and low-end services of what we're going to get into and then the recommendations and possible solutions. Just to give you an idea of a possible solution. The carriers and ODEC can come up with a lot of options. We'll touch on the benefits and then I'll talk about the industrial parks and the same issues that have been mentioned and then possible solutions and benefits.

This is a map of the backbone network and I'm sorry it's not bigger but this is a map of the backbone network in the southside. It represents Verizon, Sprint and other carriers in the southside. The reason I'm putting the map up is to show that there is a fiber network in the southside, a backbone network and it's in a mesh configuration that is redundancy and a chance of this going down is very slim and the bandwidth is significant. As far as the industrial parks they're on your map. You'll notice that a lot of the industrial parks are already near cable. A good percentage of the parks already have fiber to them by the local access carriers like Verizon and Sprint. As you can see the one piece I don't have is the schools K-12 and that would be interesting to see. The whole point of this one is there's a lot of fiber in the ground already today.

Network Virginia, I would agree with Mr. Croasdale and with Karen Jackson on Network Virginia. It's a good product and Virginia Tech did an excellent job working and developing Network Virginia with Verizon and Sprint. The issue comes down in my mind that I need some comparison. This is the price for a T-1 today from Network Virginia, a flat price you can get anywhere it doesn't matter how far you are from the interchange point and we're talking about twelve hundred dollars. The DS-3 five thousand five hundred. These are business prices. Network Virginia has two prices. It has a price for government, it has a price for business and the price for business is a little higher.

DELEGATE HOGAN: When you say a little, what do you mean? Do you mean a hundred dollars?

MR. PESCE: I would say that –

MR. WALDEN: In the commercial arena price varies a little bit particularly the local access piece. The difference is municipalities or K-12 is three fifty for local access, businesses it would three fifty. Sprint does commercial pricing depending on what backbone charges are being used for. If you're reselling to someone else then it's higher, I think it's seven hundred and forty five dollars but if you're not reselling then I think it's six hundred and some. If you just want to use it like Ukrops uses it for and they have a store in Williamsburg and across the Lata to Richmond then it's five hundred and some dollars.

DELEGATE HOGAN: A couple of hundred dollars then?

MR. PESCE: The point being that comparing prices and Verizon's pricing, this is their office, I asked for pricing to your office and you can see when it comes to DS-1, this is the price that's outside of Virginia net. It's asking for a straight line. It's comparable, in my mind it's comparable. You can see that most of them are in line and this is a little higher but they're really comparable. When you get to the DS-3 which is forty-five megabits of pipe and higher the hundred and fifty five megabit price are not comparable. Network Virginia is excellent. This is a great opportunity and we can talk about why later on. That's an outstanding opportunity. It's not that Verizon and Sprint's prices are high but the issue is rural communities. This is a real concern.

Let me show you this next slide. The issue is, when you go to the grocery store you always notice they have a unit price for everything and this is really a unit price per megabit per million bits per second.

For the DS-1 a hundred and fifty four megabits seven hundred and sixty-one dollars for that one megabit. If you buy the bigger pipe the price drops to a hundred and twenty three dollars and then eighty-six dollars. There is a big difference. This is like anything else in this case if you bought seven gallons it's one or if you bought forty-five gallons it's another.

This next one I'm going to talk about the DSL. Verizon and Sprint have done a good job with the DSL in southside. Both of them are increasing the amount of dwellings and businesses that they can provide service to. By the end of the year Sprint will have 43% of the network that can deliver the DSL and Verizon about 45%. The DSL prices range from sixty to three seven. Fifteen hundred feet to fifteen thousand feet and they can't hit everything but they do cover a lot of ground. In my mind it's excellent for non-critical services. If you're in a business and you're using it for email and for research it's one thing but if it's critical to your business and you need it to make money the issue comes and we don't have any guarantees and this could be down for a while. We say often it depends if you're down for a day or two days.

In this next slide I'm going to talk about the right size for the end services. Small business, there's a gap here. We have non-competitive T-1 prices in southside. I see limited service options and you'll see why in a minute. We have DSL but it has a limited availability and then we have performance, not so much performance guaranteed issues. Now if you see this next slide you can see that comparison between urban and southside DS-1. The DS-1 Network Virginia twelve hundred dollars.

In Washington D.C. for business DSL to connect to the Internet anywhere from four to eight hundred bucks depending on the carrier and who you get it from and where you are. This is the prices I'm concerned with. This price is competitive for southside but we have to become competitive with the urban areas and there's another issue here and I'm sorry we don't have enough time. The other issue is there's a threshold of small businesses, schools, governments, non-profits that can't afford this. If the prices drop in the urban areas demand went up. The other issues are repair time, in D.C. a lot of times repair time is four hours and Network Virginia may be six hours, not that much difference. Otherwise uptime they're about the same and we want to talk about these to. This is what I'd like to leave you with though is the difference between urban and rural and low end.

Next slide. There's another issue about options. The small business can purchase these DSL's at the low end and buy some T-1's which gives better guarantees and better service but then they can't buy anything between forty five a million bits per second, one million five hundred megabits and there's a big hole in the middle. There are businesses that will have, small businesses need more. They have more options and they can buy T-1 or buy non-critical DSL.

Next, schools. We found out what was corrected by Verizon and these slides are wrong, every school district has Network Virginia connection but the issue is that they have different types of services. There's disparity in the type of services. Some of them have T-1's and I don't know what happened but they bought individual ones, they bought individual one million five hundred megabit pipe to each school. Other school districts have big pipes and that's either one big pipe or two big pipes. So, I assume and I don't know it for a fact but they're breaking it up themselves and they're sending ten megabits to each school and the price drops. We have to figure a way to come up with a standard way of providing services to the schools.

MR. WALDEN: In the scenario where the schools have multiple Network Virginia connections, what they are doing there is they are not buying backbone. In most cases they have the DS-3 coming into the school board location or the main school building locations and then they have DS-1's going out to the individual schools. With that in mind they are not buying backbone to each one of those. The cost for each school like a thousand to eleven hundred dollars and basically under their model they pay nine hundred and some dollars and what they end up paying is only three hundred and fifty dollars per school. They're kind of getting or doing an aggregation buying a larger pipe and then smaller pipes in the backbone to the network that can feed into the user location, that cuts their costs and gives them the bandwidth they need.

MR. PESCE: This is a DS-3 and the pipe comes into the central point or hub and then they may have their own fiber network or wireless network.

MR. WALDEN: In this case they use the Network Virginia, the DS-1. Connectivity and there's two ways to look at this. From a physical perspective and a logical perspective. From a logical

perspective we figure it this way. You're drawing it this way. From a physical perspective connectivity between the school board and the local school passes back through the DS-3 into Verizon or Sprint's network and then back out to each one of the schools. From a logical basis it looks like your –

MR. PESCE: I understand what you're saying and that's one way.

MR. WALDEN: The other way they're either buying T-1's or DS-3's for the main purpose of Network Virginia to connect to the Internet. They're using some other technology in the backbone to connect to the schools.

MR. PESCE: Let me have the next slide please. Another way and there's companies in the room today and their representatives are in the room like Compusec and that's a wireless company. Their core business is education from K-12. They have heightened Internet connects. They go to the store with ten megabits wireless.

MS. TERRY: Are you associated with them?

MR. PESCE: I found them in my, I'm trying to figure out what was going on. It was one of the Sprint representatives that referred me. I spoke to them and these are the schools they have today that they're going to. They're doing a hub then sending wireless to these schools, ten megabits to each school. These schools are the schools that they have so far and there are more coming, at least three more coming. The price per school per month is running around twenty five hundred dollars.

DELEGATE HOGAN: Is that per school or per school district?

MR. PESCE: I understand it's per school district. If they had mobile schools they'd be paying twenty five hundred. I stand corrected on that.

DELEGATE HOGAN: That's per school district?

MR. PESCE: Yes.

MR. GOULD: I'm Bill Gould, President of Compusec. It's per school district.

MR. PESCE: I stand corrected. This is one example of how to get to the schools.

MS. JACKSON: Mr. Chairman, when you start talking about school connectivity there is a federal program called *E* Rate Program that offsets some portion of the costs of the school system just for being connected to the Internet or individual schools. Based on the school lunch program and other mechanisms. Verizon has an *E* Rate Program. It was a contract that was approved by the *E* Rate Program. Anybody who goes through Network Virginia they can qualify for federal offset for some of their connectivity prices. The prices you're seeing here in many cases whether it's Verizon or wireless, as long as that provider is qualified under the *E* Rate Program for the number they can then in turn get some of the costs offset so they may or may not be paying but chances are they are not paying the full ride as you're seeing here and just paying some portion of it. It's an offset up to 70% of their network cost.

MS. TERRY: The twenty five hundred a month that's for ten megabits of access?

MR. PESCE: To each school.

MR. GOULD: That twenty five hundred means is the *E* Rate for the school district.

DELEGATE HOGAN: Would you come up here so we can hear you?

MR. GOULD: About twenty five hundred dollars listed is before *E* Rate. If there's some discount due to *E* Rate that twenty five hundred dollar amount would be diminished actually. If it was 60/40 the school districts would pay forty and *E* Rate would make sixty. Actually it's billed to the school districts and is something less than twenty five hundred.

MS. TERRY: My question is that these elementary schools that are fortunate enough to have a T line, under Network Virginia that T line which is one point five megabits would cost eleven hundred and some dollars?

MR. PESCE: It costs a little less.

MS. TERRY: What would it be?

MR. WALDEN: It could be three hundred and fifty. It depends on the type of network.

MS. TERRY: Going back to the earlier price for the T-1 line.

MR. PESCE: Are you talking to the loop or –

MR. WALDEN: Just the local loop.

MR. PESCE: You're getting just the one piece?

MR. WALDEN: That's correct. The school system's going to be run through, there's none that I'm aware of that have run full fledged T-1's with backbone to run it to the Internet per school.

MR. PESCE: They still have to get to the Internet. I'm just trying to keep the prices, apples and apples.

DELEGATE HOGAN: The representative from Compusec, would you mind coming up here?

MR. CROASDALE: I had a question on the cost per month or cost per location. Does that represent the hardware cost?

MR. GOULD: That represents hardware and Internet access.

MR. CROASDALE: You would provide the hardware to the site?

MR. PESCE: That includes the services as required as an authorized *E* Rate provider?

MR. GOULD: That's right. We lease it. That is equipment, we lease that.

MR. PESCE: Any other questions? This is just an example and I'm sure there are others out there, there's other examples out there of other ways that the schools are getting the service. Some of them have probably their own fiber in the ground to get the ten megabits per location. Keith, you brought up a good point. I'm trying to find out what's happening in Chesterfield and I understand Verizon has come up with some solutions for them. I never got the other information from the Verizon representative and I'd like to have that information.

