**Before the**
**Federal Communications Commission**
**Washington, D.C. 20554**

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| In the Matter of | ) | |
| | ) | |
| Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities | ) | GN Docket No. 00-185 |
| | ) | |
| Internet Over Cable Declaratory Ruling | ) | |
| | ) | |
| Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities | ) | CS Docket No. 02-52 |

# EXHIBIT 1

**Submitted on behalf of**
**Charter Communications**

**Before the**
**Federal Communications Commission**
**Washington, D.C. 20554**

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## DECLARATION OF E. DOYLE MINTON

### Background and Qualifications

1. My name is E. Doyle Minton. I am Corporate Vice President—Customer Care for Charter Communications. My qualifications include over twenty years' experience in customer service operations, as well as many other technical and business aspects of the management of major cable systems. In this capacity, I am responsible for devising and implementing Charter's customer care initiatives that support and enhance Charter's commitment to customer satisfaction as the company continues to grow and offer additional products and services.

2. Immediately prior to joining Charter, I was vice president for call center development and engineering for Automatic Data Processing Corporation ("ADP") in Roseland, NJ, where I was responsible for developing and implementing strategies to leverage technology and enhance call centers and client service performance for over forty regional operation centers.

3. Before joining ADP, I was corporate director of operations for Cablevision Systems Corporation in Bethpage, NY. While with Cablevision, I was responsible for strategic planning and operational implementation of Cablevision's new digital services and technologies.

4. Prior to Cablevision, I spent fifteen years with Time Warner Cable. During the last five years of my tenure with Time Warner Cable, I acted as director of customer operations for over one million customers in the New York City metropolitan area. I was responsible for Time Warner Cable's customer service strategies and technologies for the New York division and for the daily operations of both division call centers.

5. Regarding my education, I received a Bachelor of Arts degree in accounting and business administration from Anderson College in Anderson, Indiana.

6. The purpose of my declaration is to explain how Charter Communications provides customer service to cable modem service customers. Specifically, my declaration provides insight into Charter's overall customer service delivery strategy and its benefits to cable modem customers. There are several differences between delivering customer care to modem customers versus video customers. Customers have different expectations regarding customer care relative to the delivery of the particular service. Moreover, there are many ways and means by which customer care is now being delivered more efficiently and effectively to subscribers of both video and cable modem services.

**Telephone Support for Cable Modem Customers**

Use of Centralized Call Centers

7. Generally, Charter divides telephone support for cable modem customers into two tiers. "Tier 1" support includes billing, sales, and normal Radio Frequency ("RF") troubleshooting. An example would be a call from a customer that the cable modem service is out. A normal RF troubleshooting response would be "is your cable TV out too?" Calls of this nature take somewhat longer, on average, than a call about cable television service. However, we have trained our customer service representatives (CSRs) in this level of support, so that initial calls may be routed to the same call center for video and modem customer care.

8. "Tier 2" support covers the technical aspects of cable modem service. A typical "Tier 2" call would complain that the cable modem service (but not cable television service) has been out since the customer added a new driver or new application to his or her PC. The Tier 2 CSR would help isolate the problem. Perhaps the customer has loaded a new software application and blown out the prior driver settings. The Tier 2 CSR will help the customer reset the drivers to prior settings. These calls cover the entire range of potential PC problems, such as software, settings, caches, and equipment. Of business necessity, we attempt to support customers on all of these issues, including matters that are not really Charter's responsibility. Much call time is devoted to customer education about PC operations generally. We also do not distinguish, in our

troubleshooting customer problems, between cable modems that we own and lease, and cable modems that the customer has purchased at retail. On average, these calls take 3 to 4 times the length of an average cable television call. Tier 2 CSRs require much more technical training than Tier 1 CSRs.

9. Charter generally has begun centralizing its telephone support in call centers. Over the last year, for example, we have thus far consolidated from 320 call centers to 200 call centers. Our goal is to consolidate downward to less than 50 such centers. We have invested $60 million in capital infrastructure in these new call centers, and expect to invest an additional $20-30 million this year. Our $80 million purchase of High Speed Access Corporation (HSA) was done in large part to obtain the modem support and customer care infrastructure of that company.

10. Charter has centralized its "Tier 2" support in more centralized locations than its general customer call centers. For example, all Tier 2 calls from our Eastern Region are routed from the approximately 90 call centers to one central Tier 2 support center in Louisville, KY.

Industry Benchmarks

11. Cable modem service is offered in a highly competitive market that compels quality customer service. Customer expectations for cable modem support are shaped by their experiences with customer support across related industries, and their understanding that the technical support required takes more time than an ordinary call regarding cable television. The customer experience in related businesses—such as calls to Microsoft or Dell—are benchmarked in customer care guidelines we utilize to help us

deliver customer care that meets and exceeds customer expectations. We participated in an independent study to compare Charter's customer service with customer service in the computer, wireless and other consumer and technology industries. The metrics confirmed that we have been performing well. Charter's average speed of answering customer calls was on par with the average time spent answering customer calls in comparable industries.

New Techniques for New Products

12. Cable modem service is also a new product. As with any new product, it receives a number of customer calls, and we as an industry are learning how to handle such calls better. I would like to identify four initiatives that are helping us to address these calls.

13. First, stabilizing the physical plant through completion of upgrades helps reduce RF outages and substantially lowers call volume. This is not a function of customer care, per se, but it means that system upgrades undertaken by Charter for general competitive reasons have very beneficial customer care results.

14. Second, we have deployed a web portal that instructs cable modem customers in troubleshooting and repairing performance problems. Our web portal, < http://support.charter.com/sdcuser/asp/welcome.asp>, instructs a customer in resetting modems, resetting caches, and addresses other frequently asked questions.

15. Third, we purchased and are customizing client software that will reside on the customer's PC. The software will perform diagnoses when the Internet connection

is down and allow the customer to restore the connection. This client support is deployed with the Charter Pipeline service but is not yet fully programmed for its diagnostic capabilities when the connection is broken.

