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January 18, 2007

VIA ELECTRONIC FILING

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Petition for a Rulemaking to Amend Certain Part 51 Rules Applicable to
Incumbent LEC Retirement of Copper Loops and Copper Subloops

Dear Ms. Dortch:

On behalf of XO Communications, LLC, Covad Communications Group, Inc., NuVox Communications and Eschelon Telecom, Inc., please find attached for filing with the Federal Communications Commission the above-referenced Petition for Rulemaking. Please feel free to contact the undersigned counsel, at (202) 342-8625, if you have any questions or require further information.

Respectfully submitted,



Brett Heather Freedson

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January 18, 2007
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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)
)
Petition of XO Communications, LLC,)
Covad Communications Group, Inc., NuVox)
Communications and Eschelon Telecom, Inc.)
for a Rulemaking to Amend Certain Part 51)
Rules Applicable to Incumbent LEC)
Retirement of Copper Loops and Copper)
Subloops)

WC Docket No. 07-_____

PETITION FOR RULEMAKING

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Dated: January 18, 2007

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**Before the
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Petition of XO Communications, LLC,)
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Subloops)

PETITION FOR RULEMAKING

XO Communications, LLC (“XO”), Covad Communications Group, Inc. (“Covad”), NuVox Communications (“NuVox”) and Eschelon Telecom, Inc. (“Eschelon”) (collectively, “Petitioners”), through counsel and pursuant to the rules of the Federal Communications Commission (the “Commission”), 47 C.F.R. § 1.401, hereby respectfully request that the Commission initiate a public rulemaking proceeding to amend certain sections of its Part 51 rules applicable to retirement of copper loops and copper subloops by the incumbent local exchange carriers (“LECs”). The rules currently in place for retirement of copper loops and copper subloops do not adequately safeguard against discriminatory and anticompetitive modifications to incumbent LEC networks that effectively eliminate access to unbundled network elements (“UNEs”) used by competitive LECs to provide broadband services to retail consumers and to business customers. The elimination of copper network facilities inhibits network competition and the deployment of competitive and innovative broadband services to millions of consumers over alternative networks. This practice runs counter to the letter and spirit of the Telecommunications Act of 1996. Copper loop and subloop retirement also eliminates network alternatives that might otherwise prove essential for network redundancy in

times of homeland security crises, natural disasters, and the recovery periods that follow such events.

The rule changes proposed by Petitioners,¹ as set forth and discussed more fully herein, are crafted to address these concerns, and serve the public interest by establishing a formal process for approval by the Commission, on a case-by-case basis, of any proposed retirement of copper loops or copper subloops by an incumbent LEC, subject to a presumption that such retirement does *not* serve the public interest. For the reasons set forth below, the Commission should grant this Petition and adopt a notice of proposed rulemaking for the purpose of adopting the rule changes proposed herein.

I. INTRODUCTION AND SUMMARY

It is well established that denial of competitive access to legacy copper facilities is inflicting significant harm to competition, consumers and the public interest. Where incumbent LECs choose to overbuild legacy copper loop facilities with fiber loop facilities, the Commission already has concluded that retirement of copper loops and copper subloops may impair the ability of competitive LECs to provide certain services to consumers. In the *Triennial Review Order*, the Commission declared that fiber overbuilds and subsequent copper loop facility retirement enable the incumbent LECs to effectively deny competitive LECs access to existing copper loops and copper subloops used to serve end users. Via fiber overbuilds, the incumbent LECs can, and unilaterally do, establish and control a barrier to competitive entry.² Notwithstanding the record evidence before the Commission of anticompetitive harms that may

¹ By this Petition, Petitioners propose modifications to 47 C.F.R. § 51.319(a)(3)(iv) and 47 C.F.R. §§ 51.325-51.335.

² *In the Matter of Review of Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978 (2003), ¶ 277 (“*Triennial Review Order*”).

result from incumbent LEC retirement of copper loops and copper subloops, the Commission has previously determined that modest revisions to its existing public notification requirements for incumbent LEC network changes would adequately protect the public interest.³ Accordingly, the Commission at that time declined to adopt any of several proposals that would help ensure that the public interest is served via continued access to copper facilities used by competitive LECs to provide a full suite of narrowband and broadband services to retail consumers and business customers.⁴

Three years' experience indicates that the notification, limited objection rights, and automatic approval provided for in the Commission's current rules clearly have failed to protect the public interest, and need reexamination. Following the decisions of the Commission to exclude newly constructed fiber loops, including fiber-to-the-home ("FTTH") and fiber-to-the-curb ("FTTC"), from Section 251 unbundling requirements, the incumbent LECs regularly have exploited the Commission's permissive rules for retirement of copper loops and copper subloops to render unavailable bottleneck copper loop facilities used by competitive LECs to serve the retail consumer and business customer markets, under the guise of "upgrading" legacy networks to advance deployment of broadband services. In so doing, incumbent LECs have chosen not to maintain a wholesale legacy copper access business model providing significant revenue in tandem with their fiber business models, and instead have denied competitive LECs access to essential loop facilities used to provide competitive, bundled narrowband and broadband service offerings, including voice, Internet access, video and high-speed data transmission. Thus, the permissive rules currently in place for incumbent LEC retirement of copper loops and copper subloops have resulted in the elimination of network competition and

³ *Id.* ¶ 281.

⁴ *Id.*

broadband alternatives, which has caused decreased broadband availability and fewer service choices, to the detriment of competitive LECs, consumers and businesses, including the small to medium sized businesses that are the engine of the national economy.

Recent events, such as the devastating hurricanes of 2005 and the ongoing threat of domestic terrorism, underscore – now more than ever – the benefits inherent in network redundancy. Legacy copper facilities, many of which were subsidized by monopoly regulation, retain their usefulness, and indeed could form a vital element in maximizing this goal. The removal of redundant copper loop facilities needlessly by the incumbent LECs compromises the ability of emergency first responders and the public to communicate during homeland security crises and natural disasters, and during the recovery periods that follow. Such considerations surely merit reexamination of the current copper retirement rules, to ensure that they enhance the public interest.

The Commission's current rules applicable to retirement of copper loops and copper subloops by the incumbent LECs are materially flawed in that they do not permit the Commission to consider whether an incumbent LEC's proposed retirement of specific legacy copper facilities will: (a) diminish network voice, Internet access, video and high-speed data competition within the consumer and business customer markets; (b) restrict the availability of competitive broadband offerings; (c) eliminate redundant network facilities that could prove essential in homeland security crises and natural disaster situations; or (d) otherwise detrimentally impact the public interest.