MR. WALDEN: Ten megabit or a hundred megabit is possible and I haven't been following that too closely but this is off of Network Virginia. One of the plans or modifications to the contract was to put transparent land services on and have that service on the contract. Ten-megabit service is eight hundred bucks and a hundred megabits is twenty one hundred and DSL services is thirty five hundred. That's the lowest price of that type of service anywhere in Verizon.

MR. OWEN: Nick, could you explain just briefly what you gain by going from one point five to ten? What do the schools get in terms of operational capacity?

MR. PESCE: Yes, I can do that. When you get to ten you can handle other applications that you won't be able to with five.

DELEGATE HOGAN: I think that's a good point. We talked about broadband. Two gigs, nobody's quite sure what that gets. Why don't we come back to that and try to cover that later and you just go ahead with your presentation.

MR. PESCE: The whole point of the schools is to show that there are different solutions and we have to try to figure out one solution or present a solution to the school that is good for them that they can use. One thing you have to keep in mind, these are not all the same. As a result of that the benefits are different and let's move to the next one.

The small business broadband gap. DSL we talked about that already and distance and just like everything else, the guarantee is not good for certain services. The next one Network Virginia, the T-1 prices are too expensive and we have limited speed options which I showed in the examples.

This is the next one in a possible solution. I hope the Committee will approve doing an RFP and send it out to the carriers so we can come up with a business model solution that will work. What this would do is it would bring up the forty-five megabit pipe into the hub, Virginia Tech calls it an MSAP. For me the MSAP is like a Cadillac and it has everything in it. I'm thinking of a low priced stripped down model to keep the cost end down. Then at the other end in our local communities we can touch small businesses and we can give them one point five, T-1, hospitals and they can use anywhere from a couple of megs to forty five, government locations and schools and whatever. The point is that if we pull them all together then we can buy this cheap pipe which costs a hundred and twenty three per meg instead of seven hundred and sixty one for the T-1 net, it's going to reduce the costs at this end hopefully to drop to 70%. We lower the price and make it easier for businesses and non-profits to use the T-1. Hopefully we have economic balance, the schools and this hub, can be real small, thirty thousand dollar product up to one hundred thousand based on how much aggregation and where. I think this is some way and I think this is what you were talking about with this aggregation and figure out what you need. Then if we can have some solutions on the shelf and ready to go then we'll be able to fill them in once CIT figures out here's where I need one and that's what I need in it. Are there any questions on this?

MR. WATKINS: In this model would there be access to other people other than, the local ISP would have access to this bandwidth at the aggregation point?

MR. PESCE: That's a good question and I can't give you the answer but I'll give you the issue. This box is good for the small and lower, anything bigger than forty-five megabits is not on this box in my mind. Network Virginia so, if you need forty-five megabits or above you order directly from Network Virginia and this is the lower end. If you have an ISP then my off the cuff answer is no because they suck up so much bandwidth and they use it full time.

DELEGATE HOGAN: That's something we're going to have to work out.

MR. PESCE: Yes, this is the idea, put an RFP together. Does anybody have any questions on this?

MS. JACKSON: I just have a comment, you said the schools may or may not be involved in that based on the jeopardy of the *E* Rate funding because when you get into sharing the bandwidth within the schools there's certain things under *E* Rate, certain allowable things under the federal *E* Rate contract that may or may not, they may or may not benefit from being in a situation like that. The hospitals from the distance telemedicine set up are also mainly dedicated lines. I believe they're also obtaining some type of subsidies to be able to do the telemedicine links back to UVA and places like that. So, you may not be able to wrap up the hospitals and the schools in this kind of scenario without jeopardizing some of the funding. It may not be quite as big a capacity as you see listed up there.

MR. PESCE: There are ways to allocate the bandwidth. MPS is coming in, in Verizon's territory and spread that bandwidth. You're right, those issues will have to be addressed.

Next slide. A major requirement I see for an RFP an aggregation of community low-end services, small business and non-profit and whatever else is in the community. In order to get the price down we want increments, one megabit. If a customer needs two or two and a half he's not buying two T-1's. He's got one coming in. You can have an alternate hub and you can get all these over the same link. We want minimum guarantees comparable to the urban community. We want it repaired in four hours if possible, six we'll accept but four hours is what we'd like. If business is down we've got to get it back up as quick as possible. We need solutions and we've got a little and when Karen Jackson decides what the community needs or what the needs are then we'll know what box to put in so it works financially. Then if we have to move to a bigger box we'll put a bigger one in. That's the high level requirement and there's a lot of details to be worked out. Benefits to provide service to low end comparable to the urban communities.

Now we'll talk about the industrial parks. I want to thank Sprint and Verizon for helping to provide information. There's a total of fifty-six parks in southside. Fifty-three of them are in the Verizon and Sprint territory and I'm guessing the other three are somewhere else but I'm not sure. All I know is that I got an answer back fifty-three and I'm sure Verizon and Sprint know which parks they have. In the Sprint territory we have twenty-eight parks and thirteen of them have fiber today. Fiber is into those parks. I don't know which parks and I don't know these numbers and they've come online and I don't know why but some of them have fiber today so there is access to them. Two of them Sprint has a second redundant fiber link to.

Next, alternate carriers. Verizon has twenty-five parks in their area and nine of them have fiber today and six of them have redundancies, something's wrong with that number I think. I believe that should be zero, that number's wrong and I have no clear alternative. We have a total of twenty-four parks overall. Anyway, we have all these parks and some already have fiber into them and some are redundant. The issue is not fiber to them the issue is we need an alternative route to those parks. Let me have the next slide.

We need another carrier to link to the park and the reason being that is not that Verizon isn't doing a good job or Sprint and they are. The issue comes in is that when business comes and looks for a park to move their manufacturing plant to or their warehouse they send a consultant down that has a checklist and that checklist says that the park has fiber. Do you have alternate route fiber and for an alternate carrier. Like when we go to college and then we have a resume to go get a job the first thing they look for is education, did you go to college. If you didn't go to college they won't look at the rest of it. You may be the best candidate for the job and it's the same situation here. A lot of it is perception but there are issues that we need to address and one of those is having an alternate carrier. This isn't just me talking, I've talked to many of the local economic development people, I've spoke with state economic development people and this keeps coming up over and over again. That's one

thing in the resume although there's other things in the resume but they look for roads and water and electricity and help, this is only one tick on the resume. Like it or not this is an issue.

The recommendation is to submit an RFP for wholesale open access alternative carrier for a fiber route and that could be submitted to Verizon or Sprint and I'm sure they'd be able to help figure out how to get this in. ODEC is here and they're going to give a presentation as another option. It could be wireless, we've got parks with alternative carriers. An RFP has to be built and submitted to many different companies to come up with an alternative that makes sense.

Next slide. This is a possible solution but there are many others. I'm saying here it's a possibility to put a ring around southside and this would be owned by some authority and it could be managed by CIT but has to be somehow available to any carrier, open access equal charge. These little arrows are an indication that we should have access points along these routes when the future of some new company comes in or Verizon comes in and places an antenna here to businesses or residential. When you have access points you have to consider how to weigh these things and what the other service providers are going to provide in the future. Any questions?

The parks recommendation is major requirement to be a wholesale open access, connect matured industrial parks and that can be somehow determined. Next key is interconnect and aggregation points and possible architecture that will support future growth with connections along the way. I think that's it. Next, submitting two RFP's if we can get them done in a month we can get them out and that would be for the low-end aggregation and the other one for the industrial parks trying to figure out how to get that second link. Any questions?

MR. HITE: Can you give us some of your background and experience in this kind of field?

MR. PESCE: My experience? My experience is that I worked for Bell Atlantic and I worked for many years and started companies for Bell Atlantic internationally as well as locally. I've been a turn around specialist for Bell Atlantic as well, turn around before it was privatized. I worked for a software company in northern Italy, worked in developing support services for Verizon and started companies in Europe. I worked in communications as Vice President of products and marketing, program management I was responsible for product development trying to figure out what the company needed in order to make money. I turned around a satellite company. I was hired as Vice President of engineering. I've done some consulting work which can be feast or famine. Frank?

MR. SPASARO: I'm Frank Spasaro and a colleague of Mr. Pesce. I've supported him trying to keep him out of trouble. My background is similar to his. I spent several years with MCI, before that with WorldCom. Four years with – Communications, four years I ran my own network services.

DELEGATE HOGAN: Let's go ahead and take a quick break, five minutes. We're back on the record. We've heard about one plan, one idea and one way to approach it and I think Mr. Hudgins may have a different approach and it's probably appropriate to hear from him before we start talking about how to move forward.

MR. HUDGINS: Old Dominion started this project about three years ago and it was a plan for competitiveness in southside Virginia. A telecommunication plan and tell you how to use telecommunications to encourage the economic competitiveness to attract jobs and retain jobs in southside. Our approach as a utilities, is how do we make southside more competitive in the marketplace.

The purpose of *e*58 was to have a competitive advantage to southside and that purpose has been critical today in how we think about this. We've aligned our resources with the public/private partnership in order to press on with economic development. Our approach is that we have the assets and we have the utility and we know that having assets versus a contract we think is the way to go. How do we make Lunenburg County competitive with Richmond, Virginia and how do we create a competitive advantage. If it's a 30% discount to attract investment. As Mr. Pesce said it's one mark in your resume. This fiber network involving Kentucky, West Virginia, Tennessee, South Carolina and North Carolina do not have. It's an open access fiber optic network with connections higher education, hospitals, and other facilities. One of the things we're proposing is a donation of fiber in a bundle so that Randolph Jones and his cohorts hear about economic projects and a research side only, they can offer free bandwidth for research and try to change our economy. You have to attract knowledge and how do you attract knowledge is cost and in this

environment cost is becoming a major component of staying in business. By having donated fiber for research purposes it allows a selling point for economic developers to go out in northern Virginia and all the rest of the world and talk about why they should locate in southside Virginia.

This is the old network that's been developed by AT&T and it's possible it's not but it's tying into higher education schools with its vast research network. We think that having a presence on this network will be attractive for companies to come to southside and have access to this blue line and it's in development. We need to access into and that runs through Norfolk and Raleigh.

Secretary Schewel noted in a recent memo in an article and that had to do with career telecom. Working relationship with career teleconference in May, of 2001. The most wired and connected company in the world and country is 70% connected they have an unprecedented boom in their economy. They have a whole repertoire of tools they can bring back and we're trying to form a partnership with them and bring them in as a bidder because we have federal monies involved that will have to be, when an RFP is put out look at all vendors that will have to compete for that business. It won't be given to them but they're going to be absolutely convinced they can bring this solution down here at 30 to 40% less than anything that's available to do that.