16. Fourth, we are deploying a CSR tool that will reside at the CSR desktop. With the customer's affirmative consent, this tool will detect customer settings for the PC, so that the CSR will not need to ask the customer to tell the CSR what the settings are on the home PC. This tool is currently being tested in our Louisville call center.

17. More generally, Charter has undertaken extensive initiatives to modernize and improve its customer service for all Charter products and services. We have built new customer call centers, in addition to consolidating existing centers. We have heavily invested in these call centers in order to provide better technology, tools, training and performance management for our CSRs. In addition, the number of "high speed data" CSRs has increased from 400 to over 1,000 over the past year (the last 12 months), an increase of over 600 CSRs. The overall number of Charter Customer Care employees (including high speed data CSRs) has increased from 4,600 to 5,700, an increase of 1,100 over the past year.

**The Role of the LFA in Cable Modem Customer Care**

18. The current state of customer care for the cable modem product has unique characteristics that make it particularly unsuitable for regulation by each of our nearly 5000 local franchising authorities.

Competition Has Produced Innovation In Customer Care

19. Customer care for cable modem service is offered in an intensely competitive market in which cable is not the dominant default provider of Internet access. Whatever the perception of cable and of cable customer service that shaped the customer service rules in 1992, offering the cable modem product in 2002 requires cable operators to offer quality and innovative customer care to attract and retain cable modem customers in a highly competitive market. The complexity of this product, the demands of our customers, and their options to switch to competing providers require that we provide robust levels of support and become adept at meeting the various challenges new products can often present. System upgrades undertaken by Charter for general competitive reasons have had very beneficial customer care results. The innovative tools that we are developing for customer care are tailored to an Internet and PC experience that was totally outside of the shaping of the Commission's "customer service guidelines."

The Nature of Customer Care Is Benchmarked To Industries in which LFAs Have No Expertise

20. The level of support for this new service is evolving in relation to services and industries in PCs, software, and gaming. These are industries and benchmarks with which LFAs have no substantial experience and no expertise in the field of customer care. Even municipalities that run their own utilities do not have experience in dealing with sales of consumer PCs or software, electronic equipment returns, and other similar customer care issues involved in providing cable modem service.

Technical Support Is Highly Centralized and Specialized

21. Our customer call centers are even more centralized than our video services call centers. Regulation by each LFA may inevitably lead to inconsistencies, and the practical result that operations of regional call centers will be dictated by the unilateral ordinances passed by a handful of our nearly 5,000 franchising authorities, with no reference to one another and with no grounding in the national market in which we are operating.

Costs of Local Regulation Are High

22. The costs of LFA regulation of customer service can be particularly onerous in the cable modem field. The Commission's customer service guidelines, for example, require that telephone answer time be 30 seconds 90% of the time under normal operating conditions. These standards were never adopted in the context of technical support required for a new, competitive offering to a PC, or for the kind of technical communications required for a customer base that is frequently mystified by the operation of that PC. Nor did the Commission have this in mind when it left room for LFAs to impose more stringent regulation. The costs of more stringent standards can be exorbitant. For example, moving from a service level of 90% of calls within 30 seconds to a service level of 95% increases the cost by a conservative measure of 6-8%, but only increases the average answering speed from approximately 20 to 16.5 seconds – an estimated 3.5 seconds difference. This projected time difference would be barely perceptible to customers, and such a service level is considered unreasonable and unexpected by industry benchmarks.

23. As another example, the Commission guidelines permit LFAs to define where a "conveniently located" office might be. This is frequently used by LFAs to try to force the placement of property-tax-paying facilities within their local borders. This should have no application to regional cable modem support centers.

24. Likewise, the premise that "written notices" and bill inserts are the preferable way of communicating with cable service customers, and a rule that permits LFAs to require such "written" notices to cable service customers, should not apply to cable modem service.

25. For these reasons, it is my opinion that LFAs should not have a role in regulating customer care for the cable modem service.

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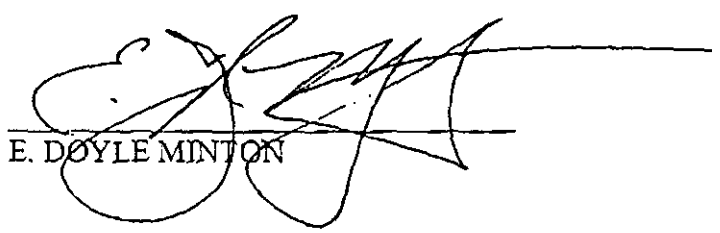
I, E. Doyle Minton, do hereby declare under penalty of perjury that the foregoing DECLARATION OF E. DOYLE MINTON, is true and correct, to the best of my knowledge, information and belief.



E. DOYLE MINTON

Dated: August 5, 2002

## E. Doyle Minton
## Vice President, Customer Care
## Charter Communications

Doyle Minton joined Charter Communications on January 3, 2000 as vice president, customer care. Mr. Minton is responsible for providing the strategy and implementation of Charter's customer care initiatives that support and enhance Charter's commitment to customer satisfaction as the company continues to grow and offer additional products and services. Mr. Minton has more than 20 years' experience in customer service operations, advanced digital broadband cable technologies, field operations, information systems, call center technologies, Internet, marketing, and accounting applications.

Prior to joining Charter, Mr. Minton was vice president, call center development and engineering for Automatic Data Processing Corporation (ADP) in Roseland, NJ. He was responsible for developing and implementing strategies to leverage technology and enhance call center and client services performance. Mr. Minton provided the company leadership in defining business processes, information systems, Internet technologies and telecommunication systems for over 40 regional operation centers.