As a result of incumbent LEC gaming of the Commission's existing copper loop retirement rules, consumers are being deprived of innovative residential voice and broadband service bundles that directly compete with incumbent LEC services (and, indeed, are potentially

preferred by consumers over fiber-based services, insofar as fiber-based voice and E911 service may be unavailable during power outages).⁵ For example, where copper is no longer available, customers will not be able to take advantage of the recently introduced Line Powered Voice Access (“LPVA”) service, which provides a “UNE-L” incumbent LEC voice service alternative, bundled with DSL service, at speeds of up to 8.0 mbps.⁶ Offerings such as LPVA fulfill the fundamental intent of the 1996 Act, and unnecessarily depriving consumers of such choices is contrary to the public interest.

As a result of incumbent LEC gaming of the Commission’s existing copper loop retirement rules, consumers and businesses also are being denied broadband alternatives that could be offered over copper loop facilities, including Ethernet over copper.⁷ Today’s technology delivers substantially more bandwidth over copper than those that were in use just three years ago. And, there is evidence that copper is capable of supporting 100Mbps or greater transmission speeds, enabling a complete triple-play of voice, data and video services comparable to the services that can be provided over FTTH and FTTC loops.⁸ However, if copper is removed, all of this technology and the promise it offers in terms of speed and service possibilities will neither be used nor realized here in the United States. The costs associated with

⁵ See <http://www22.verizon.com/Content/ConsumerFiOS/> (“Customer is responsible for backup battery replacement. Backup battery does not supply power for Internet, VoIP or video services. In case of power failure, 911 service (except through VoIP) will be available until the back-up battery power expires.”).

⁶ LPVA was recently introduced by EarthLink as “DSL and Home Phone Service,” in 11 markets. See <http://www.earthlink.net/voice/bundles/dslhomephone/>.

⁷ The narrowband transmission path provided by incumbent LECs over fiber facilities, in replacement of copper loop and copper subloop UNEs, under Section 51.319(a)(3)(iii)(C) of the Commission’s rules, does not enable competitive LECs to provide to customers a full suite of narrowband and broadband services that competitive LECs currently provide over the incumbent LECs’ existing copper loops.

⁸ See “Chapter 11-Dynamic Spectrum Management,” Prof. John M. Cioffi, available on the Internet at <http://isl.stanford.edu/~cioffi/dsm/>, at 42 (“*Cioffi DSM Paper*”).

the incumbent LECs' elimination of copper loop network infrastructure under the current rules surely are substantial.

The modest rule changes proposed by Petitioners, as discussed more fully herein and appended hereto as *Exhibit A*, would address these harms by establishing a more formal process for review and approval by the Commission of any proposed retirement of copper loops or copper subloops by an incumbent LEC, including a critical presumption that such retirement does *not* serve the public interest. Under the amended rules proposed by Petitioners, an incumbent LEC seeking to retire any of its legacy copper facilities may do so only if the Commission concludes, on the basis of the incumbent LEC's formal application, and in consideration of any opposition filed by an interested third party, that the incumbent LEC's proposed retirement of copper loops or copper subloops will serve the public interest, and is necessary for the incumbent LEC to overbuild its existing copper network with fiber facilities. In such cases where the incumbent LEC is unable to rebut the presumption that copper loop retirement does not serve the public interest, the status quo would be maintained with the incumbent LEC incurring no ongoing maintenance obligation, absent a request to unbundle the facility (at which point, the incumbent LEC would be entitled to recover its costs and earn a reasonable profit by charging TELRIC rates for the copper loop UNEs).

In sum, the proposed rule changes would help ensure that the incumbent LECs' efforts to transition to fiber loop facilities further, to the greatest extent, and do not explicitly undermine the Act's goals of network competition, innovation and greater broadband availability. Petitioners' proposed rule changes also would bolster public safety by improving the chances that communications facilities will be available in times of homeland security crises, natural disasters, and the recovery periods that follow.

Time is of the essence. Once legacy copper plant is removed, destroyed, or otherwise disabled, competitive LECs, consumers and businesses are forever deprived of the ability to use that discarded plant.⁹ As a result, there will be fewer competitive broadband options and higher prices. And, when the power goes out or disaster strikes, there will be fewer network facilities on which calls may be made, e-mails sent, or files transferred that could save lives. In light of these considerations, Petitioners respectfully request that the Commission expeditiously conduct and conclude a rulemaking proceeding for the purpose of adopting the rules Petitioners propose herein.

II. THE COMMISSION'S RULES APPLICABLE TO RETIREMENT OF COPPER LOOPS AND COPPER SUBLOOPS ARE FLAWED AND FAIL TO PROTECT THE PUBLIC INTEREST

The Commission's current rules require only that incumbent LECs provide public notification of planned network changes, including retirement of copper loops and copper subloops, and thereby allow the incumbent LECs to unilaterally remove from service facilities that otherwise would remain subject to mandatory unbundling obligations, under Section 251(c)(3) of the Act.¹⁰ The Commission's existing rules fail to contemplate the reality that elimination of legacy copper loop and copper subloop facilities will nullify the ability of consumers to receive a full suite of narrowband and broadband service offerings over an alternative and competing copper network. The existing rules also fail to consider the impact of eliminating competitive broadband availability over UNEs and redundant network facilities that could prove essential to ensuring communications in times of homeland security crises, natural

⁹ In the event that copper plant is merely disabled, the costs to re-establish the copper loop to working order likely would make it prohibitively costly to provide competitive services.

¹⁰ See 47 C.F.R. §§ 51.325-335.

disasters, and recovery periods that follow. These failings provide compelling support for initiation and expeditious conclusion of the rulemaking Petitioners propose.