What are you going to do? We're going to form the Mid Atlantic Broadband Cooperative, non-profit and implement this public/private economic solution. The other half of this which Karen has touched on and different folks have been working on a solution to come up with this educational program which is critical to the success of this line because it's justifiable. This lady is right, you have to drive and use that fiber again, this isn't original. We have to use this to have a world-class system. It's *e*Commerce and it's literally cold calling your insurance companies, your furniture companies, stores, sit down with them and consider what kind of business you want in order to prosper specifically using broadband. Thank you.

What we're trying to do is by allowing ourselves with career telecom hopefully they are and if they don't then shame on them. This can change the whole economy of southside. When they're talking about the southside they're talking about what's happening down here and the positive things. This partnership they're talking about education with CIT, Virginia Tech. We've got to educate the people with the help of Sprint and Verizon with the technology that they can use. The question is how do you get enough revenue to justify this investment?

In the next slide we're talking about southside technology and infrastructure advisory board that has all these interested parties to start the process and how do you use the infrastructure. What it will do and how do you show a benefit. How does the grocery store use broadband to be more effective? Delegate Wright, you're a small business guy, why do you spend twenty-nine or thirty nine dollars a month for this and what benefit do you get from it? One of the things that Old Dominion as our right of way and that's probably half way through our territory. We're in the process of talking to VDOT and that's continuous on *e*58 but the backup seriously is our right of way. If VDOT is unable to or it's difficult we want a back up plan on how to continue progress and not stop.

As you see at the bottom that's the Mecklenburg Electric Cooperative, to the east it's Prince George and sitting on top is Mecklenburg and Southside Electric Cooperative and that's our present right of way.

Congressman Randy Forbes because ultimately how you connect this project. One thing you have to consider is a tax base here. House Bill 2108 historically the College at St. Paul's interested in hooking up St. Paul's to Norfolk State. Strengthen these black colleges by using broadband and bring that technology to St. Paul's and Hampton University expressed an interest to be on the system so, this process is occurring that we're talking about and that's pretty amazing. Virgil Goode has expressed support and we need to show him something that he can support. Bob Goodlatch has offered his support, Senator Hawkins of course, on the Commission, I know Ms. Terry former Attorney General, leave no county behind. As you can see hospitals, educational institutions, anybody can use the fiber. The point of this system is to encourage competition. It encourages the Verizon's and Sprint's, all these providers have access to it and all bring their individual talents to bear, friends to all and enemies to none. In providing these jobs a synergy has developed and a positive attitude has developed. We're going to have a story for technology to tell here world class and international companies start developing. If we can start to develop a strategy and we can change the economy. If we compliment an RFP for carrier services in southside and

provide access to the business parks. All these negatives that we've heard about we're going to solve those problems. We can learn from what happened to us and let's not repeat it and let's solve these problems and let's solve all these adversity problems.

This is the plan from its inception, the black line starting in Stuart all the way over to Emporia. Because federal funds are involved matching funds and that's the first phase. Two federal years '04 and '05. Phase two is the green line and phase three blue and phase four in order to pick up the more affluent counties and Ms. Terry's objective of leaving no county behind. We have now completely wired with a ring hoping that the Verizon's and Sprint's and Gameboys wireless, everybody can use this network. As long as places like hospitals are connected with this fiber they can provide a better advantage to this technology and the Sprint's and Verizon's can provide that last mile. The black line is the fiber optic cable, the green line is eleven miles in South Boston. How that is deployed you can pick up everyone in the industrial park.

How does that happen, I don't know at this point, how do you get that eleven miles built. Is it Tobacco Commission money, is it HUD money, is it agriculture money, is it local money? This fiber optic cable, this power, how does that create jobs, how does it create creativity? All of a sudden you're trying to expand the network when the local outlets want to connect with the big outlets now you've got to carry the interstate highway to use it and it becomes possible and you can see return on money in rural areas.

DELEGATE HOGAN: You're proposing to put the black line and not the green line, is that correct?

MR. HUDGINS: I don't want to limit the creativity of the localized piece who want to do business. We're not in the business of deciding who but I think it should be a pretty level playing field, everybody can compete. Let the locals figure out what's the best way to serve the area. Leveraging the dollars, we leveraged two and a half million dollars in '04, we can start in thirty days. Two point seven EDA in '05. We can build this entire thing in two years and pay it off in five years. This is the actual funding breakdown. Ten million, EDA funding five point one. Conservatively Congressman Forbes has put in five hundred thousand to go for these parks to go through Surry and Norfolk. Phase two and phase three. You'll notice EDA is dropped off in phase two because you can't see that far and '06 funding cycle and I can't commit that far into the front of the project. Get this first phase done and then we'll talk about what we'll put into the pot on phase two. The whole idea is future proof the region. I'm not looking to have six hundred dollar T-1's like Richmond, I think that's a minimum and we can do better and we absolutely have to do better and we have to provide a competitive advantage. We have to have a reason for companies to come down here to this area. We want these educational institutions to become the hot bed of R and D but it has to start with some base infrastructure.

What you're going to see is how you get Norfolk, Virginia and the Eastern Shore hooked on to this. This is a vision that we're ultimately striving for. The blue line is Dominion Telecom, that's their network as it stands today. You'll notice it's mainly northside. Our own Virginia companies lined up with them and said they're more interested in serving Pittsburgh and you have to remember return on investment, not a good use of our resources. I think the idea is for this thing to terminate in Norfolk but on phase five, which we've talked about and EDA has committed funds because of the disparity over the Eastern Shore and that will terminate in College Park, Maryland. What does that do for us, because of the northeastern congestion with fiber optic lines it provides a bypass around that traffic routed on the Eastern Shore and come down to Norfolk and continues down to Atlanta and points west.

This project, this fiber, no electronics, we're not competing with Verizon for the last mile or Buggs Island Telephone. What we're trying to do here is provide an interstate so they can get their prices down to pass on to their customers. I don't know what the solution is, someone's going to, I'm not here to pick winners, let the free market work or wireless, let the best man win because ultimately in this society competition drives down the price. It's competition and not government regulations. Let's have a level playing field, wire the counties, provide the pathway and let the Commission through its wisdom maybe they can find the local loops, the eleven miles and maybe partner with EDA or HUD or agriculture half and half for that eleven mile loop and it will happen.

Schedules. This is really an overview of September and the Commission could vote at their October meeting. The second window is twelve months, phase one operational October, 2004. We had a meeting in Martinsville and Danville with EDA to get their funding lined up. At the October meeting I'll

have a pre-app letter inviting applications for five million dollars in funding but actually the two point five and then following another two point five. They're ready to pull the trigger and have a commitment done by December. So, three years, it's here, I think you've got two distinct approaches to this problem. I think there's two ways to do it. Nobody has done this in the United States, this is an original project. My hat is off to Virginia Tech for, I don't think you could have sold that mesh network. This embodies the spirit of the Virginia Tech report we waited a year and a half for. That's the end of my presentation.

MR. WATKINS: Do you have copies of that slide?

MR. HUDGINS: Yes, I do.

DELEGATE HOGAN: We have two pretty distinct and different things that have been presented. Just to get a feel before we try to figure this thing out, I'd like to take a few minutes to hear from Carol Inge who's with the teaching institute here and is responsible for a project to bring distance learning to the twenty four counties all in southside. Let her talk a little bit about what's here and what she thinks she needs to do that. I think schools are a piece of it and they may not be our major focus but certainly a lot of people are interested in it and I think we should hear about that and then we'll hear from the local CLEC's and hear a presentation. I think we should take a few minutes to do that. She's with the teachers institute and it's actually Longwood University.

MS. INGE: Let me give you a little background so you know who I am. I've been in the private sector previously working for a company called Intelligent Automation in Maryland Research and Development for the Department of Defense and *E*learning. I worked for the U.S. Department of Education, the Virginia Department of Education. I served on committees and presented to the committees on numerous occasions. One of the committees appointed by Governor Warner and the I-2 Advisory Committee with HUD. So, with that background I now manage the National Institute, the technology concept for research also known as the Teaching Institute at Longwood University, a national based organization.

I want to give you a little vision of where we're going with technology with the K-12 school. I'm directly involved with twenty two school divisions where we have put compressed video systems, two way video systems in southside Virginia in every high school. I also have a memorandum of agreement and understanding with southwest Virginia and the public television station and we will be replicating this model in southwest Virginia. I speak today on behalf of sixty-three counties K-12.

What are the K-12 schools doing and what do they want to do with broadband, they're doing online testing. They want to do their SOL test online so that they can get feedback and information about student progress to make plans for remediation and summer school and so forth. That's a broadband issue. They're doing better warehousing. They need to look at aggregate and disaggregate pieces of information related to children and everything from special education to vocational education to test scores. They're going to use data warehousing and that's a broadband issue. They're doing interacting two ways with video conferencing. They're sharing teachers and professors and are bringing workshops in and servicing kids using teachers that they otherwise can't get in southside and southwest Virginia. They're doing digital audio and video, teaching the desktop. Right now the institute has created seventy-five ELine modules coordinated to the Virginia Standards of Learning. What this means is that the child misses for the day you go to the desktop and you can get the module to teach you what you missed. That's a broadband issue. They're doing Internet searches, web cross, voice over I.P. Our office is doing that and higher education is doing that and K-12 wants to do that. That's not a predominant thing we're doing today in K-12.

In education they're doing things like they do at MIT where taking the Microsoft X Box and they're putting educated context across the Internet into the school building. Business is doing it with Internet research. They want to get access to professors in all the research that's going on not only in Virginia but nationally and internationally. They want broadband to the school buildings, to homes, to non-educational facilities, to libraries. By and large they want anytime anywhere learning and it will happen and it is happening.

What's the existing infrastructure K-12 in Virginia? Most K-12 schools use Network Virginia for backbone infrastructure. One hundred megabits per second within the land. All divisions have some form of a web interconnecting their schools to the Internet using the ATM primarily. In the near future we expect and hope one hundred megabits per second Internet access. Variation exists in the infrastructure, ATM's, wireless, fiber. *E* Rate subsidizes these programs, federal programs and there are some

restrictions. Without it we would not have broadband to the schools. We also would not have broadband to the school buildings. In southside the average is 70% discount rate. That means if you have a DS-3 approximately five thousand a month coming into your school division and you're getting 70% off that cost. Limited services are available to schools. DS-3 is a minimum recommendation right now today that we're making to the public school divisions. A minimum of DS-3 for the school divisions. T-1's and multiple T-1's and DS-3 exists in the school now. There are some exceptions and Compusec is providing a wireless solution that we think is quite interesting and we're not affiliated with Compusec in any way. Access to Internet II is through the Virginia Tech agreement and through Network Virginia and we're very appreciative to Network Virginia for that and in particular Hud had a lot to do with that. We have Internet II in the schools and we're doing some research projects such as the NASA Project and other innovative projects.