Prior to ADP, Mr. Minton was corporate director of operations, digital services for Cablevision Systems Corporation in Bethpage, NY. He was responsible for the strategic planning and operational implementation of Cablevision's new digital services and technologies including; Optimum online & @Home Internet services, residential telephony services and digital video on demand.

Before joining Cablevision, Mr. Minton spent 15 years with Time Warner Cable. The last five years were spent as director of customer operations for Time Warner's New York City Group, the largest cable division in Time Warner, serving over 1 million customers in the New York City metropolitan area. Mr. Minton was responsible for the customer service strategies and technologies for the division and for the daily operations both of the division's customer service call centers.

Mr. Minton received a Bachelor of Arts degree in accounting as well as business administration from Anderson College in Anderson, Ind.

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# EXHIBIT 2

**Submitted on behalf of**
**Charter Communications**

**Before the**
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**Washington, D.C. 20554**

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## DECLARATION OF JOHN PIETRI

### Background and Qualifications

1. My name is John Pietri. I am Senior Vice President—Engineering for Charter Communications. I have more than 25 years' experience in the cable industry. Throughout my career I have held a variety of technical management positions.

2. Immediately prior to joining Charter Communications in November 1998, I was with Marcus Cable in Dallas, TX for eight years, most recently as Senior Vice President and Chief Technical Officer. I was responsible for the technical operations and standards for all of the company's cable systems including: new construction and rebuild/upgrade projects; routine maintenance and installation practices; capital control, purchasing; and regulatory compliance and reporting.

3. Prior to working at Marcus, I served as Regional Technical Operations Manager for WestMarc Communications, headquartered in Denver, CO. I was responsible for managing technical operations including plant construction, budgeting,

and purchasing for the company's cable systems in Minnesota, Iowa, North Dakota, and South Dakota. WestMarc served 550,000 customers. Before that, I served as Operations Manager for Minnesota Utility Contracting and President of Mullen Communications, firms that specialized in CATV and telephone plant construction.

4. I am a member of the Society of Cable Television Engineers (SCTE), Cable Pioneers, and have served on the NCTA Engineering committee for the past five years.

5. I attended the University of Wisconsin - Oshkosh majoring in philosophy and mathematics.

6. The "Alliance of Local Organizations Against Preemption" has submitted a report from Lee Afflerbach and David Randolph of Columbia Telecommunications Corporation (CTC) in this proceeding rulemaking. The report makes a number of claims concerning cable system design, including the claim that system upgrades for modem service are far more burdensome on the public right of way than are system upgrades needed for video services, including pay-per-view (PPV) and video-on-demand (VOD).

7. I have been asked to review and comment on this report.

**Summary**

8. CTC claims that cable systems as they stood in the early to mid-1990s were well suited to deliver video, Impulse PPV, interactive set top features, and VOD without the kinds of upgrades being undertaken for "advanced services" such as Internet and telephony. This is simply false. Cable systems at that time did not have the

bandwidth or reverse capacity to offer the additional downstream video channels, the reliable upstream signaling needed for pay-per-view and monitoring, the node size needed for VOD, or the reliability to compete effectively with DBS and other multi-channel video competitors. These systems needed to be upgraded for video.

9. The upgrades and construction that CTC attributes to cable modem service is an ordinary feature of cable system engineering. Well before cable modem service, cable operators used fiber to replace the microwave links owned by third party carriers who charged a fee to import broadcast signals; to replace CARS links; to decrease amplifier cascades, and increase reliability and bandwidth in the distribution plant. Fiber upgrades are also necessary to support the reverse path needed for the interactivity that is used for PPV and VOD services. Cable systems have used overlashing as a construction technique from the outset. Overlashing fiber actually reduces the number and weight of conductors in outside plant.

10. Likewise, CTC has confused the construction process generally with the offering of cable modem service. Cable systems have always provided video service to commercial accounts. Whether plant is aerial or underground, and where service is provided, is usually dictated by the franchise. We build no prefabricated buildings and install no large equipment vaults on the public right of way. Land is purchased or leased for these mission critical facilities.

11. CTC's parade of equipment horribles is divorced from reality. Optical nodes do not mean more equipment—they replace existing distribution amplifiers, and are modularized to fit more into less housing. Amplifiers have become lighter and more

compact. Tap replacement is needed to pass 750 MHz of bandwidth. All active electronics need to be powered, but CTC has exaggerated the size of cabinets and missed some basic points: we provide standby power to more locations when we increase system bandwidth to provide more reliability to the entire plant. When we build, we follow the local permitting process (traffic cones, time of day, etc.). Even if there were additional aerial equipment installed, this has no impact on the public right of way. The outside plant is hanging on poles typically owned and managed by utilities, and we train our people to comply with the applicable safety codes. CTC has confused telephony with cable modem service, and presents photographs of unfinished construction as though it were the complete, finished product. Routing cables through service areas is an expertise of cable operators.

12. CTC's report is grossly mistaken in attributing system upgrades and rights of way "burdens" to the offering of cable modem service.

**CTC's Claim**

13. CTC claims that cable systems as they stood in the early to mid 1990s were well suited to deliver video, IPPV, interactive set top features, and VOD without the kinds of upgrades being undertaken for "advanced services" such as Internet and telephony. The report either claims or implies that cable construction in the public right of way, and many features of current cable architecture, would not be required for video upgrades, but are required only to support cable modem service. CTC claims that "cable modem service necessitates more cable construction in the [right of way]" than would be required for video services. It specifically identifies replacement of microwave links

with fiber, creation of "nodes," aerial "overlashing" of fiber, underground construction, replacement of coaxial cable, installation of additional amplifiers, extension of lines to commercial customers, and construction of "redundant" routes. CTC also claims that more and larger equipment is required in the public right of way to support cable modem service than is required for video service. It specifically identifies power supplies and stand-by power (battery backup), equipment cabinets on the pole, replacement of taps and installation of electrical protection devices, and new pedestals, vaults and prefabricated buildings located in the public right of way. These claims are completely contrary to the historical development of cable system architecture, to accepted cable engineering practices, and to my experience.