A. The Current Rules Provide for Copper Loop Retirement Without Any Opportunity for Meaningful Challenge Based on Public Interest Goals Established in the Act and by the Commission

The Commission's current rules allow incumbent LECs to retire copper loops and copper subloops without regard to important public interest goals, including fostering network competition, promoting widespread availability of broadband services, and ensuring that communications facilities are available and working during homeland security crises and the recovery periods that follow. Specifically, the permissive rules established in the *Triennial Review Order* impose only modest public notification requirements on incumbent LECs that elect to retire legacy copper facilities, allow for only limited objection, and ensure that copper loop and copper subloop retirements will take place with little or no Commission oversight.¹¹

The current rules provide only limited objection procedures, which are available only to parties using the network to be retired, and only in the event that such parties are unable to transition from that network in a timely manner, as determined by the Commission. In particular, 47 C.F.R. § 51.333(c) permits objections to proposed retirements only by "an information service provider or a telecommunications service provider that directly interconnects with the incumbent LEC's network," and thereby denies interested parties, such as prospective users of legacy copper facilities, including emergency first-responders, any meaningful opportunity to bring before the Commission important public interest considerations unrelated to the current provision of services. Moreover, the same rule expressly limits the content of such objections to issues of timing of the retirement of copper loops and copper subloops, as proposed

¹¹ The incumbent LECs must also comply with applicable state requirements. 47 C.F.R. §§ 51.391(a)(3)(iv)(B).

by the incumbent LECs. For example, the rule requires that any objector provide to the Commission detailed information demonstrating its inability to accommodate the time frames for copper loop and copper subloop retirements proposed by the incumbent LECs, including steps that may be taken by an objector to expedite the process of transitioning from the copper network to be retired.¹² The objection procedures set forth in the Commission's current rules are improperly narrow in scope and do not allow challenges to copper loop and copper subloop retirements on other grounds, including public interest grounds.¹³

Indeed, the current rules applicable to incumbent LECs' network changes effectively deny the Commission any meaningful opportunity to review whether copper loop and copper subloop retirements proposed by the incumbent LECs will serve the policy goals of the Act, and importantly, whether such retirements will result in public interest harms. As such, unless the Commission acts to change the current retirement regime, what would otherwise be a valuable asset will be abandoned.

1. The Current Copper Loop Retirement Rules Undermine the Act's Goal of Creating and Fostering Competition

The preamble of the Telecommunications Act of 1996 states that its goal is “[t]o promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies.”¹⁴ In order to effectuate that goal, Congress made Sections 251 and 252 the keystone of Act, providing a framework for competition through the use of UNEs, interconnection, and resale.¹⁵ In implementing the Act, the Commission has

¹² 47 C.F.R. § 51.333(c).

¹³ *See id.*

¹⁴ Telecommunications Act of 1996, Pub. La. No. 104-104, 110 Stat. 56 (1996).

¹⁵ 47 U.S.C. §§ 251, 252.

determined where UNEs will be available and has made clear that UNEs can be used to provide a nearly unlimited array of narrowband and broadband services, provided that such use is not exclusively limited to long distance or mobile services.¹⁶

Contrary to the Act's goal of fostering competition, however, the current copper loop retirement rules severely limit competitive LECs' ability to serve and grow as network competitors. The narrowband channel on replacement fiber facilities they are offered under the current rules does not allow them to provide the full array of services they were offering prior to the incumbent LEC "upgrading" from copper to fiber (including bundled service packages) over copper facilities or any of the other broadband services that they could feasibly offer over such copper facilities, now or in the future.¹⁷ Thus, retirement of copper loops and copper subloops by the incumbent LECs, pursuant to the Commission's rules, effectively denies competitive LECs nondiscriminatory access to facilities that enable competitive bundled and broadband service offerings, subject to TELRIC pricing and the regulatory protections of Section 251(c)(3) of the Act. The resulting loss of competition inevitably leads to higher prices and fewer choices for consumers and business customers.¹⁸

¹⁶ *In the Matter of Review of Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Order on Remand, 20 FCC Rcd 2533, ¶ 36 (2005).

¹⁷ Where the incumbent LECs choose to overbuild copper loop facilities with FTTH or FTTC loops, and subsequently to remove from service existing copper loops and copper subloops, the Commission's existing rules provide that competitive LECs may obtain unbundled access only to a restricted transmission path over the incumbent LECs' FTTH and FTTC loops, for the purpose of providing voice grade level services to consumers. Specifically, in replacement of retired copper loops and copper subloops, the Commission's rules, at Section 51.319(a)(3)(iii)(C), require only that the incumbent LECs provide to requesting carriers nondiscriminatory access to "a 64 kilobits per second transmission path capable of voice grade service over fiber-to-the-home or fiber-to-the-curb-loop on an unbundled basis." 47 C.F.R. § 51.319(a)(3)(iii)(C).

¹⁸ *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, 11 FCC Rcd 15499, 15506, ¶ 4 (1996) (subsequent history omitted).

The Commission has previously recognized the need to ensure competitive access to incumbent LECs' copper transmission facilities, explaining that, after moving customers onto new fiber-served systems, "incumbent LECs will not have as great an incentive to work with competitors to preserve their access to existing copper transmission facilities."¹⁹ Specifically, the Commission in the SBC – Ameritech merger proceeding concluded that "because...chosen DSL deployment strategy does not depend on copper transmission facilities, a risk exists that...incumbent LECs will fail to account for the needs of unaffiliated carriers as they deploy the new network architecture."²⁰ In order to ensure that competitors had access to the essential inputs needed to provide advanced services, the Commission sought and gained the following commitments from SBC: "(1) refrain from retiring any copper pairs for one year; (2) SBC would refrain from retiring (over a three year period) more than 5% of the copper pairs terminated on the Main Distribution Frames of its incumbent LECs' central offices; (3) disclose the incumbent LEC's general decision-making criteria for retiring any copper plant; (4) notify competitive LECs of intent to retire any copper plant at least 180 days before such retirement; and (5) provide unaffiliated entities an opportunity to buy any copper plant marked for retirement at net book value or the highest competitive bid, whichever is higher."²¹ Finally, and importantly for purposes of this Petition, SBC stated "that, in the event a competitive LEC obtains a customer served by a new NGDLC system and the associated fiber, SBC's incumbent LEC will transition such customer back to the existing copper pairs."²² The Commission found that these conditions

¹⁹ *Ameritech Corp., Transferor, and SBC Communications, Inc., Transferee, For Consent to Transfer Control of Corporations Holding Commission Licenses and Lines Pursuant to Sections 214 and 310(d) of the Communications Act and Parts 5, 22, 24, 25, 63, 90, 95, and 101 of the Commission's Rules*, 15 FCC Rcd 17521, ¶ 38 (2000).

²⁰ *Id.*

²¹ *Id.*, ¶ 39.

²² *Id.*, ¶ 40.

would enable competitive LECs “to provide different types of xDSL services. In this way, SBC’s competitors will be able to deliver different applications, such as video and voice over DSL, than those chosen by SBC.”²³

The need for competitive access to copper loop facilities is as acute as it was over six years ago. Given that incumbent LECs have aggressively deployed fiber and have pushed it deeper into their networks over the past six years, there is an even greater need today for mechanisms to ensure competitive access to copper so that competitors may continue to offer the very services that the Commission more than six years ago contemplated were possible, such as video over copper. Incumbent LECs cannot be permitted to exercise their control over legacy copper loop facilities unilaterally, in a fashion intended to undermine competition.