What does the future look like? The near future is a hundred megabits per second or greater for Internet on the backbone itself and to the school division. *E* Rate must continue and we need to look for alternative policy solutions if we need to in the *E* Rate Program to help facilitate discounts for schools. The biggest concern we have right now is end-to-end quality of service. End to end quality of service basically means you get what you pay for. It means if I'm paying for a T-1 to do online testing and that T-1 goes down, that somebody is there to fix it in four hours or three hours or two hours. Can you imagine if twenty thousand or in this case southside seventy thousand kids were taking the online test and they're ready, they're prepped, they had a good breakfast that morning the parents knew they were taking it and the Internet went down that day and the time it took to get it back up was two days. That has happened and we have real case studies of that happening. Time sensitive traffic that must be there like *E* Learning when you can't get that teacher to teach that class or that advanced math class and we have to have that and that is time sensitive. We have SOL agreements.

We think Network Virginia is a wonderful network and we'd like to see improvements in Verizon's and Sprint's SLA's. we'd like to see quality of service be a big issue. Bandwidth management needs to be offered as a service to make network traffic efficient and minimum upgrade. Telco's should perform proactive assessments of emerging technology requirements as well as customer deployment needs. People don't realize we're doing online testing teaching to the desktop, videoconferencing afternoons, digital video audio to bring in teachers from across the world and at the same time the same network is being shared by local businesses, government and everyone so it becomes network congestion if we have no quality of service or very minimal.

If the schools however switch from Network Virginia there may be an administrative and financial burden and a pretty significant one. In a lot of rural communities the largest employer is your school system. Imagine if you took sixty-three counties in southside and southwest and told the CEO's of every company now you're going to switch from your network to a new one, can you imagine the cost? It's amazing to think they're also doing this on a minimum budget with very few technical and expert people and that burden is huge. I'm not advocating that but it's something to think about. Any questions?

MS. TERRY: I'm glad to see the DS-3 and the recommendations. I don't know if you have a map to show where in southside or relative to itself but also relative to the state. I'm not sure I heard but I believe they have minimum standards, what do you expect our public schools to have in terms of bandwidth?

MS. INGE: There are some minimum specifications related to online testing but that's completely irregardless of anything else that the school division wants to do.

MS. TERRY: It seems to me it would be helpful particularly on despaired issues. If we brought in to play the State Department of Education and said we don't want any child left behind, we're operating a development technology and we want you to set some standards that would create a level playing field not what Fairfax County has or anything like that. Then we'd also say to the state department we have remote schools and whatever approach we use they're not going to come within range of school board office. Right now if we're getting anything it's a T-1 line. Once the state department comes up with minimum requirements for schools and we as a Commission should be approaching the legislature and Governor and change the composite index but in addition to taking into account pay more money to the schools for – we get more state money because we've got some outlying schools that have been left behind unless they get special help. Do you understand what I'm saying? Because the DS-3 coming into some of

these counties is going to be nice right around the county but if you're dealing with a large county like Mecklenburg or Pittsylvania, Patrick the fifth largest county in the state, they're outside the scope of anything that's available. It seems to me as a starter what we need is for the state department to set some standards.

MS. INGE: I think to address your issue that would mean probably going to the General Assembly to make the state department do that based on my experience.

MS. TERRY: Then the money would come from the General Assembly –

DELEGATE HOGAN: That's an interesting idea, that's really not what's before us right now –

MS. TERRY: Then we –

DELEGATE HOGAN: Hold on a minute, let's stick to what we can do right here. That's a nice idea and you can take it up with education.

MS. TERRY: My concern Mr. Chairman is that in the presentation there's nothing about the public schools and in most of these localities it seems to me that in these localities we may not be facing an either or choice. If we pursue putting out an RFP just to see how these service providers like Verizon and others might create a hub at least to get some idea of what they might cost, but to build them and then not have a clue which is zoned according to the composition, not a single educator is on there. We're bifurcating education and economic development when everybody tells us that they're interrelated. The public schools weren't part of that. I don't see an either or proposition here. It seems to me we would want to know before we commit to a pipeline what it's going to cost and get off of it, how compatible is that for the rural communities.

DELEGATE HOGAN: I think we can certainly consider that as part of an RFP and put out a proposal and working with this Committee and certainly will. I don't see why at this point we want to talk to the Department of Education and change the composite index how to develop the RFP that we're responsible for but we can sure discuss it when we get to it. Thank you Carol.

MR. WATKINS: Your model calls for a hundred megabits and Compusec gives them ten. Are you saying that that's just not close enough to what they're going to need?

UNIDENTIFIED: It depends on what you want and what you're trying to do.

DELEGATE BYRON: The hubbing that he talked about, is that what you're talking about?

UNIDENTIFIED: Not exactly. Hubbing has a solution whether you do broadband and reducing costs, network coming in. What this gentleman was talking I believe also what Compusec was saying, they're putting in a local what I call Ethernet and have a pipe going out to the network. They can reduce some costs to the customer by doing that. That's a little different than Network Virginia.

MR. WATKINS: What does the hubbing idea miss that the schools need?

UNIDENTIFIED: I don't know that it misses. What I see missing is the quality of service that is required to make all that work properly. Bandwidth management to keep the traffic flowing which is a big problem. The SLA's are lacking but we've had a very interesting case a year or so ago that shows as much as a three-month delay in servicing and redundant servicing. That's the issue we're looking at the integrity to compliment and the service availability. With the SLA's, if it's not up to standards you have a problem.

MS. TERRY: The experts in many of the rural areas and taking care of broadband to the public schools they've got the space and they've got the dedicated person and they need the most bandwidth. Anything that small business would need or a hospital would need would come within the ambit of that and you could lower the costs to everybody. I don't see what this gentleman from ODEC talked about is incompatible with that at all. I'm talking about what is it going to take with small folks including hospitals? Many of our small businesses as well as schools?

MS. JACKSON: Can I comment on that please? One of the issues, that matter was investigated in Monterey and Highland County and one of the issues that we looked at when we talked about leveraging that network was not the capacity of the network but the capacity of the IT staff within the school system to deal with a much broader customer base. Suddenly they're not just dealing with the school system that's open from nine to seven but whatever the hours of the school system are they're suddenly trying to support businesses that are twenty-four seven in operation. That throws a completely

different burden on the IT staff within the school system to deal with these other types of components that they historically are not attuned to dealing with and that's a bigger burden on them. That's something to consider when you're looking at leveraging a network.

Tazewell County is utilizing the network the way you are talking about. They're using it as the redundancy. The school system is bringing in Network Virginia and they're doing what they need to do and the municipalities and some other things they're working on different forms of connectivity with Lenowisco and some of the other funded initiatives that come out of the Tobacco Commission. The school system network is a redundant network. There's other things to consider beyond just can we leverage the network when you start talking about that.

MS. TERRY: Each county is different but the economic development folks in Patrick County, the economic development folks can't afford these things in a small county and an operation of twenty four seven, do you see what I'm saying?

MS. JACKSON: I understand your point.

MS. TERRY: In some localities they can really save some money and this would aggregate resources and lower the costs of small businesses and a lot of jobs come out of small businesses and county government. One of the things here is cooperation. It seems to me that if we have an opportunity for someone to provide some expertise and know-how to set it up it would be cost efficient for them to have the staff or one person to do all of it.

DELEGATE HOGAN: Let's go ahead and hear from the CLEC's for a moment.

MS. INGE: If I can just take a moment, we put the project plan for the twenty two counties in your hands and that's for the videoconferencing network funded by the Tobacco Commission a few years ago. Thank you very much.

DELEGATE BYRON: Maybe some of the CLEC's can answer this. If we put out a recommendation for the RFP and as we start talking about that we're talking about the possibility for an RFP and aggregation. As I understand our original mission, the way I understood it and I realize that education falls into economic development. In order to have children in school and in order to have people in hospitals and in order to have government serving all these people we need to have people there in jobs to sustain the people living there. Our goal was to bring in business and have all the infrastructure there to provide jobs for people. My focus is on that, the others will be byproducts of that and are important aspects of it. When we put together this aggregation who's going to be in charge of the management to make sure that all these other sources don't eat up the bandwidth that we need to be able to attract and in the process of attracting them if they're not there, to ensure that the bandwidth will be there later and that government is not chewing up

all the bandwidth that we need to provide all these other things. To me that's a main concern. If we can designate a certain amount or to ensure that those will stay available for businesses that are looking to locate. Will there be more than one hub? The hub you're talking about, is the RFP going to be for separate hubs and are we going to make sure we cover the whole region or does one area have more than one hub? I'm not sure I heard all those things discussed.

DELEGATE HOGAN: We previously heard from Verizon and Sprint and I've got a pretty good idea what they had to say. I think part of anything that we do we would have to consider how would the local CLEC's and ISP's can access whatever it is that we do so that they can join into this and ODEC's model is twelve miles and they said someone knew something. Why don't we take a moment and hear from a local ISP/CLEC's perspective about what you've heard today and what you heard last time how you think this will affect your business and ability to employ broadband.

MR. HOPKINS: My name is Jeff Hopkins and I'm with Gamewood which is a local ISP. We are also CLEC certified but we haven't exercised that yet at this point in time. There were two comments I heard earlier that I think are worth repeating in regards to what I say. The idea here is that we must make this a good business decision and we have to make a good business case and I think that holds true for what I'm saying and for what you all said. It holds true for what I'm looking for also I'll say that. The second thing that Mr. Hudgins mentioned from ODEC is that competition is what drives down costs and the ability to provide these services to people at a reasonable cost to you. There's a couple of comments I'd like to respond to. Number one, Network Virginia I consider to be in direct competition with private enterprise. If they sell directly to businesses which they do, then they effectively cut us out of the middle of it and they can provide it at a price commensurate with what we can buy it at and as far as private enterprise there's no incentive for us to work with them. Network Virginia however, does not provide those services that an ISP provides. There are many things left out of the equation of just transport for the Internet such as mail servers, all the services that the IP's and those sorts of things in fact have been left out of most of the discussions here.

With respect to the question about the aggregation bandwidth I see that as directly cutting us out of the entire loop completely. Our bread and butter at Gamewood is not only the residential services but the small businesses and those people that cannot afford to buy the big pipe. We in fact get big pipe which is relatively not big in comparison to what you've been talking for some of the industries, school users here. We take it and break it down and sell it to them at what we consider a reasonable cost. What eats us alive is the local loop and the connectivity. That's still going to be there in any equation that we talk about. When you talk about aggregating that's what we do. To aggregate within the CLEC's, currently the CLEC's costs the area where they do it you would be functioning as a CLEC's and an ISP doing that. I think there's some private enterprise folks that are out there able to do that for you. Believe me there are people out there willing to buy Internet, we want to be able to give it to them at a reasonable cost and that's what we're trying to do. The reason we can't go to the parks right now, we can't go to the industrial parks because we can only offer a product at a very expensive rate because of the conditions of buying a large bulk Internet and the local loop costs of getting it to them at that point and getting it where it needs to be. We have to find willing buyers at those parks or subsidize it and make it a good business decision in this case.