**Cable System Architecture**

Use of Fiber, Replacement of Microwave, and "Nodes"

14. There is simply no basis for claiming that fiber is needed for cable modem service but not for video services. Cable operators began to use fiber exclusively to support video applications in the early to mid-1980s. Cal Tec installed a fiber ring around Baltimore in 1983-84, and Warner installed fiber in Dallas during the same period. Fiber installation became widespread in the late 1980s. As MCI was replacing microwave with fiber, the cable industry was using fiber to interconnect headends and to replace the microwave links owned by third party carriers who charged a fee to import broadcast signals via microwave hops.

15. Fiber was also used to replace CARS links, decrease amplifier cascades, increase reliability, and to increase bandwidth in the distribution plant. As an engineering matter, as bandwidth is increased on coax, the distances between amplifiers must shorten. This gives rise to the need to bring fiber deeper into the distribution plant in order to increase bandwidth, because otherwise too many amplifiers are required. Removing amplifier cascades improves carrier-to-noise ratios and performance, reduces potential points of failure, and reduces the resulting customer call volume.

16. Fiber upgrades are also necessary to support the reverse path needed for the interactivity that is used for PPV and VOD services. VOD is a product that requires small node sizes. VOD is a narrowcast service, sending very specific programming to consumers, and requiring dedicated bandwidth. This requires small node sizes to obtain such bandwidth. Upstream noise on a segmented plant is a challenge. In order to offer two-way PPV, monitoring, and similar core video services, we had to increase the reliability of the reverse path by removing amplifiers and installing fiber. Almost no cable systems in the early to mid-1990s had the reverse path activated, and those that did were unreliable due to the number of amplifier cascades.

17. A standard upgrade, in the early 1990's, would have been to bring fiber to a node, then turn the existing amplifiers around to shorten the amplifier cascade while increasing bandwidth. *See* Exhibit C. Today, the decision on how deep to bring the fiber involves a balancing of the cost of fiber versus the increase in reliability. The cable industry has been installing fiber for 15 years, well in advance of any conception of cable modem service.

18. CTC implies that more nodes mean more equipment. For example, it claims "In order to provide the necessary bandwidth upstream, nodes must be placed ever closer to the subscriber to provide smaller node service areas..." CTC Report at p. 2. In fact, more optical nodes do not mean more equipment. Optical nodes that are moved "closer to the subscriber" merely replace existing distribution amplifiers on a one-for-one basis. No increased burden on the right of way occurs.

Overlashing

19. There is simply no basis for CTC's claim that overlashing is needed for cable modem service but not for video services. Overlashing is the lashing of additional wires, such as fiber optic conductors and coaxial conductors, to a wire support strand already attached to the pole with a clamp and through-bolt. Communications conductors are placed on the support strand and secured by wrapping the strand and the conductor(s) with a thin filament applied by a lashing machine. *See* Exhibit A. Cable systems have used overlashing as a construction technique from the outset.

20. CTC claims that "overlashing increases the weight of the cable attachment and creates larger cable bundles on the poles." CTC Report at p. 3. A single fiber optic cable contains dozens of fiber strands, increasing the capacity of the cable system far more efficiently and with far less weight that other conductors. Fiber optic cable has the same or smaller dimension and weight of coaxial cables. A ¾" diameter coax weighs 0.197 lbs/ft, and ¾" single armor fiber optic cable with 48 to 144 fiber strands weighs 0.200 lbs/ft. A .59-inch fiber optic conductor weighs only .050 pounds per foot. Fiber

optic facilities are by far the lightest facilities on the pole. Fiber and coax are lighter than ¾" telephone copper bundles and lighter than "0000" electrical service wire.

21. Overlashing fiber can actually reduce the number and weight of conductors in outside plant. Common cable television architecture in the 1960's through the 1980's was dual cable systems. Dual cable systems were used to double the available bandwidth. Dual cable systems had two complete sets of electronics and pole-line attachments. Cable bundles in dual cable systems were much larger than cable bundles with overlashed fiber. Fairfax County, VA is an example. Ft. Worth, TX was built with dual coax. When Charter rebuilt Ft. Worth, we removed coax and replaced it with fiber on the support strand.

Underground Construction

22. There is no basis for CTC's claim that underground construction is needed for cable modem service but not for video services. Usually, the location of plant is dictated by the local franchise. A franchise will typically require use of existing poles where utilities are attached aerially, and will require underground plant where they are not. Nationwide, 30% of Charter's plant is installed underground. In newer suburban construction today, the percentage is much higher. It is preposterous to suggest that underground construction is attributable to cable modem service.

Construction to Business Customers

23. CTC also is mistaken in claiming that construction of lines to business customers is attributable to cable modem service, rather than to video services. CTC

claims "...extensive fiber must be built out to business areas and buildings in order to offer cable modem services to businesses. This process entails burdening the public [right of way]." CTC Report at p. 6. Cable systems have always provided video service to commercial accounts, such as bars, restaurants, hotels, and doctors' offices. Typically this was done under franchise provisions that spelled out exactly where lines must be installed. For example, a typical franchise would require construction to areas with 30 homes per mile, or to comparable commercial densities when measured by potential accounts. The franchise also might require the completion of plant to provide video to municipal buildings, police and fire stations, and schools, many of which were located in the central business district. Other franchises would require construction of the central business district. I built downtown St. Paul, MN for Continental Cablevision in 1986. This was all for the core video service. There is no burdening of the right of way in business construction. The same construction practices are used to build through all of the residential and business areas throughout the country. Routing cables to different service areas is an expertise of cable operators and can be done without disrupting communities.

Redundant Routing

24. CTC attributes redundant routing to cable modem services. Charter does not use redundant routing for video or data. Our reliability is obtained by providing service to smaller node sizes, just as a telephone company would obtain reliability by providing telephone service to 96 voice-grade loops by providing a T-2 circuit to a SLC-96. Neither configuration relies upon redundant routing.