2. The Current Copper Loop Retirement Rules Undermine the Act’s Goal of Promoting the Availability of Broadband

A primary purpose of the Act is to “encourage the rapid deployment of new telecommunications technologies.” Indeed, Section 706 of the Act directs the Commission to encourage the deployment of advanced telecommunications capability to all Americans on a reasonable and timely basis.²⁴ Additionally, the Act states that “[i]t shall be the policy of the United States to encourage the provision of new technologies and services to the public.”²⁵ Indeed, the Bush Administration has stated a policy priority that “universal, affordable access for broadband technology” be made available by 2007, while ensuring “Americans plenty of

²³ *Id.*

²⁴ *See* 47 U.S.C. § 157. The Act defines “advanced telecommunications capability” as “without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology.”
Id.

²⁵ *Id.*

technology choices when it comes to purchasing broadband.”²⁶ Consistent with those goals, Chairman Martin has publicly stated that the growth of broadband technology is his number one priority.²⁷ Indeed, the Chairman has stated that increased broadband deployment will involve not only making sure we have the right regulatory framework for that infrastructure, but addressing issues like what are the services that ride over that infrastructure and what are the social obligations that go along with that, such as the expectation that people have to connect to local public safety officials.²⁸ Numerous legislators have echoed this sentiment, including U.S. Senator John Sununu (R-NH), who has stated that

[t]here are lots of ways to get access to these national and global broadband networks. You can get them through wireless systems, DSL, cable. You can get them even through satellite. And there are probably more technologies that will come to give customers and consumers access. We want to be careful that we do not distort the marketplace of ideas, either through subsidies for one form of technology relative to another . . . or regulatory regimes on one form of broadband network relative to another.²⁹

Without access to copper, competitive LECs are severely limited in the alternative broadband services they can provide to consumers and businesses. Today’s technology delivers substantially more bandwidth over copper than those that were in use just three years ago when the Commission adopted its FTTH unbundling relief and associated copper loop retirement rules. For example, Ethernet over copper is a technology that did not exist in the network three years ago. Today, by contrast, several carriers, including XO, NuVox, **Eschelon** and BellSouth, for

²⁶ The White House, Promoting Innovation and Competitiveness: President Bush’s Technology Agenda, at <<http://www.whitehouse.gov/infocus>>.

²⁷ See “FCC’s Martin Promotes Broadband Access,” National Journal, May 28, 2005 (“I think that the opportunity for the growth of individuals and for our society by increasing that connectiveness through broadband is critical, so I think that is our No. 1 priority.”).

²⁸ *Id.*

²⁹ Remarks made by Senator John Sununu on the floor of the U.S. Senate on November 20, 2004 regarding broadband voice regulation. See <<http://sununu.senate.gov/floor/statements11-20-04.htm>>.

example, already have deployed Ethernet over copper technologies in their networks, enabling them to provide services at multi-megabit per second speeds.³⁰ Others, such as Covad, are planning to deploy Ethernet over copper in the future. Indeed, there is scientific evidence that copper is capable of supporting services with transmission speeds of 200 Mbps symmetric transmission on 500 meters of wire and 50 Mbps at 1.5 km.³¹ In other words, copper can support numerous simultaneous streams of high-definition video, becoming a formidable competitive alternative to the hybrid fiber-coax (“HFC”) plant of the cable providers and the FTTH/FTTC/fiber-to-the-node plant of the incumbent LECs. Indeed, at least one competitive LEC already is using unbundled copper facilities to deliver a triple-play of voice, broadband and IPTV services.³²

Without legacy copper facilities, all of this technology and the promise it offers in terms of speed and service possibilities will neither be used nor realized here in the United States. The costs associated with the incumbent LECs’ destruction or disabling of copper loop network infrastructure under the current rules are surely substantial, not only in terms of lost opportunity cost, but also as it relates to the cost of physically removing buried and aerial copper from their outside plant.

³⁰ Ernest Ortega, XO, President – Carrier Services, Spring 2006 Newsletter: President’s Corner (Spring 2006), at <<http://www.xo.com/newsletter/carrier/2006/spring06.html>>; Metro Ethernet Service – Bell South, at <<http://smallbusiness.bellsouth.com/internet/metroe.asp>> (last visited January 17, 2007); see also Letter from Patrick Donovan, Esq., Bingham McCutchen, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 06-74, at 3 (carriers using copper to provide advanced video and “triple play”) (Nov. 14, 2006); “*Copper Ethernet Snares an RBOC*,” Light Reading, August 7, 2006, at <http://www.lightreading.com/document.asp?doc_id=100606> (reporting that BellSouth announced “midband” Ethernet over copper tiers of 2-, 4- and 8 megabits per second).

³¹ See *Cioffi DSM Paper* at 42-43; see also associated PowerPoint presentation, John M. Cioffi, Stanford University, attached hereto as *Exhibit B*.

³² See Letter from Patrick Donovan, Esq., Bingham McCutchen, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 06-74 (Cavalier Telephone and TV *ex parte* presentation) (Dec. 11, 2006).

3. The Current Copper Loop Retirement Rules Undermine the Commission's Goal of Ensuring that Communications Work in Times of Homeland Security Crises and Natural Disasters

The elimination through retirement of redundant copper loop facilities that could prove essential in homeland security crises, natural disasters, and the recovery periods that follow poses a severe threat to homeland security and public safety. Redundancy in network facilities increases the chances that communications will work in times of crises. Moreover, copper loops are not typically subject to the same degree of failure as fiber loops when the power goes out.³³ Hence, regular decommissioning of copper facilities is clearly contrary to the public interest.

Indeed, the federal government has already recognized the importance of redundant facilities. For example, June 29, 2005, the President assigned the Director of Management and Budget the authority to issue a regulation governing certain telecommunications functions under Section 414 of the Transportation, Treasury, Independent Agencies, and General Government Appropriations Act of 2005. As such, federal agencies are now responsible for ensuring the continued availability of mission-essential national security/emergency preparedness telecommunications services.³⁴ The regulation recommends, as part of that effort, that agencies include the use of redundant and physically separate telecommunications service entry points into buildings, as well as the use of physically diverse local network facilities.³⁵ The Commission's establishment of the new Public Safety and Homeland Security Bureau is also further evidence of the federal government's increased

³³ See *infra* n. 5.