I really don't have a whole lot to respond to other than to say that when we talk about the school systems at a 30% rate of what the regular costs would be, they're getting an extremely good bargain and they are able to take advantage of that. I do sympathize the idea of the SLA. It is apparent from other folks and I don't have the records but its apparent Network Virginia does not provide all the bandwidth that they advertise and sell as that. Because of bottlenecks and because of the issues that were brought out in the discussion. With us in mind what we'd like to see is that we're extremely interested in ODEC's proposal and that's an open-ended proposal and allows open access and competitive exchange to most of the private providers. I think if you provide that framework and capabilities then you'll see the prices go down. We're perfectly willing to sell at reasonable rates to people if we can get it to them reasonably. I think you're going to find that's the key to spurring the economy and spurring private enterprise to provide it.

DELEGATE HOGAN: I think the gentleman from Verizon wishes to make a few comments.

MR. WALDEN: I guess you could see I was chomping at the bit. My name is Keith Walden and I'm with Verizon and I've heard a lot of things said today. Let me say a few things involving Network Virginia. It's probably one of the most robust networks around. Everyone has service issues in dealing with a large-scale network. It's also a network that does supply quality of service. A lot of things going on today that was mentioned in the education area are applying the newer technology using the quality of service costs, the IP sector which is a level three technology. You can do that in a small environment. When you go to create a network that supports multiple users, thousands of users that creates a complication. Some of the things dealing with quality of service in the IP sector are still being worked out with manufacturers. There are some standards that are not complete there yet and they're trying to meet our needs.

We are a company that's spent over a billion on research and technology and are looking to next year to start building these technologies in the network along the lines of MTLS which allows the aggregation of IP technology no matter what platform it's going, to come together and be switched back and forth. We're always looking at upgrading Network Virginia to work hand in hand with Virginia Tech. We have ongoing sessions going on now to work and create what we call the next generation of Network Virginia. We have the backbone, Network Virginia has evolved and improved because of the bandwidth needs that's been created over time and that continues to this day.

In considering costs of building out a network I'm working with several opportunities now for network build outs. It's one thing to have fiber but there's a lot of other components that go into building out a network structure to support the users out there. Equipment for optical networks are very expensive and we're pricing out equipment today that in some instances one card is a hundred thousand dollars. To put together a network and to manage that network, the fiber is the easy part and it's the other components that come together to support that. In Virginia today you have several providers. The other thing is that I can't say for certain that at this point in time Sprint and Verizon are probably users of that network. As Mr. Pesce showed we both have a lot of fiber in the ground throughout southwest and southside Virginia. At this point in time I don't see any need or any private customers to come in and we have more than made an effort to put additional fiber in the ground to cover that cost. From that standpoint and I guess from our side you probably see it as a competing network and in one aspect competition is good.

As an individual I kind of wonder what, in putting that network together to go with that overall cost structure will be. You can go out and look and there are many folks during the dot com era had money to build a network, put them in place and they built them out, high speed optical networks and then in three years when the money dried up they went by the wayside. You can go out and research those individual companies and see what happened. It's not in the building it's in the maintaining of the continuation of services and lease agreements, and fees that go along with that network.

Again, the IP sector is an interesting sector. I know our company and Sprint there's a whole separate division that deals with the IP environment and sells services to them. I'm not sure what provision is put in the RFP issue that states that some portion of the network has to be allocated to them and services have to be offered to them at a certain fee structure, that is possibly a possibility that would then reduce the cost structure for bringing services into them. One of the big things that everyone fails to mention is that when you look at this is that obtaining Tier 1 and Tier 2 access into the Internet, that goes on and that access is not cheap. That's probably one of the reasons why this is not a Tier 1 provider in the southern part of Virginia.

One of the things I looked at the Commission to do and it could be wrapped around Mr. Pesce's proposal and that is to see about funding the connectivity to be able to reach out to providers and bring that bandwidth closer into the region so everyone can benefit from it whether it's education or IP or the business sector. I still feel that the network, if you go back to the basic design you have a backbone structure. What ODEC is showing you, you have a regional structure with connectivity. If the Commission decides where you want to go as far as the money and when do they want to see growth from the money they put out and whether you want short-term growth or long-term growth. In building the network and under Network Virginia model which is somewhat the first recommendation by Mr. Pesce and if you do that under the guidelines of, I don't know if this is dealing with Virginia Tech, I don't know

about this area but as well as the enhancement to help take that network to that next level and be able to support the major architecture. That allows for a format to reach into all the service providers in the area to be able to deliver the same price services throughout the region. The network puts it where, obviously that's one thing the service provider needs to do is to go back and look at the cost structure. One thing that was done with Network Virginia is come up with the prices to look at the entire state wide basis so the metropolitan areas where they had short loops being done that was factored in as well as in rural areas where you might have longer loops. Take an average of that and that is what Network Virginia is based on. It's a good model to look at and being able to average out across the state so you don't have one particular area paying a higher price versus another group.

One of the other things that was mentioned is a hundred meg service and a minimum DS-3. Network Virginia does have a provision for ten one hundred-gig service. The biggest thing that runs the cost up with that. I don't know how this could be put together but in the RFP for the Commission could structure something so that the cost of putting in that network within the county is kind of taken care of and reduce the ongoing monthly prices to be able to offer ten one hundred gigs at very low prices. Then be able to be attached back into the backbone of Network Virginia and the higher bandwidth needs as needed. At the present time like I said, problems with the IP and working it out. The quality of service at a service provider level. We haven't yet worked those out and we are hopefully into next year that should be taken care of. For the most part schools are using it and the schools that are buying it are using it for SOL testing.

MR. SHAW: My name is Kelly Shaw and I'm an Internet provider serving pretty much maybe 80% of southside all the way up to Charlottesville. I want to bring out a few points that we need to talk about that really hit me today. I really like Mr. Pesce and Mr. Hudgin's presentation on the fact that we need to look at, for economic development I think I'm in agreement that we need to connect the industrial parks. If we're going to attract the larger businesses we've got to get a way to get bandwidth to the location. We have to have a way for all the carriers to get there so I'm with that. I did want to bring out a point that, that will help the local ISP's as well as Verizon, not Verizon and Sprint but it will help local ISP's and CLEC's with the local loop costs. How are we going to get this high bandwidth to these industrial parks? Right now Sprint and Verizon do it and they can charge what they want to. They have that pricing but there's no way for the locals that live in these communities and own these businesses to bring the bandwidth to their customers without having the cheaper local loops. I'm in agreement with that part.

I did want to bring out a point that if existing businesses here and I think I'm speaking for the other IP's. We can always bring the bandwidth that our business customers want. If they want a DS-3 we can get it to them, if they want a T-1 we can get it to them now. You asked at what price, I'll be glad to talk to you about those prices. For example, eight hundred dollars right now will get the T-1 from AT&T. I think the Network Virginia price was around twelve hundred dollars. Right now AT&T's prices are eight hundred and nine hundred to South Boston. My pricing, I sell it for a hundred and fifty dollars via the wireless plan. So, you're already saving money. We don't need government money, we don't need taxpayer money to be spent on this because it's already there and already available to our customers. Capitalism and private enterprise take care of these issues. If we're going to worry about economic development then by all means I would agree you need to make it attractive for businesses to come and locate in our industrial parks right off the bat. If there's no economic model – right now I do not have a business plan to run fiber to Riverstone, I'm talking about me personally.

DELEGATE HOGAN: Do you need to run fiber? We're talking about businesses that might go to Riverstone. You can offer wireless at one and a half megabit right now and you can go to Riverstone without, if you can go to my house you can go to Riverstone.

MR. SHAW: Yes, I can go to Riverstone right now for six hundred and twenty two megabits and it would be a wireless. I don't have to lay a single thing. When I say we I'm speaking as an ISP as well as the other ISP's here. We can provide the bandwidth needs that existing businesses need right now. Most of them are going to be within range of the DSL and if they're not theirs will be within range of wireless or other technologies, you can bundle ISDN. Right now we have customers right now that DSL wasn't available, we can provide two hundred fifty six kilobits per second of bandwidth and they're not using that, they're using much less than that. I have T-1 customers that barely use more than a

dial up. I just want to say this, it's great and let's get what we can if the people are not going to use it right now we shouldn't be spending this money right now for that.

I work for an ISP in northern Virginia and we provided entire college systems with bandwidth less than ten megabits this last year. Forty-five megabits is great and I'd love to see it but are we being realistic on what people need. We need to plan for growth and that's great but we need to come down to earth a little bit on what our region needs and what is used. I've been in this business since 1995 and people say that's great let's get a T-1 to my house and they're not going to use but so much on average, they're not going to use more than dial up and they'll burst up to half of that, that's where my sticking point is. If we had all the money in the world let's run this to every house and let's be realistic about what people really need. It's nice to have a DS-3 to your house but you don't need it and it's not going to be used.

We can always get rural customers high bandwidth. I'm turning up two customers right now that are six miles away from this town with ten-megabit wireless services. It's part of economic development and it's great when you can tell business that's moving in we can provide your business with redundant fiber through this ODEC route and at home you can have connection back to your office. This is a great thing. We're doing voice over IP right now. I've eliminated the need for people to buy extra phone systems. They don't have to worry about paying for another phone line and we do it over wireless.

The other point I wanted to make is that we're already giving rural schools the bandwidth they need, Compusec right now ten megabits, they provide an interconnect between the schools. I'm not sure how much they're using but I have a feeling that the school system right now in Halifax they're going to use over ten megabits even between schools and that'll be a couple of years down the road. I don't see it happening right now.

The other point I wanted to bring out is that we need to think about if we go the ODEC route, who is going to manage this network number one? Number two, who's going to purchase the electronics? Even a single card of a hundred thousand dollars. It's nothing to throw down a half a million dollars to purchase electronics to put in to split fiber optics like T-1's and DS-3's and that needs to be thought about. I'm sure ODEC has already thought about how they go about doing that but those are the things that we worry about. DS-3's right now probably under ten thousand and you can get a full DS-3 for a regular business. The T-1, I had a quote last month from AT&T nine hundred dollars for the T-1 through South Boston. I thought that was really good. Back in 1995 I paid over twenty five hundred dollars to bring a T-1 to South Boston so the prices have really come down.