Equipment Utilized

25. CTC attributes more amplifiers, power supplies, cabinets and batteries to cable modem service. This also is incorrect.

26. As I have explained above, installing fiber actually reduces the number of amplifiers, rather than increasing it. Amplification requirements are dictated by bandwidth and coax distances. Cable modem service has nothing to do with it. In addition, as with other electronics, the size of amplifier housing has decreased. Amplifiers were originally tubes in large boxes on cross arms. Today's amplifiers are smaller, and more compact. As with computers, one can get more today into smaller packages. For example, a modern 870 MHz distribution amplifier weighs less than the legacy amps it has replaced. *See* Exhibit D.

27. With respect to power requirements, all active electronics need to be powered. Almost universally, from day one, amplifiers have been powered by commercial utilities. Powering locations are predominately a function of electronic density which is a function of bandwidth.

28. CTC attributes standby power (battery backup) to cable modem service. It claims "[t]he relatively small amount of fiber optics in a video-only system, without redundant optical components, requires a smaller number of power supplies. Video-only systems are not required to operate for long periods of time in the event of power failure, so fewer batteries are needed, and smaller supplies are adequate." CTC Report at p. 10. We provided standby power well before the introduction of cable modem service. Stand-by power was in common usage, particularly in large systems, before the introduction of

cable modem service. Over time, we have provided standby power to more locations in order to increase bandwidth and reliability of the entire plant. Competition from satellite video providers has driven the need for better systems with more bandwidth and more reliability. The need for better reliability has been the primary driver in the increased use of standby power. Improving the customer experience has the advantage of reducing churn and reducing call volume to our call centers. More components in the network, not redundant components, consume the majority of the electrical power used in these networks. We make no distinctions between video and cable modem service in determining where to install battery back-up.

29. Batteries are typically housed in cabinets. Our standard installation is a three-battery cabinet that supplies approximately 2 ½ hours of standby power. We do not utilize the larger cabinets that CTC has photographed. Photo 6 and 7 in the CTC Report, for example, appear to be a photograph of the same 6-battery cabinet. Even this is not the "size of a refrigerator," as stated by CTC (unless CTC is contemplating a very small unit that slips into a college dorm closet). Battery technology is changing. Over the past 20 years, we have gone from lead acid to gel cel to get more reliability and longer duration. It is not realistic to hypothesize ever expanding battery cabinets.

30. Tap replacement is not a consequence of cable modem service, as claimed by CTC. Tap replacement is a function of bandwidth. Taps pass a defined spectrum. When cable engineers built 300 MHz systems, we usually installed 300MHz taps. When we upgraded to 400-550MHz systems, we anticipated additional upgrades and installed taps that could pass 600 MHz. However, upgrading to 750 MHz requires another round

of tap replacements. We replace all of our taps on upgrade to 750 MHz for this reason. It has nothing to do with the offering of cable modem service.

31. Cable operators do not install power-passing taps (and electrical protection devices) to provide cable modem service. Some cable operators who offer switched telephony (such as Cox and AT&T) have determined to market it as lifeline service, and provide network-powered telephony. They match the existing powering of the incumbent LEC by providing ringer current through the cable system. Cable telephony does not have to be provided in this manner. It also can be offered with powering at the local residence. Power passing taps (and electrical protection devices) are not installed to offer cable modem service. The cable modem, like the PC, is powered at the residence.

32. CTC also attributes fiber optic receivers and transmitters, and node size, to cable modem service, from which it assigns a new burden on the public right of way. Node equipment is a function of bandwidth, not of cable modem service, and is not intrusive. Nodes also have become modularized, allowing more equipment to be squeezed into existing equipment housing. An optical node today is almost indistinguishable in dimensions and weight from a legacy cable television trunk amplifier, as shown in Exhibit D. The example offered by CTC from Los Angeles is well known to be atypical, reflecting only what was then available from equipment vendors.

33. I should also note that even if there were additional aerial equipment installed, this has no impact on the public right of way. The outside plant is hanging on poles typically owned and managed by utilities. The aerial work does not even impact the public right of way.

34. CTC also presents examples of vaults. We do not build vaults unless the local franchising authority requires it. They have nothing to do with the offering of cable modem service.

35. CTC also offers examples of "pre-fab" buildings in the public right of way, by which they presumably mean primary and secondary hubs. Secondary hubs house receiving and transmitting electronics for optical transmission. Charter Communications has built no prefabricated buildings on public right of way and Charter has installed no large equipment vaults on public right of way. Land is purchased or leased for these mission critical facilities. Any building would meet local codes. Exhibit B shows primary and secondary hubs, and how we locate them on private property.

**The Construction Process and Engineering Design**

Construction Generally

36. CTC also has confused the construction process generally with cable modem service in particular. Any infrastructure upgrade is disruptive, whether it is a municipal road widening, a water and sewer project, or construction by power, telephone, or cable companies. This is an ordinary incident of building networks. The construction process itself has nothing to do with whether cable modem service is offered or not.

Engineering Design

37. In addition to being factually incorrect, CTC is presenting a very strange engineering proposition. It is contending that we should engineer systems without anticipating future demands on the system, leaving ourselves dependent on a subsequent

upgrade with additional construction costs and disruption. This is not how competent engineers approach engineering design. CTC is also apparently supporting the position of the "Alliance" that if we cable operators attempt to engineer in bandwidth to accommodate future services with a minimum of disruption to the public right of way, then we should pay the local franchising authority additional money for having not imposed another round of construction on the public right of way. As a policy proposition, this is mystifying.