³⁴ Consolidated Appropriations Act, 2005, Pub. L. No. 108-447, § 414, (2005); Memorandum from Joshua B. Bolten, Director, OMB, Regulation on Maintaining Telecommunication Services During a Crisis or Emergency in Federally-owned Buildings (Jun. 30, 2006), appended hereto as *Exhibit C*.

³⁵ *Id.*

commitment to ensuring that our nation's telecommunications networks operate effectively in the wake of a national emergency or other disaster.³⁶ As several commenters in the Commission's Hurricane Katrina docket noted, increased availability of redundant network facilities would aid displaced family members, friends, and colleagues desperately seeking each other in an emergency, help emergency relief workers to avoid wasting time searching homes where residents have already safely evacuated, free shelter operators and volunteers from much of the task of locating missing family members so that they can concentrate on other vital aspects of relief, and dispel evacuee's fears of being unreachable as a result of evacuating during an emergency.³⁷ Where copper loops have been removed, destroyed, or disabled pursuant to the Commission's current permissive copper loop retirement rules, there will be fewer network facilities on which calls may be made, e-mails sent, or files transferred that could save lives. Indeed, the lack of network redundancy was cited in the report issued by the Independent Panel on Hurricane Katrina as a major problem.³⁸ It seems particularly egregious that a readily available source of vital redundancy would purposefully be squandered by the incumbent LECs, via copper loop retirements.

Apart from issue of life and death, the issue of network redundancy and the lack thereof has the potential to significantly impact the nation's economy. For instance, in May, 2002, the Vice Chairman of the Federal Reserve Board, Roger W. Ferguson, Jr., gave a speech concerning the implications of the September 11, 2001 terrorist attacks for the financial services

³⁶ *In the Matter of Establishment of the Public Safety and Homeland Security Bureau and Other Organizational Changes*, Order, 21 FCC Rcd 10867 (2006).

³⁷ *See, e.g., ex parte* letter of pulver.com/Evslin Consulting, EB Docket No. 06-119, filed May 12, 2006.

³⁸ *See Report and Recommendations to the Federal Communications Commission issued by the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks*, EB Docket No. 06-119, at 14 (June 12, 2006).

sector. Among his many observations, Mr. Ferguson noted that “financial institutions should seek greater redundancy of telecommunications services through alternative technologies” and “eliminate potential single points of failure.”³⁹

Accordingly, national security and the public interest demand that the Commission act quickly to ensure that no further copper loop plant is wasted in this manner to the detriment of the public interest.

B. Incumbent LEC Retirement of Copper Loops and Copper Subloops Does Not Serve Any Legitimate Purpose Under the Act

By design, incumbent LEC retirement of copper loops and copper subloops erodes local competition, reduces the availability and inhibits the growth of broadband alternatives, and threatens homeland security and public safety by eliminating redundant network facilities. Permitting incumbent LECs to retire copper facilities without a public interest finding is contrary to both policy objectives of the Act, as well as those established by the Commission. However, notwithstanding the anticompetitive character of copper loop and copper subloop retirement addressed in the *Triennial Review Order*, the Commission never has demanded a showing by the incumbent LECs that such network modifications are in any way necessary to the deployment of next-generation fiber networks. Instead, the retirement of copper facilities has been permitted despite the fact that it is economically inefficient, and is not necessary to facilitate investment in new fiber facilities, as incumbent LECs otherwise have claimed.

1. Incumbent LEC Retirement of Copper Loops and Copper Subloops is Not Economically Efficient

The economic considerations raised by the incumbent LECs, and addressed by the Commission in the *Triennial Review Order*, do not justify retirement of copper loops and copper

³⁹ See Remarks by Vice Chairman Roger W. Ferguson, Jr. at the Conference on bank Structure and Competition, Chicago, Illinois, May 9, 2002, <<http://www.federalreserve.gov/boarddocs/speeches/2002/20020509/default.htm>>.

subloops where the incumbent LECs overbuild fiber facilities. Indeed, the incumbent LECs must incur substantial and potentially non-recoverable costs to dismantle legacy copper networks and to reconfigure embedded copper facilities to accommodate specific copper loop and copper subloop retirements. Conversely, the Commission's rules do not impose on incumbent LECs any obligation to maintain, in serviceable condition, existing copper loops and copper subloops, except to the extent that such facilities are requested by competitive LECs as UNEs, pursuant to Section 251(c)(3) of the Act.⁴⁰ When facilities are unbundled, incumbent LECs are appropriately compensated at rates established by state commissions pursuant to Section 252(d) of the Act and the Commission's TELRIC pricing rules.⁴¹ Thus, retirement of copper loops and copper subloops needlessly results in the incumbent LECs incurring substantial expenses and foregoing significant revenue opportunities. Such behavior is uneconomic and likely unlawful.⁴²

2. Incumbent LEC Retirement of Copper Loops and Copper Subloops Does Not Promote Deployment of Fiber Loop Networks

The Commission's rules expressly contemplate that the incumbent LECs technically are able to maintain parallel legacy copper facilities and next-generation fiber

⁴⁰ Section 51.319(a)(3)(iii)(C), expressly states that incumbent LECs "need not incur any expenses to ensure that the existing copper loop remains capable of transmitting signals prior to receiving a request for access," pursuant to Section 251(c)(3) of the Act. Indeed, the rules adopted by the Commission, in the *Triennial Review Order*, are intended specifically to conserve incumbent LEC expenditures and operating costs where copper loops and copper subloops are preserved.

⁴¹ See 47 C.F.R. §§ 51.503, 51.505.

⁴² See, e.g., *Alaska Airlines, Inc. v. United Airlines, Inc.*, 948 F.2d 536, 542 (9th Cir. 1991) (recognizing "liability when one firm, which controls an essential facility, denies a second firm reasonable access to a product or service that the second firm must obtain in order to compete with the first."); see also *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1183 (1st Cir. 1994); *Byars v. Bluff City News Co.*, 609 F.2d 843, 846, 856 & n.34 (6th Cir. 1980) ("a business or group of businesses which controls a scarce facility has an obligation to give competitors reasonable access to it.") (citing *Associated Press v. United States*, 326 U.S. 1 (1945)); *Hecht v. Pro-Football, Inc.*, 570 F.2d 982, 992 (D.C. Cir. 1977) ("where facilities cannot practicably be duplicated by would-be competitors, those in possession of them must allow them to be shared on fair terms. It is illegal restraint of trade to foreclose the scarce facility." (citation omitted)).

facilities. By definition, “overbuilds” include deployments where an incumbent LEC constructs new FTTH or FTTC loops “parallel to” existing copper facilities.⁴³ The incumbent LECs never have asserted that embedded copper loops and copper subloops physically preclude construction of new fiber loops serving the same customer’s premises, and cannot now credibly claim that retiring copper loops and copper subloops is necessary for the deployment of fiber loop facilities.