Another thing I wanted to mention is that with the ODEC model and it's been talked about in other meetings I've been to that if we ask the Sprint's and the Verizon's to have a wholesale plan for the local ISP's I'm not sure that's going to work. Right now I sell Sprint DSL and I wholesale it. Right now I pay between thirty and thirty five dollars for one Sprint line, for a DSL line to a customer. When Sprint can turn around and sell DSL's to the same customer for thirty-four ninety-nine right off the bat wholesaling doesn't work for us. If we're going to wholesale I don't know how you can just tell them and it's their network and they put it there, I don't see how it's going to help the local Internet service provider and the local CLEC's. I paid about thirty to thirty five for one Sprint line and one DSL line to the customer and then I get a call back next week and they say Sprint just offered us a DSL for thirty five dollars, I'd have no way to make anything off of that. That's all I have for today I think.

MR. WATKINS: You say four hundred dollars for a T-1 line and then you say nine hundred dollars is the fair cost, it doesn't look like to me it's competitive. We're trying to create –

MR. SHAW: You're right, there's no Tier One service available down here. Up in D.C. you have connectivity from many providers. Like Tyson's Corner, it provides for a way for competition to bring the prices down here but down here I think I can only talk to Sprint, AT&T is in Danville and I'm not sure if there is another provider. There's no reason for them to lower their prices and that's still very good pricing.

DELEGATE HOGAN: If we had better Tier One access here we could get these services down. If that were true do you think that would lower your wholesale cost from nine hundred down into the –

MR. SHAW: -- I'm just saying it's a lot better than it was.

DELEGATE HOGAN: If you figure out a way to bring that cost down to three or four hundred dollars would that then be comparable to northern Virginia wholesale on Tier One access?

MR. SHAW: We'd love it, but how are we going to entice someone to bring a pipe or other locations down to here? Who's going to fund the DS-3 or the fiber route from this network to D.C. or to Atlanta or wherever? I don't know how to answer that but I had the same question when I was thinking of co-locating with these other providers. You've got to get to the provider first and the local loop in a sense is what's hurting everybody.

MR. WATKINS: I'm told there is a Tier One access point in Danville, is that true?

MR. SHAW: No, not that I know of. It doesn't help if there's only one provider there because there's no competition there.

MR. RATLIFF: Greetings, my name is Glen Ratliff and I'm the owner of GCR a company here in South Boston, Virginia. We operate not only as an ISP but we also operate as a CLEC. We are functional as a CLEC. We retain one for the sole purpose of cutting our costs of operation to do Internet services. We rent space in two central offices in Danville, Virginia which is Verizon and Sprint in South Boston. The reason we do that is that if you accept connection with them in their office you can save some money and you also have options for combining connections and breaking them up and things like that.

I want to touch on a couple points and I'll try to be as brief as I can. In Danville at the Verizon office you have three CLEC's. You have my company and you have Adelphia and you have Intelos. Adelphia and Intelos have their own optical connection into that office. You can go from them and reach anywhere else they have on their network. Adelphia has its own connection to a spot in the northern part of the city in that the division is co-located in. Across the street from Verizon you have MCI and about ten miles away in Blair, Virginia you have an AT&T pop. You can get to a lot of carriers in a pretty short distance. What governs that price a lot of times is the tariff. You'll find that AT&T can't really do too much for you to get from Verizon to their pop because that's all Verizon connectivity and a tariff is what it is. Generally Verizon and AT&T have a pretty favorable agreement to hand off those connections so that is why I pick up the T-1 from AT&T and delivers it all the way to me in South Boston at about a thousand dollars a month. What's keeping that from being a three or four hundred dollar a month is that we don't have the T-1 service right to the door.

I went to a training session in Glen Allen, Virginia. A building advertised three different fiber providers to the building. That means they already had their electronics in and literally their cost to cut you a connection was expensive. We don't have that in southside. Danville as far as a hubbing point can get you anywhere you need to be and I find that generally Adelphia and Intelos because they have an activity there can get you back to where you want to be at the best price you're going to get.

Moving forward now and everything I've heard today I kind of favor the ODEC proposal and this is the reason why. The dark fiber if it is truly open access does enable a lot of possibilities. A hundred and forty four strands means that you've got seventy two connections that you can make or make them redundant meaning a working pair, you're down to thirty six or something and that's a lot of possible connections you can have. You don't have to worry about bandwidth management because my fiber is connected one end to another and I don't care what somebody else is doing on this other fiber. It's just like a road. You're building a road and you pave it and then you say all right who wants to drive across it can. The options are expensive. In my case I'm interconnected to Sprint's office through my own fiber and it's about eighteen hundred feet. The optics that I have cost me about sixty thousand dollars but they were worth it in the prices they saved me from having to pay Sprint a premium to bring me that level of connectivity down to my office. Right now I'm leasing connectivity to Danville and DS-3. I'm paying about five thousand dollars a month. It would be nothing for me to spend a hundred thousand dollars one time to eliminate that five thousand dollar monthly bill. I've got an OC-12 or OC-48 connection and then I'm going to turn around and sell connectivity across it at a very attractive price for whoever wants it. At schools, businesses, other providers.

We are a functional CLEC and we have our own switch. We actually provide services to other ISP's that make it possible for them to cover a region that they would not be able to if they did not have connectivity for us. If you want it to be a dial up ISP and you wanted a service from Charlottesville to Martinsville and send it over to Farmville you can get service from me in South Boston and you've got that local coverage area. If you did it a traditional way which would set up a pop in each community by Internet line or phone lines from Verizon you're probably looking at seven or eight pops plus time through

the Internet and we do that now. We have one ISP customer and their entire presence in southside is sitting in two feet of rack space in my office.

In short, the private sector is doing a lot of stuff. I think if you did build a fiber optic network dark fiber, it's certainly a possibility and the question is what to do with it. If you built the fiber why don't you turn around and give some spare fiber to Verizon or give them to Sprint. At the very least they might not cut the prices but that would enable them to service their customers even better. They'll make use of it and I don't think anything that was offered to them will be turned down. That's my take on the whole thing.

MS. TERRY: Where's the closest place to get fiber?

MR. RATLIFF: There's dark fiber that comes through the region. If I understand correctly I think Verizon has thirty-eight strands that come from Danville and Ringgold and actually pass right through the Sprint central office here in South Boston but it's unbroken and continues on to Clover, Virginia. That's their fiber and it's tariff in terms of, as a CLEC's I can get access to it but the price is too high. The parameters to get access to it, there's a laundry list of things that have to be satisfied meaning the fiber has to be broken already which it's not. If I wanted to have that fiber or if they had a fiber broken in South Boston I would want to get to Danville with it and because it's going to Ringgold I would have to establish a presence in Ringgold and then cut it through and then establish a presence from Ringgold to Danville. It's there and it's protected and the prices are high and the requirements are sort of steep.

In terms of what Sprint has, Sprint only has four fibers that are currently utilized from South Boston to – and then from – to Ringgold and then that's Verizon thereafter. The point where the fiber's meet in the territory is where Verizon picks up. So, anytime you order service you always see that four seven is like South Boston to Danville. 47% of the ownership is Sprint and 53% is Verizon. It's only four so you've got two that provide the working signal and two for protect. So, there's no access there.

As far as competitive, there are no competitive providers someone like Dominion or Adelphia who has built multiple strands or we'll sell you services or we'll sell you whatever you want. If you look at any of the maps this area's kind of bypassed. Danville is fortunate enough to be on that network that can get you down to Greensboro and from there can tie you into Lynchburg and Charlottesville or whatever. The nearest place we see competitive fiber any more is probably Emporia. It so happens that Dominion has their fiber that comes through Emporia. It actually won't be utilized there because it comes through a power substation and the only connectivity from that power substation back to Emporia or the Verizon office is Verizon. The reality a lot of times is that the tariffs are what dictate that local loop access. If you can get to these points you can competitively go wherever you want to go. In Danville I use Intelos to get from Martinsville to interconnect my switch with Sprint. Otherwise, the traditional way I would have to use a long haul carrier to come out of Danville in another Lata so we have to cross the Lata boundaries and it just wouldn't be cost effective to do it. Because Intelos has equipment in each location to sell that at a very reasonable price to me. Then I collapse it to a bigger circuit through a DS-3 I lease from Verizon and bring it back to my location.

I think the model that ODEC has put forward has some benefits for everybody. They get low cost access to it or free access or whatever it's only going to improve that service to their customers.

MS. TERRY: Question. I think we need to see what rates Verizon could come up with to these different areas.

MR. RATLIFF: If you mention Network Virginia, the one thing, I happen to be on the school board here to and our school system uses two T-1 to Network Virginia. The problem with the speed on Network Virginia had been there from the start. The reality is that Network Virginia is not fed with enough bandwidth to service all of what's being asked to be done with it. Five thousand a month is a great price for full DS-3 but it's not a good price for a full meg per second. I had a conversation with the outgoing director of the City of Danville School IP Program. I talked to him yesterday and I said what do you get on your forty-five meg per second DS-3 and he said at most four megs per second. I understand they are looking into that, that's why I understand, they are thinking of dealing directly with the service provider because if you deal with a Sprint long distance or AT&T and you get a T-1 from them and you've got to think of service. If that circuit is down for any length of time you get credit but you get a guarantee, which means that when you send out a packet it's going to get to where it's supposed to go in the prescribed amount of time. If you've got a pipe full of water and there's no room to push the water through it, it is of no value to you. I have my opinions on Network Virginia as far as if it even exists at all.

I know a lot of money goes to maintaining it but in the end I don't think folks are getting what they expected. They're probably getting what they're paying for probably five thousand a month for four megs is not a bad price.

DELEGATE HOGAN: Thank you Glen. It's 12:35 and we thought we'd be out of here at noon. What's your pleasure, do you want to take a break and come back after lunch or do you want to talk about this a little more and schedule another meeting? At some point we're going to have to start putting together an RFP as to what we really want to do. What's your pleasure?

DELEGATE WRIGHT: I think we're going to need another meeting, I've got another meeting to attend this afternoon.

MR. ARTHUR: I think we definitely have to have another meeting Mr. Chairman. I've got the time to stay here today and start this process but some people have got to be somewhere else but we definitely need to start. We've been listening to this and talking about it for two and a half years and it's time to move.

DELEGATE HOGAN: My thought is that we start putting together this RFP in working with staff and other folks to draft it up. You can't put together an RFP if some of these providers

are a part of putting together and it doesn't work that way. We've got to be somewhat careful about how we go ahead with that.

MR. BYRON: Mr. Chairman, if you put together the RFP, the staff recommendations to do some of that. I'm hoping we'll put together a few different options and make sure that we have some details and it's a management issue and consider some of those things.

DELEGATE HOGAN: Maybe we should take a look at it right now for a few minutes. We can get into this fiber or that fiber and other structure works and who owns the switch here. I think the chances of this group of people coming up with the right technical answers for that structure's probably pretty low. I think what we may be able to do is say in these fifty three locations we want "x" amount of service, in the school system we want "x" amount of service and we want these to cost "x" amount, we want this level of service and we want this kind of quality service and put it out to these people that do this for a living and see what they can do with it. I don't see how we could get into a discussion here about who owns what fiber and how it works. That's their problem. If we go wireless five or six years from now let them worry about it. That stuff changes and I don't see why we want to pick a winner or loser in that change and I don't know how we could possibly figure that out.