The Permit Process

38. The construction process itself is managed not through the regulation of services or the payment of increased franchise fees, but by the application of the local permitting process. These permit rules vary from community to community, but they might typically require items such as the following:

- Application to the governmental agency and issuance of a permit for specific projects, unless a blanket permit is otherwise provided
- Signage at the site identifying the project
- Traffic cones and/or traffic management (*e.g.*, flagman)
- Time of year or time of day constraints. For example, some major commuter roads may not be closed during rush hour, or some resort communities will not authorize projects during tourist season.

39. We follow these processes in all our plant construction whether or not cable modem service is carried on the system.

40. Cable modem service also has nothing to do with safe construction. Cable operators usually design and build projects in accordance with standards set forth in the National Electric Safety Code and BellCore Blue Book. We train our crews accordingly. If an installation is unsafe, it has nothing to do with services offered over that plant.

41. The photographs in the CTC report are of unfinished construction. For example, CTC's page 4 photograph is fiber optic cable temporarily attached to the strand while under construction. Fiber is installed with 8-10% extra fiber "slack" in order to provide sufficient slack for re-splicing, for pole change-outs, for road widening, and other ordinary events in the life of outside plant. When construction is complete and spliced, the fiber slack is neatly coiled in "snowshoes," as shown in Exhibit A.

**The State of "Video" Systems in the Mid-1990s**

42. CTC's ultimate conclusion is that systems as they stood in early or mid-1990s (they say it both ways) could have supported video and the kinds of interactive services we provide today. This is simply false. Cable systems at that time did not have the bandwidth or reverse capacity to offer the additional downstream video channels, the reliable upstream signaling needed for pay-per-view and monitoring, the node size needed for VOD, or the reliability to compete effectively with DBS and other multi-channel vide competitors. These systems needed to be upgraded for video.

43. CTC has also confused telephony with cable modem service. Its report professes to demonstrate the burdens to the public right of way from the offering of cable modem service. Instead, it slips sloppily in and out of describing "advanced services" (in which it lumps cable modem with switched telephony), and then attributes electrical

protection devices, network powered telephony, and dual receivers and lasers, to cable modem service, to which these bear no relationship.

44. CTC's report is therefore grossly mistaken in attributing these upgrades to the offering of cable modem service.

**Before the**
**Federal Communications Commission**
**Washington, D.C. 20554**

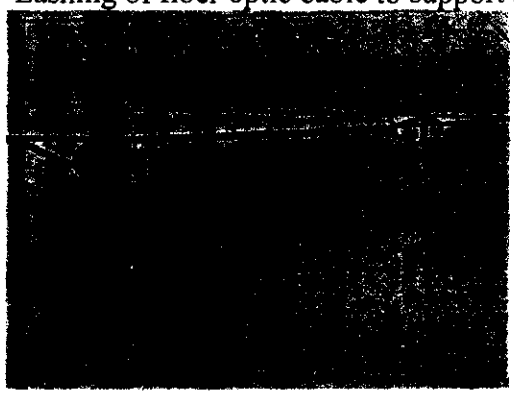
| | | |
|---|---|---|
| In the Matter of | ) | |
| | ) | |
| Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities | ) | GN Docket No. 00-185 |
| | ) | |
| Internet Over Cable Declaratory Ruling | ) | |
| | ) | |
| Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities | ) | CS Docket No. 02-52 |

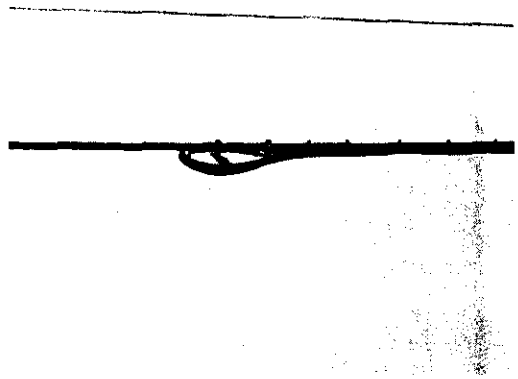
I, John Pietri, do hereby declare under penalty of perjury that the foregoing DECLARATION OF JOHN PIETRI, is true and correct, to the best of my knowledge, information and belief.

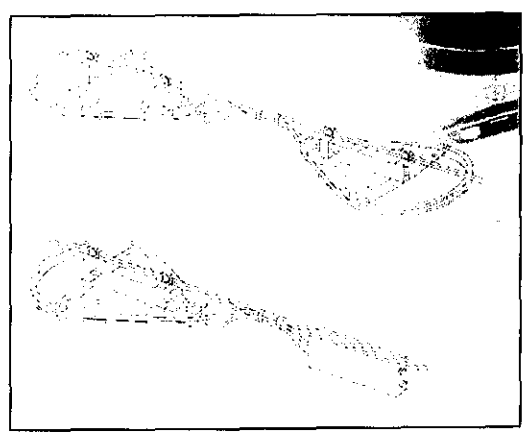
JOHN PIETRI

Dated: August 1, 2002

Lashing of fiber optic cable to support strand.