Similarly, retirement of copper loops and copper subloops is not a precondition to incumbent LEC investment in, and construction of fiber facilities, including FTTH and FTTC loops. Retirement of copper loops and copper subloops entails additional and potentially unrecoverable costs and foregone revenues that in no way contribute to the direct funding of incumbent LEC fiber loop deployment. Thus, the Commission’s rules applicable to retirement of copper loops and copper subloops do not facilitate deployment of fiber networks by the incumbent LECs.

III. THE PROPOSED RULE CHANGES WILL SERVE THE PUBLIC INTEREST, CONVENIENCE AND NECESSITY

As discussed more fully above, the existing Part 51 rules applicable to retirement of copper loops and copper subloops improperly fail to consider whether removal of certain legacy copper facilities, as proposed by an incumbent LEC, would adversely affect competition, broadband availability, homeland security, public safety or otherwise would not serve the public interest. Moreover, the Commission’s existing rules do not even define what it means to “retire” copper. To remedy these flaws, the rule changes proposed herein would define what it means to retire copper and establish a formal process for approval by the Commission, on a case-by-case basis, of any proposed retirement of copper loops or copper subloops by the incumbent LECs,

⁴³ 47 C.F.R. § 51.319(a)(3)(B)(iii).

subject to a presumption that such retirement does *not* serve the public interest. Moreover, the Commission's rules, if amended consistent with this Petition, would abolish notification-only procedures for "short-term" modifications to incumbent LEC networks, including copper loop and copper subloop retirements that currently do not permit any interested party, including the Commission, to contest elimination of UNEs that enable competitive narrowband and broadband services over redundant facilities. In support of the rule changes proposed herein, as set forth in *Exhibit A* to this Petition, Petitioners submit as follows:

Section 51.319(a)(3)(i)(C)(iv): As proposed, this Section defines what it means to "retire" copper loops or copper subloops. "Retire" or "retirement" shall mean the act of removing copper loops or copper subloops from service, and includes, at minimum (a) physically disconnecting, disabling, or rendering any portion of a copper loop or copper subloop technically incapable of providing service or (b) permanently removing the copper loop or copper subloop from the conduit, pole attachment or controlled environment in or on which the copper facility was housed. Thus, the proposed definition would include situations in which incumbent LECs both physically dismantle copper facilities by removing them from the ground or from aerial cables, and where they simply overbuild the copper facilities but elect to leave them in place but "retired".

Section 51.319(a)(3)(iv)(C): As proposed, this Section requires the incumbent LEC to follow formal application procedures for Commission review and approval of any proposed retirement of copper loops and copper subloops, as set forth in proposed Section 51.337. This Section requires that the Commission consider, on a case-by-case basis, whether retirement of specific copper loops or copper subloops by the incumbent LEC will serve the public interest.

Section 51.337(a): As proposed, this Section requires the incumbent LEC to provide notification to parties that will be affected by its proposed retirement of specific copper loops and copper subloops. Consistent with this provision, Petitioners also propose to amend Section 51.329(a) to require that the incumbent LEC provide written notification of copper loop and copper subloop retirements directly to all carriers that interconnect with the incumbent LEC's network. Because the incumbent LEC's proposed retirement of copper loops and copper subloops threatens to eliminate facilities used by interconnected competitive LECs to provide narrowband and broadband services, the public interest demands that all such parties be given adequate notification and opportunity to contest such retirements. Moreover, the incumbent LECs have processes already in place to maintain communications with interconnected competitive LECs in the course of their regular business operations and, accordingly, such notification requirements would not unduly burden incumbent LEC resources.

Section 51.337(b): As proposed, this Section sets forth the information that any incumbent LEC must provide to the Commission in its Application for authority to retire copper loops and copper subloops. The information required by proposed subsections (1) through (3) mirrors the notification requirements set forth in Commission's existing rules applicable to all incumbent LEC network modifications. The information requested by proposed subsections (4) through (8) includes specific facts about the geographic area served by the copper facilities that the incumbent LEC seeks to retire, as are necessary for Commission to evaluate the status of competition within the geographic area to be impacted by the incumbent LEC's proposed retirement. Thus, the application requirements proposed herein, at Sections 51.337(b)(4) through 51.337(b)(8), will facilitate a determination by the Commission, on a case-by-case basis, as to whether retirement of specific copper loops or copper subloops will serve the public interest.

Moreover, because the information requested by this Section generally is maintained by the incumbent LECs, in the course of normal business operations, the informational requirements proposed herein would not unduly burden incumbent LEC resources.

Section 51.337(c)-(e): As proposed, Section 51.337(c) expressly provides that the Commission shall evaluate, on the basis of the Application, whether the incumbent LEC's proposed retirement of specific copper loops and copper subloops would adversely affect network competition, broadband availability, homeland security, or otherwise would not serve the public interest. Critically, for reasons fully discussed in Section II, the Commission must presume that incumbent LEC retirement of copper loops and copper subloops does *not* serve the public interest; and the Commission should permit retirement of certain copper loops and copper subloops only if the incumbent LEC successfully rebuts such presumption, and demonstrates, through its Application, that the proposed retirement: (1) serves the public interest, convenience and necessity; and (2) is necessary to deploy FTTH and FTTC loops to a specific customer's premises. Put simply, an incumbent LEC that wishes to eliminate copper facilities that are required for network competition, greater broadband availability and public safety must bear the burden of justifying its actions. This reform is absolutely critical and failure to adopt it could render the other proposed changes meaningless.

As proposed, Section 51.337(d) provides a reasonable time frame during which interested parties may contest a proposed retirement of copper loops and copper subloops by the incumbent LEC, through a formal Petition to the Commission asserting that such retirement is contrary to the public interest. In turn, the incumbent LEC requesting authority to retire certain copper loops and copper subloops may reply to any such Petition. The procedures set forth in this Section will permit the Commission to develop a complete factual record, supporting its

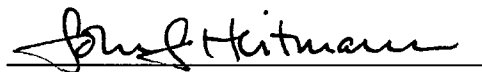
determination as to whether retirement of certain copper loops or copper subloops by the incumbent LEC will serve the public interest, consistent with Section 51.337(c).