MR. WATKINS: I think the consultants are here. David, that's obviously one set of RFP's, what is your proposal where we ought to begin, would we have a meeting like thirty days from now?

MR. HUDGINS: Yes. To access the '04 federal funding Mr. – said he would recommend to commit today to the disbursement in December. If we miss the timeframe then we miss the '04. Budget cycle and commitments, if it's not submitted to the Philadelphia regional office it won't be considered.

MR. WATKINS: What's the latest date for that?

MR. HUDGINS: October 16th.

MR. OWEN: Mr. Chairman, I'd like to make an observation. I'm impressed with the *E* Rate Programs that the federal government has for the school system and in effect buy down their costs so that they can get the appropriate bandwidth that they need in the school system at a reasonable cost. From what I've heard the access or availability of the T-1 line even up to the DS-3, there may be some inconvenience and a little extra cost but it's not a huge issue in terms of economic development. It's there and there's many methods of getting it there. Network Virginia buys the cost down and you've got wireless alternatives. You may get a couple hundred dollars more but that's not a make or break issue on someone in terms of economic development. I object to the sort of transformational economic revitalization of southside. We need to be thinking of how do we get the heavy stuff in here for the AOL's or whoever that would come to us in our parks. Without being specific and prescriptive maybe something like the federal government buy down approach that we would subsidize if you will, the delivery of DS-4 or OC-1 or something higher into our geographic region based on whatever the needs are of industry or industrial parks. Without getting specifics to do it this way or that way and whoever comes up with good ideas of access to some of our funds and buy down the cost of that. It would be nice to have DSL's in everybody's home and it would be nice to have T-1 lines but I don't think that's our purpose. We need to figure out how we're going to leapfrog economic development and have high bandwidth capacity and use our funds in the most efficient way to buy down, not rebuild and duplicate everything that's in the ground. Use our funds to buy down the cost of that or access in the same way the federal government buys down access to the school systems.

DELEGATE BYRON: I'd echo your comments to buy down. How long would we be subsidizing in a buy down stage like that. The monies are not something that's going to be there forever, there's going to be a time later on where they're going to have to have their own funding. My concern is that monies that we use from the Tobacco Commission, there's going to be an end to that and a timeframe that that's going to, is that going to go to build something and then complete but they're not relying on the money later that will not possibly be there.

MR. OWEN: Any governmental program is subject to, the schools can't be sure that it's going to be there depending on what Congress and the Executive does. I'm thinking out loud Kathy, I don't know.

DELEGATE BYRON: It's a complicated problem.

MR. JACKSON: One of the ways that has been addressed in other communities there's been a subsidy put in to get wireless, fiber or whatever is brought into the community and some kind of profit guarantee with the provider. Such that maybe you can only have ten connectivity's going into the system when it's initiated. The idea is that the subsidy will only remain until agreed upon levels are met by demand in the local community. As the demand in the community starts to absorb the price, the subsidy gets smaller and once it hits a parity level then the subsidy drops off and the demand in the community takes off and runs with it. That's where it falls back to some of the demand issues in making sure that the community either through attraction or residential use or through assisting businesses and education are the ones that observe the basis of that subsidy until parity is reached with the providers and the providers take off and it does work.

MR. OWEN: The construction cost that the buy down, maybe in the form of subsidizing one time costs rather than they continue to occur.

MS. TERRY: Mr. Chairman, I don't know if this is true for all of southside but I know in Patrick County we had fiber on the pole and what it cost or Sprint would charge us to connect to the schools, a T-1 line I believe was two thousand a month. I think Mr. Chairman, if we put out an RFP that relates to our rules, we're not talking about trying to put or negotiate prices but we're trying to get a rate that we could live with. We need a rate that we can live with because small businesses and schools they need, they have to consider what they need for their own needs in particular. I'm suggesting that an RFP go out to the Sprint and Verizon and Network Virginia for the schools. This gentleman talked about South Boston and just see what they can come back with for the T-1 line for the schools and small businesses. I just think we need to make sure that whether it's the small businesses or the schools they don't have to pay for more than they need.

DELEGATE WRIGHT: I think we're right back where we left off when we left Roanoke. I still think that the idea for us to ask the telephone companies and service providers, we got to tell them what we want and then ask them to come back to us with something. We need a concrete proposal and we need to tell them what we want. There's a lot of information out there and I'm not sure we all know how to do that but that's why we have them. We need some sort of idea how we're going to get done what we want to do but I think we're really trying to do something that we're not qualified to do.

DELEGATE HOGAN: We've got to tell them what we want and the level of service that we want.

DELEGATE WRIGHT: I think the idea to have some formal proposal or an RFP at this point is a good idea.

DELEGATE HOGAN: Let's take a five-minute break here and then we'll come back.

NOTE: A recess is had whereupon, the meeting continues, viz:

DELEGATE HOGAN: I think we all have this mapped. It's basically the industrial sites.

MR. PFOHL: It's got higher education facilities and hospitals and industrial parks.

DELEGATE HOGAN: One of the things Mr. Owen touched on before, what does this level of service mean, how much service do you need. People have thrown out numbers, a hundred and fifty megahertz and other people are talking about one and a half megs. How much bandwidth do we need? What do we really want to ask for? What do we need in the foreseeable future that can get us to the industrial park and get those wired up where they would be attracted to other folks. Nick, maybe you can address that.

MS. JACKSON: We had a conversation during the break about that and really the idea of the redundant fibers to the industrial park is what the issue is. It's the number of providers that are available to the industrial parks that is the key. That would lend itself more to trying to find an alternative or a complimentary service to what's already here. Your industrial parks are already hooked either to Sprint or Verizon and the issue is there's no redundant back out.

DELEGATE HOGAN: About half of them.

MS. JACKSON: Twenty-four of them.

DELEGATE HOGAN: Someone told me the rest are served by cable providers.

MR. PESCE: The information I got so far is that yes, I only got it for a few but if they're not there they're very close.

DELEGATE HOGAN: What are we going to ask folks for?

MR. PESCE: My recommendation and if Mr. Croasdale agrees and if Karen Jackson agrees is that we do an RFP for the industrial parks requesting an alternate fiber route into the park. Bandwidth is not an issue at this point, we've got to get a way to get alternate carriers into that park. Not that the parks don't have bandwidth today the issue is the ability to attract, to have that extra tick on the resume to attract medium sized businesses into those parks.

DELEGATE HOGAN: Do you agree with that? The alternative provider?

MR. CROASDALE: Conceptually yes, but I think it depends upon the end user what they actually need. We're kind of in a circle here on the pieces that we talked about and providing services to industrial parks in other areas. They need to be somewhat tailored to the user. If your user requires a separate path that needs to be worked into the design. I don't know if we identified potential users that need that service. I would argue at this point that I think we need to specify all the requirements for the RFP and put out in broad terms what it is you're looking for and what you're trying to accomplish. Then the alternate providers and if they think these separate – if they think that's important they'll give it some weight and certainly if they think that's important they'll go in that direction. Certainly it's a matter of timing and I think you'll see the ability and timing. With the development of the RFI is less than an RFP, less specific and you get more creative response.

DELEGATE WRIGHT: Mr. Chairman, I kind of agree with that and I don't think we can have information how to form an RFP and I don't think we can do that.

DELEGATE BYRON: Mr. Chairman, on the industrial parks has that been tried, the broadband services and I haven't been hearing the demand. If there's something on the industrial parks that may have been listed here. I'm not sure they're actively seeking that right now or have the end user to use it as was mentioned here. Some of the ones that I noticed that do have it seem to have larger activity and more growth going on in their industrial parks right now. I question whether or not it's a matter like anything else when the business comes we'll be there to supply it unless we hear otherwise.

MR. CROASDALE: The Commission has received requests from one industrial park for a grant for fiber. I did an investigation with the county manager and the park itself figured out what they wanted. Fiber didn't have any, there weren't any prospects for that and basically it was relayed to me that they were looking at one more item to put in their list of amenities that the park was offering. It was more of a marketing desire. The services to be delivered, they were not specified and that's one case. There was a request and I think it was

a hundred thousand.

MR. PESCE: I heard numerous cases and I went out to the Appalachian Symposium on Telecommunications and I sat with at least ten economic development people and I heard over and over again that they were trying to attract business and one of the biggest issues is that the companies are asking for two ways out and I heard it over and over again. I heard it from the state and Virginia people as well. I spoke recently to Randolph Jones from Mecklenburg and I heard the same thing again. The consultants from the companies come in and have their checklist and one of the things on the checklist is like a marketing thing. It's on that checklist and if isn't checked off the park is not even considered in most cases.

DELEGATE HOGAN: So everyone is clear, what we want to do is an RFI, we don't want to do the paperwork with the RFP. I think the difference basically is that an RFP is a much more structured approach and an RFI will give us some flexibility. I think we want to make sure we do the latter. I don't know if there's any problems going that way.

MS. TERRY: Would they be in a position to know what we need, like the bandwidth –

DELEGATE HOGAN: -- If you talk to economic development people they're going to tell you they can get all the bandwidth they can get as soon as possible.

MS. TERRY: Mr. Chairman, when we were in Richmond with the economic development partnership they didn't mention bandwidth one time. They never mentioned technology at all for southside. I think some of our areas like Danville and Pittsylvania they have some special needs but never once did they mention that. I think one of the interesting things is what do we have that's not being adequately covered and how do we negotiate the price on what we have.

MR. WATKINS: We've got one economic developer still in the room, is that a request you get when somebody comes into your county?

MR. BURNETT: I'm Mike Burnett and I'm the economic developer with Patrick County.

MR. WATKINS: If a prospect comes through do they ask you any questions what kind of access you've got?

MR. BURNETT: We do.

MR. WATKINS: Is that a big question?

MR. BURNETT: Yes, quite a bit.

MR. ARTHUR: Did they ask you about multiple routes?

MR. BURNETT: They asked us about multiple routes and redundancy and service as far as 99%. They asked us about prices. Those are usually the three on telecom, we always get a water and sewer question.

DELEGATE BYRON: Do you have most of the other things on the checklist?

MR. BURNETT: Yes. We have not had it in the past and we've got about everything we need for the checklist. The biggest problem we don't have left is the telecom. We're working with an existing business right now that would increase about a hundred jobs and can't get the telecom's service that they need at a reasonable price.

DELEGATE WRIGHT: And if somebody looks at the map and sees the location they might pass you right by.

DELEGATE HOGAN: If you had this telecom would you get these hundred jobs?

MR. BURNETT: Yes, we would.

DELEGATE HOGAN: How much do you think it would cost to get it there?