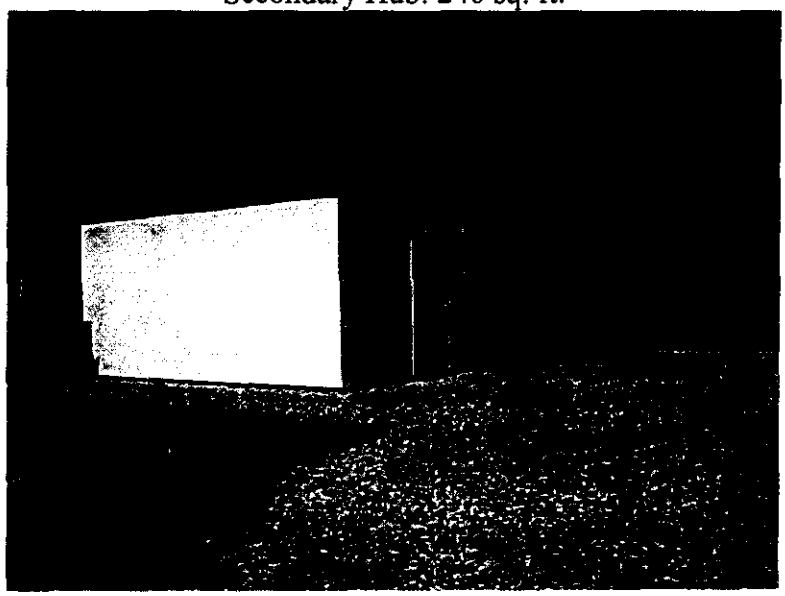


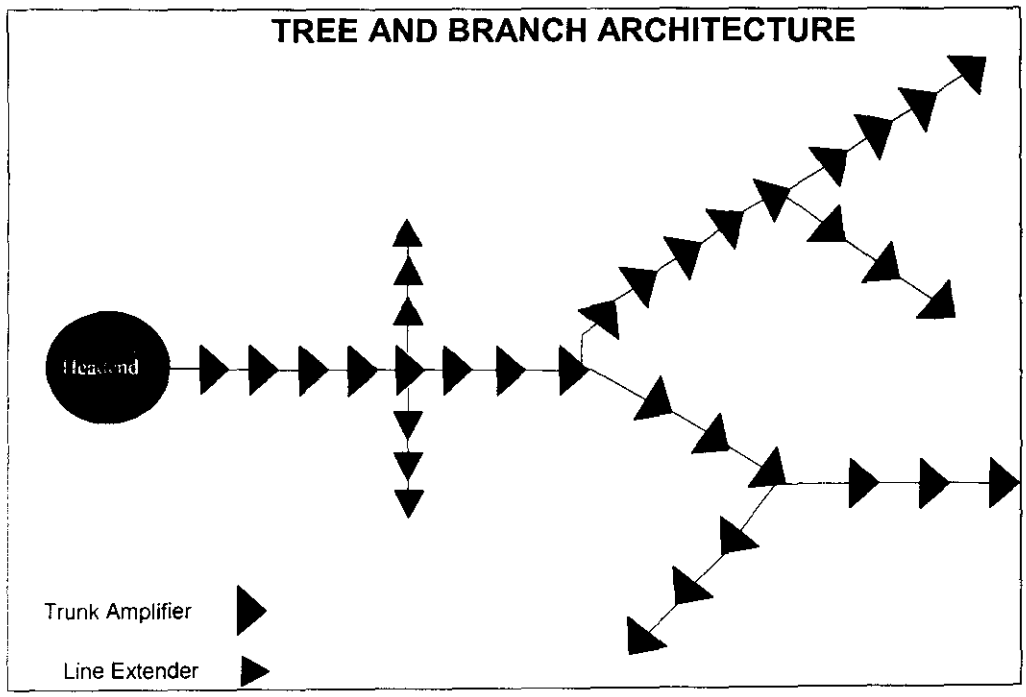


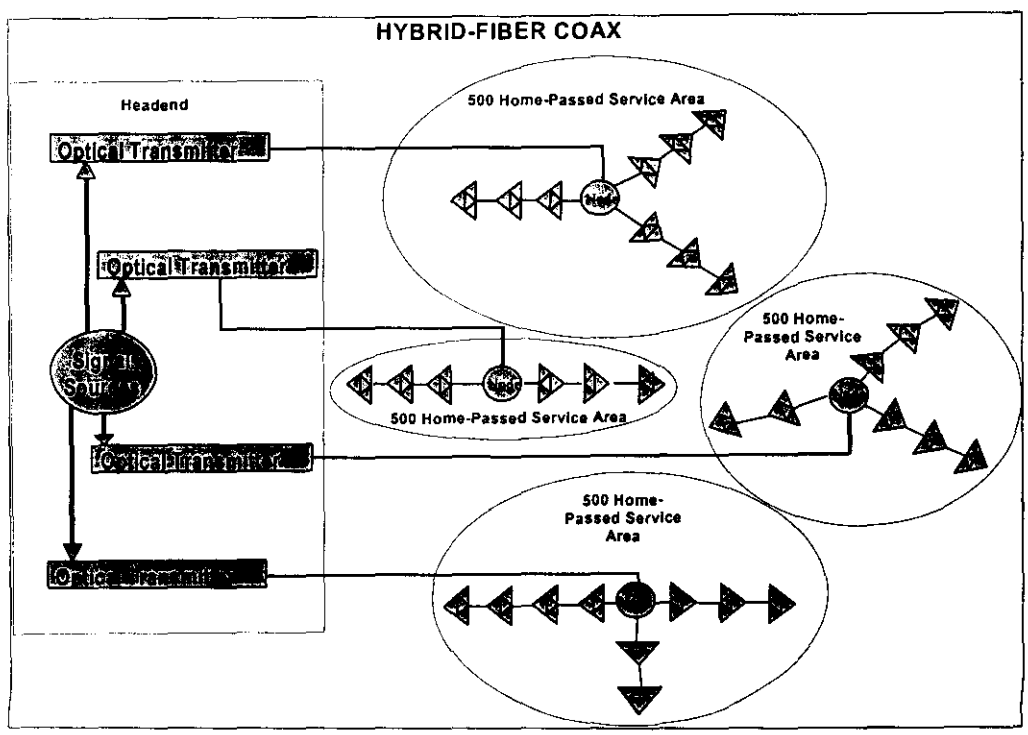
Fiber Optic Slack Storage Loop

Primary Hub Building, 2,400 sq. ft.

Secondary Hub: 240 sq. ft.