As proposed, Section 51.337(e) provides that no incumbent LEC shall retire copper loops or copper subloops until such time as the Commission acts to grant or deny its Application, and the Petition of any interested party opposing its Application, upon its determination that such retirement serves the public interest. This proposed rule would prevent incumbent LECs from retiring copper loops while the Commission conducts its public interest assessment. Preserving the status quo is consistent with the presumption that copper loop retirement does *not* serve the public interest and allows the Commission an opportunity to conduct a meaningful review.

IV. CONCLUSION

For the reasons set forth herein, Petitioners respectfully request that the Commission initiate a public rulemaking proceeding to amend certain of its Part 51 rules applicable to retirement of copper loops and copper subloops by the incumbent LECs.

Respectfully submitted,



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EXHIBIT A

Proposed Modifications to FCC Rules

§51.319 Specific unbundling requirements.

(a) Local loops. An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to the local loop on an unbundled basis, in accordance with Section 251(c)(3) of the Act and this part and as set forth in paragraphs (a)(1) through (a)(9) of this section. The local loop network element is defined as a transmission facility between a distribution frame (or its equivalent) in an incumbent LEC central office and the loop demarcation point at an end-user customer premises. This element includes all features, functions, and capabilities of such transmission facility, including the network interface device. It also includes all electronics, optronics, and intermediate devices (including repeaters and load coils) used to establish the transmission path to the end-user customer premises as well as any inside wire owned or controlled by the incumbent LEC that is part of that transmission path.

(3) Fiber loops.

(i) Definitions.

(A) Fiber-to-the-home loops. A fiber-to-the-home loop is a local loop consisting entirely of fiber optic cable, whether dark or lit, serving an end user's customer premises or, in the case of predominantly residential multiple dwelling units (MDUs), a fiber optic cable, whether dark or lit, that extends to the multiunit premises' minimum point of entry (MPOE).

(B) Fiber-to-the-curb loops. A fiber-to-the-curb loop is a local loop consisting of fiber optic cable connecting to a copper distribution plant that is not more than 500 feet from the customer's premises or, in the case of predominantly residential MDUs, not more than 500 feet from the MDU's MPOE. The fiber optic cable in a fiber-to-the-curb loop must connect to a copper distribution plant at a serving area interface from which every other copper distribution subloop also is not more than 500 feet from the respective customer's premises.

(ii) New builds. An incumbent LEC is not required to provide nondiscriminatory access to a fiber-to-the-home loop or a fiber-to-the-curb loop on an unbundled basis when the incumbent LEC deploys such a loop to an end user's customer premises that previously has not been served by any loop facility.

(iii) Overbuilds. An incumbent LEC is not required to provide nondiscriminatory access to a fiber-to-the-home loop or a fiber-to-the-curb loop on an unbundled basis when the incumbent LEC has deployed such a loop parallel to, or in replacement of, an existing copper loop facility, except that:

(A) The incumbent LEC must maintain the existing copper loop connected to the particular customer premises after deploying the fiber-to-the-home loop or the fiber-to-the-curb loop and provide nondiscriminatory access to that copper loop on an unbundled basis unless the incumbent LEC retires the copper loops pursuant to paragraph (a)(3)(iv) of this section.

(B) An incumbent LEC that maintains the existing copper loops pursuant to paragraph (a)(3)(iii)(A) of this section need not incur any expenses to ensure that the existing copper loop remains capable of transmitting signals prior to receiving a request for access pursuant to that paragraph, in which case the incumbent LEC shall restore the copper loop to serviceable condition upon request.

(C) An incumbent LEC that retires the copper loop pursuant to paragraph (a)(3)(iv) of this section shall provide nondiscriminatory access to a 64 kilobits per second transmission path capable of voice grade service over the fiber-to-the-home loop or fiber-to-the-curb loop on an unbundled basis.

(iv) Retirement of copper loops or copper subloops. The terms “retire” or “retirement” shall mean the act of removing copper loops or copper subloops from service, and shall include, at minimum (a) physically disconnecting, disabling, or rendering any portion of a copper loop or copper subloop technically incapable of providing service, or (b) permanently removing the copper loop or copper subloop from the conduit, pole attachment or controlled environment in or on which the copper facility was housed. Prior to retiring any copper loop or copper subloop that has been replaced with a fiber-to-the-home loop or a fiber-to-the-curb loop, an incumbent LEC must comply with:

(A) The network disclosure requirements set forth in Section 251(c)(5) of the Act and in §51.325 through §51.335; and

(B) Any applicable state requirements; and

(C) The formal application procedures for retirement of copper loops or copper subloops set forth in § 51.337.

§51.325 Notice of network changes: Public notice requirement.

(a) An incumbent local exchange carrier ("LEC") must provide public notice regarding any network change that:

(1) Will affect a competing service provider's performance or ability to provide service;

(2) Will affect the incumbent LEC's interoperability with other service providers; or

(3) Will affect the manner in which customer premises equipment is attached to the interstate network.

(4) Will result in the retirement of copper loops or copper subloops, and the replacement of such loops with fiber-to-the-home loops or fiber-to-the-curb loops, as those terms are defined in §51.319(a)(3).

(b) For purposes of this section, interoperability means the ability of two or more facilities, or networks, to be connected, to exchange information, and to use the information that has been exchanged.

(c) Until public notice has been given in accordance with §51.325 through §51.335, an incumbent LEC may not disclose to separate affiliates, separated affiliates, or unaffiliated entities (including actual or potential competing service providers or competitors), information about planned network changes that are subject to this section.

(d) For the purposes of §51.325 through §51.335, the term services means telecommunications services or information services.

§ 51.327 Notice of network changes: content of notice.

(a) Public notice of planned network changes must, at a minimum, include:

(1) The carrier's name and address;

(2) The name and telephone number of a contact person who can supply additional information regarding the planned changes;

(3) The implementation date of the planned changes;

(4) The location(s) at which the changes will occur;

(5) A description of the type of changes planned (information provided to satisfy this requirement must include, as applicable, but is not limited to, references to technical specifications, protocols, and standards regarding transmission, signaling, routing, and facility assignment as well as references to technical standards that would be applicable to any new technologies or equipment, or that may otherwise affect interconnection); and

(6) A description of the reasonably foreseeable impact of the planned changes.

(b) The incumbent LEC also shall follow, as necessary, procedures relating to confidential or proprietary information contained in §51.335.