MR. BURNETT: We're still working on that. What they're actually looking for is the monthly service and they need a DS-3. We're working right now with CIT and looking at that. Sprint is talking fifteen thousand dollars a month for a DS-3 and the company can't make those numbers work and they're going to need something in the five or six range.

DELEGATE HOGAN: That's something definitely we need to do if we can get a group on that. How do we construct an RFI that solves his problem?

MS. JACKSON: What we were trying to do to attack Mike's problem is to go in and not only address, that's a burning issue because you've got one company that needs it but in addressing that issue look at all the other businesses that are in close proximity and see if there was some way to get them all connectivity in a bundle situation and then split it between I'm assuming an *E* Line.

MR. BURNETT: Yes.

MS. JACKSON: What EMI would work on as well as what these other companies need. The idea with EMI is the fact that there is no fiber in the loop that runs near EMI's building. The cost that they're having to bear is from where Sprint's point of presence is all the way down to where their facility is and so into their facility. They're actually paying for the construction of the loop that doesn't currently exist.

MR. OWEN: That's what I was talking about. Since the loop is there they can definitely become a Network Virginia customer at a much lower cost.

MS. JACKSON: If the loop were there their cost would go down probably half to three quarters.

MR. BURNETT: Right now they're being forced to pay for the loop itself, which means their price is actually twenty five thousand dollars.

DELEGATE HOGAN: How long is that piece of fiber?

MR. BURNETT: It's going to be about two miles. We're looking at not just the problem with the actual fiber we're looking at a competition problem because we don't have anyone to go to except Sprint and Network Virginia. We heard the first day that Network Virginia doesn't give you the service they advertise.

MR. WATKINS: You've got a company making decisions and add some jobs here and they know we don't have it reasonably priced and they're not going to go there. They're making that decision before we ever know what happens. This is an opportunity we have.

MR. OWEN: Is this company in your industrial park?

MR. BURNETT: No, that's a lot of the concern that I had. We have a lot of existing businesses and vacant buildings that are nowhere near our industrial park.

DELEGATE HOGAN: Would there be twenty miles away?

MR. BURNETT: Maybe five miles away.

DELEGATE HOGAN: How many need DS-3 level service?

MR. BURNETT: This is the first one we dealt with. Like Tucker said, you may never see them.

DELEGATE HOGAN: That's bandwidth, that doesn't come up very often.

MR. BURNETT: This company is actually looking at getting into a new line of business where they're going to be storing medical records for hospitals in a five state area and they access by those companies from their location.

DELEGATE HOGAN: In the short time I'd ask you to get together and make a proposal and get it in front of us.

MR. BURNETT: We're working on that as we speak.

DELEGATE HOGAN: See if we can solve that problem.

MR. PESCE: Can I comment on that? And I'd ask Mr. Croasdale and Karen to help me out on this one. Once you get fiber in the ground you're going to put a chassis or equipment in these locations at the ends. Bandwidth can be handled when it's time to be handled and the card can be put in. I'm not sure there is an issue with the bandwidth and I'd like to hear from some of the carriers, we have to have a number.

DELEGATE HOGAN: Would that be true for any coaxial connection then, could we theoretically give you that and then unlimited bandwidth?

MR. WALDEN: With the bandwidth, if you have the fiber you can change the electronics and one of the things we're doing now is installing next generation on the equipment. That gives you a capability of anything up to OC-48 or OC-192.

DELEGATE HOGAN: Convert that to megabits so we'll know.

MR. WALDEN: OC-48 is like two point four gigabits. I think OC-10 is like ten megabits or something like that. Ten gigabits. OC-192.

DELEGATE HOGAN: What you said is that if you have the equipment you can convert any cable to deliver forty-eight DS-3 to ten gigs?

MR. WALDEN: Correct. The equipment has the ability to also deliver ten megs or a hundred meg or gigabit Ethernet interfaces. If you go beyond the point of saying I want to put fiber in the ground or you can say I want to be able to offer a sonet structure as well as an Ethernet structure.

DELEGATE HOGAN: The gentleman from Henry, if you had, if there was fiber to him right now what would his cost structure be?

MR. WALDEN: A whole lot less, I was surprised at fifteen thousand. If you're talking about the Commission and installing a system that goes from an industrial park to a serving CO you would then reduce the cost of that segment. I'll put it in terms of when customers buy private sonet rings. Once they buy the initial sonet ring to turn up the DS-1 that would cost them at least seventy five to a hundred dollars a piece on that end segment. That's terminating between locations and how much they pay. If it goes beyond that it can pick up some additional charges. The price for that would vary anywhere from a couple of hundred to several thousand depending on where it's going or where the drop point is. In that segment of going out from a central office out you're talking about down into the hundreds of dollars.

DELEGATE HOGAN: We're saying we want some sonet rings –

MR. PESCE: -- Sonet equipment to be attached to the fiber so we can deliver any bandwidth.

DELEGATE HOGAN: We want to ask for a couple of things. What would you propose to do with the industrial park, what would you propose to do on a redundant basis? I think there's been some discussion on is it worth running – having redundant access to two different CO's you've got to run a fiber from Riverstone two miles from here. There's one here the next one is Danville. You spent a fortune getting redundant service to one industrial park unless you do it through wireless or some other application. It seems to me we probably should ask the question this way. What would it cost to bring sonet to each industrial park and that's one question. What would it cost to bring multiple – help me out here?

MR. PESCE: I think you're doing good. The issue is that there's different types of redundancy. One type of redundancy is back to the central office. Verizon and Sprint and I'm sure the other carriers will tell us how much redundancy we'll get and what the risk would be if we go back to the same CO. There is some risk and I don't know how much. The other issue is behind that will competitors be able to get to that CO and what is it going to cost to get to the CO, which is an issue as well. There's two issues there.

DELEGATE HOGAN: We've got two issues, sonet access and redundancy. Redundant sonet access at a different level and who do we wholesale off of?

MR. PESCE: That would be open to everyone. The extra link would be open to everyone. The issue is what is it going to cost the competitors to get to it?

DELEGATE HOGAN: What's the charge on the DS-3?

MR. PESCE: I would think the price would be different from CO to CO.

MR. SHAW: For us or for the ISP's we're still going to have to pay tariff prices because we're going to have to go to the incumbent. I need to get a T-1 to the CO. We're going to have to do that. I don't see the CO as splitting up wireless antenna's for wireless providers. We're going to have to pay that local loop fee which is not going to disappear.

MS. TERRY: Mr. Chairman, the redundancy part of that agreement or maybe that should be open access.

DELEGATE HOGAN: Are the people from ODEC still here? What we're laying out is an RFI and these folks are going to apply for it. I expect that Verizon and Sprint and they'll come back to us pretty quickly with information and this is what we can do and then we can choose and we'll deal with the access points. Does that make sense?

DELEGATE WRIGHT: We need some information from them.

DELEGATE HOGAN: Here's the three questions we want them to answer and I'm just asking. Sonet access to every industrial park and that's one question. Number two, redundant sonet access. Number three, wholesale access with these CO's.

MS. TERRY: And also so small businesses don't have to jump from three hundred dollars to eleven hundred, how they are rating that.

MR. PESCE: I think that's a separate RFP we should discuss once we finish this one. They are two different things. I think it would confuse the carriers as well if we add them both together. I

have one question for the carriers on this one. What should we add because we also need a cage, right? What are we missing, are we missing anything? We have fiber, we have the sonet, we're asking for different levels of redundancy and we're asking for wholesale access for the competitors to get to it. I'm wondering if there's anything else that should be included that we're missing? There's probably a cage that's going to be needed.

MR. WALDEN: That depends on where it's located. One way to do it is that you actually install the fiber ring that runs to the park and one drop off is the Verizon CO or Sprint CO local carrier CO and then the second drop off is at some other location. At some other providers location or a central point where other providers can come in if they have their own access or building in the area that that would generate or have the ability that they could utilize the fiber, fiber and electronics in order to get out to the park.

MR. SHAW: I would agree with that but I'm wondering if it's going to be fair and the right way to do it maybe is to have a vendor at a neutral meeting point in the industrial park where the bandwidth can be brought in to these particular provider racks and then distribute back out to the residence or the tenants of the industrial park. A vendor neutral shed or equipment shelter at the industrial park where this fiber terminates.

MR. PESCE: What you're saying is there has to be a point what we used to call the closet.

MR. SHAW: We call them MSAP's referred to by *e* corridors and that seems to be the way to go. Then the question is and I just answered it. Because with the MSAP's how do we get back to the CO but that's not an issue with the industrial parks. If we can have a way for each vendor's bandwidth to be distributed back out to the industrial park through a common equipment shed that seems like that will work and that will be the best way.

MR. PESCE: The equipment shed is in the industrial park?

MR. SHAW: Yes.

MR. PESCE: That's a good idea.

MR. RATLIFF: I was going to say real quickly if you built a bulk fiber run of thirty or fifty or a hundred miles you'll have a variety of CLEC's offering to bring that into the incumbents central offices. Most of the CLEC's that I mentioned are already there anyway so they'll have to make a provision to come in through manholes or something like that. You have CLEC's competing for the opportunity to provide that service. I don't think getting into the central offices is an issue.

DELEGATE HOGAN: We'd like to get you folks to come back and give us some information, do we need to be more specific? Let's look at a time frame. This is the 14th of August, how soon can we get the RFI together staff?

MR. PESCE: Who's going to do it?

DELEGATE HOGAN: You'll be part of it, you better speak up it depends on how fast you can do it. Can we do it in ten days?

MR. CURRIN: Sure.

DELEGATE HOGAN: If we get the RFI in a week can you have an answer by the 15th of September? How about by the 1st of October? Do you have enough information to answer that question or not?

MR. PESCE: Are we going to do all the sites?

DELEGATE HOGAN: I think so. How about if we direct the staff to develop an RFI, not more than ten days and give it to these people and hope for a response by the first of October.

MR. WATKINS: Is that a drop dead date or does that fit into your drop-dead date?

UNIDENTIFIED: Yes, sir.

DELEGATE WRIGHT: I so moved.

MR. ARTHUR: I'll second it.

DELEGATE HOGAN: All in favor (aye's) opposed (no response).

PROCEEDINGS CONCLUDED

CERTIFICATE OF THE COURT REPORTER

I, Medford W. Howard, Registered Professional Reporter and Notary Public for the State of Virginia at Large, do hereby certify that I was the court reporter who took down and transcribed the proceedings of the Southside Technology Sub-Committee meeting held on Thursday, August 14, 2003 at 10:00 a.m. at the Southern Virginia Higher Education Center in South Boston, Virginia.

I further certify that this is a true and accurate transcript to the best of my ability to hear and understand the proceedings.

Given under my hand this 28th day of August 2003.

_____

Medford W. Howard
Registered Professional Reporter
Notary Public for the State of Virginia at Large

My commission expires:
October 31, 2006