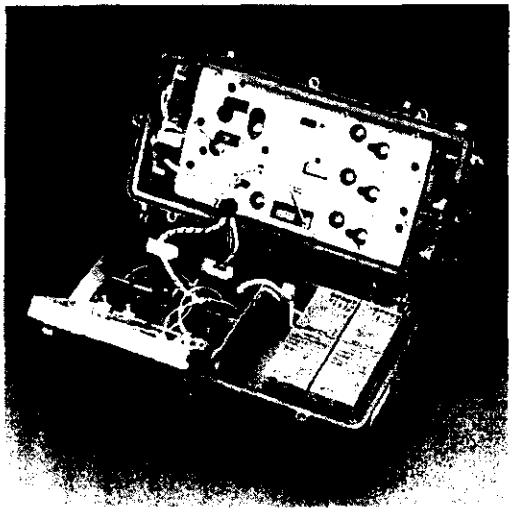

TREE AND BRANCH ARCHITECTURE
Headend
Trunk Amplifier
Line Extender

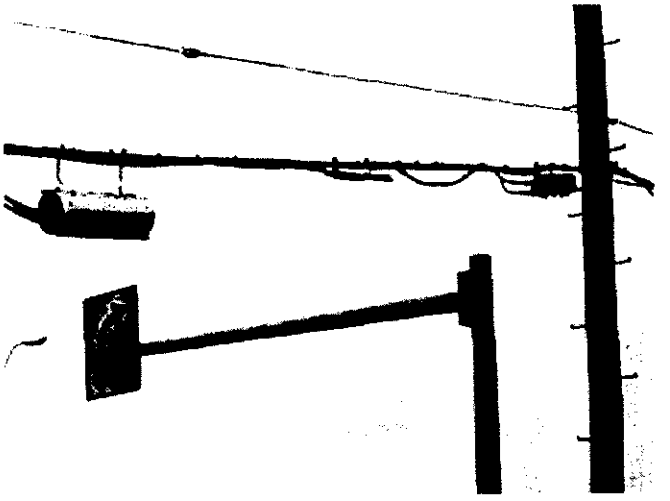

HYBRID-FIBER COAX
Headend
Optical Transmitter
Optical Transmitter
500 Home-Passed Service Area
500 Home-Passed Service Area
500 Home-Passed Service Area
500 Home-Passed Service Area

Optical Node:
Dimensions: 20.2" L x 10.8" H x 10.8" D
Weight: 37 lbs. 0 oz.

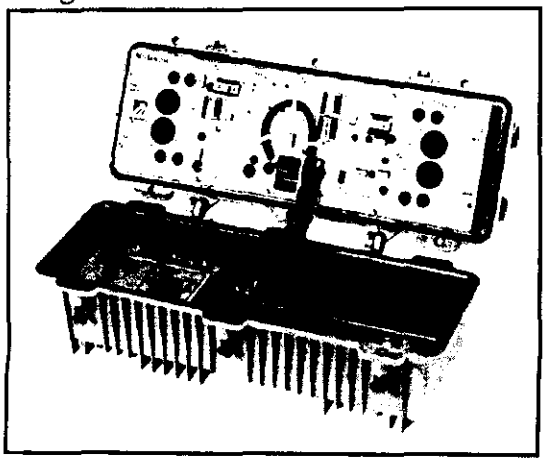
Picture to the left is an optical node opened with laser transmitters and optical receiver modules (lower right hand portion of module housing).

Picture to the right is an optical node installation with a splice housing where fibers are spliced together (left side of picture above right turn sign), a slack storage loop (just before the expansion loop) and an optical node (right next to the pole).

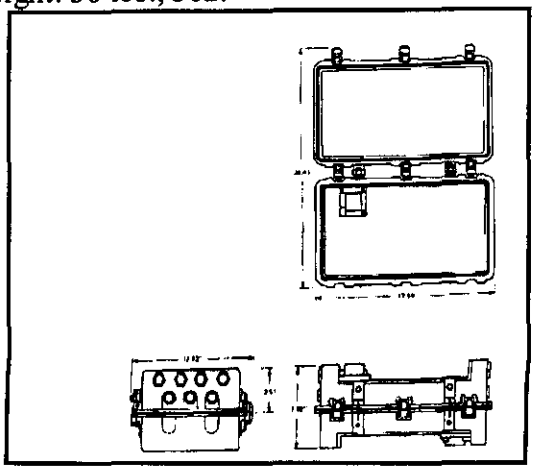




Modern 870 MHz Distribution Amplifier:
Dimensions: 17.3" L x 7.2" H x 7.8" D
Weight: 17 lbs. 10 oz.



Legacy Cable Television Trunk Amplifier
Dimensions: 17.6" L x 12.8" W x 7" D
Weight: 30 lbs., 3oz.



**John C. Pietri**
**Senior Vice President, Engineering**
**Charter Communications**

John C. Pietri is senior vice president of Engineering. He is responsible for managing all engineering and technical operations company-wide and is overseeing Charter's $3.5 billion master upgrade program.

Mr. Pietri has 25 years' experience in the cable industry. Prior to joining Charter in January 1999, he was with Marcus Cable in Dallas, Texas for eight years, most recently as senior vice president and chief technical officer. He was responsible for the technical operations and standards for all of the company's cable systems including; new construction and rebuild/upgrade projects; routine maintenance and installation practices; capital control, purchasing; and regulatory compliance and reporting.

Prior to Marcus, Mr. Pietri served as regional technical operations manager for WestMarc Communications headquartered in Denver. He was responsible for managing technical operations, budgeting and purchasing for the company's cable systems in Iowa, Minnesota, North Dakota and South Dakota, which served 550,000 customers. Prior to that, Mr. Pietri served as operations manager with Minnesota Utility Contracting.

Mr. Pietri is a member of Society of Cable Television Engineers. He serves on the National Cable and Telecommunications Association engineering committee. Mr. Pietri was selected as *CED* (Communications, Engineering & Design) magazine's 2001 Man of the Year. In 2000, he was named to the Cable Television Pioneers, an organization that recognizes men and women who have made significant contributions to the cable industry.

Mr. Pietri attended the University of Wisconsin at Oshkosh.