§51.329 Notice of network changes: methods for providing notice.

(a) In providing the required notice to the public of network changes, an incumbent LEC may use one of the following methods; provided, however, that for an incumbent LEC's proposed retirement of copper loops or copper subloops pursuant to § 51.319(a)(3)(iv), the incumbent LEC also shall provide notice in writing to each information service provider or telecommunications service provider that directly interconnects with the incumbent LEC's network, unless the Commission authorizes in advance, for good cause shown, another form of notice to such parties:

(1) Filing a public notice with the Commission; or

(2) Providing public notice through industry fora, industry publications, or the carrier's publicly accessible Internet site. If an incumbent LEC uses any of the methods specified in paragraph (a)(2) of this section, it also must file a certification with the Commission that includes:

(i) A statement that identifies the proposed changes;

(ii) A statement that public notice has been given in compliance with §51.325 through §51.335; and

(iii) A statement identifying the location of the change information and describing how this information can be obtained.

(iv) Where notice in writing of an incumbent LEC's proposed retirement of copper loops or copper subloops is required under paragraph (a) of the section, a copy of the written notification submitted by the incumbent LEC to each information service provider and telecommunications service provider that directly interconnects with the incumbent LEC's network, and a Certificate of Service, which shall include:

(A) A statement that, at least five business days in advance of its filing with the Commission, the incumbent LEC served a copy of its public notice upon each information service provider and telephone exchange service provider that directly interconnects with the incumbent LEC's network; and

(B) The name and address of each such information service provider and telephone exchange service provider upon which the notice was served.

(b) Until the planned change is implemented, an incumbent LEC must keep the notice available for public inspection, and amend the notice to keep the information complete, accurate and up-to-date.

(c) Specific filing requirements. Commission filings under this section must be made as follows:

(1) The public notice or certification must be labeled with one of the following titles, as appropriate: "Public Notice of Network Change Under Rule §51.329(a)," "Certification of Public Notice of Network Change Under Rule §51.329(a)," "Short Term Public Notice Under Rule §51.333(a)," or "~~Certification of Short Term Public Notice Under Rule §51.333(a).~~" "Public Notice of Retirement of Copper Loops(s) and/or Copper Subloop(s) Under Rule § 51.329(a)," or "Certification of Public Notice of Retirement of Copper Loop(s) and/or Copper Subloop(s) Under Rule § 51.329(a)."

(2) Two paper copies of the incumbent LEC's public notice or certification, required under paragraph (a) of this section, must be sent to "Secretary, Federal Communications Commission, Washington, DC 20554." The date on which this filing is received by the Secretary is considered the official filing date.

(3) In addition, one paper copy and one diskette copy must be sent to the "Chief, Wireline Competition Bureau, Federal Communications Commission, Washington, DC 20554." The diskette copy must be on a standard 3-1/2 inch diskette, formatted in IBM-compatible format to be readable by high-density floppy drives operating under MS DOS 5.X or later compatible versions, and shall be in a word-processing format designated, from time-to-time, in public notices released by the Bureau. The diskette must be submitted in "read only" mode, and must be clearly labeled with the carrier's name, the filing date, and an identification of the diskette's contents.

§51.331 Notice of network changes: timing of notice.

(a) An incumbent LEC shall give public notice of planned changes, other than its proposed retirement of copper loops or copper subloops pursuant to § 51.319(a)(3)(iv), at the make/buy point, as defined in paragraph (b) of this section, but at least 12 months before implementation, except as provided below:

(1) If the changes can be implemented within twelve months of the make/buy point, public notice must be given at the make/buy point, but at least six months before implementation.

(2) If the changes can be implemented within six months of the make/buy point, public notice may be given pursuant to the short term notice procedures provided in §51.333.

(b) For purposes of this section, the make/buy point is the time at which an incumbent LEC decides to make for itself, or to procure from another entity, any product the design of which affects or relies on a new or changed network interface. If an incumbent LEC's planned changes do not require it to make or to procure a product, then the make/buy point is the point at which the incumbent LEC makes a definite decision to implement a network change.

(1) For purposes of this section, a product is any hardware or software for use in an incumbent LEC's network or in conjunction with its facilities that, when installed, could affect the compatibility of an interconnected service provider's network, facilities or services with an incumbent LEC's existing telephone network, facilities or services, or with any of an incumbent carrier's services or capabilities.

(2) For purposes of this section a definite decision is reached when an incumbent LEC determines that the change is warranted, establishes a timetable for anticipated implementation, and takes any action toward implementation of the change within its network.

(c) An incumbent LEC shall give public notice of its proposed retirement of copper loops or copper subloops pursuant to § 51.319(a)(3)(iv) at least twelve (12) months before the date on which the incumbent LEC intends to implement such retirement, which date shall be specifically stated in the public notice. An incumbent LEC shall not retire copper loops or copper subloops, except to the extent permitted by order of the Commission, subject to formal application procedures set forth in § 51.337.

~~(c) Competing service providers may object to incumbent LEC notice of retirement of copper loops or copper subloops and replacement with fiber-to-the-home loops or fiber-to-the-curb loops in the manner set forth in §51.333(c).~~

§51.333 Notice of Network Changes: Short term notice, objections thereto and objections to retirement of copper loops or copper subloops.

(a) Certificate of service. If an incumbent LEC wishes to provide less than six months notice of planned network changes, the public notice or certification that it files with the Commission must include a certificate of service in addition to the information required by §51.327(a) or §51.329(a)(2), as applicable. The certificate of service shall include:

(1) A statement that, at least five business days in advance of its filing with the Commission, the incumbent LEC served a copy of its public notice upon each telephone exchange service provider that directly interconnects with the incumbent LEC's network; and

(2) The name and address of each such telephone exchange service provider upon which the notice was served.

(b) Implementation date. The Commission will release a public notice of filings of such short term notices ~~or notices of replacement of copper loops or copper subloops with fiber to the home loops or fiber to the curb loops.~~ The effective date of the network changes referenced in those filings shall be subject to the following requirements:

(1) Short term notice. Short term notices shall be deemed final on the tenth business day after the release of the Commission's public notice, unless an objection is filed pursuant to paragraph (c) of this section.

~~(2) Replacement of copper loops or copper subloops with fiber to the home loops or fiber to the curb loops. Notices of replacement of copper loops or copper subloops with fiber to the home loops or fiber to the curb loops shall be deemed approved on the 90th day after the release of the Commission's public notice of the filing, unless an objection is filed pursuant to paragraph (c) of this section. Incumbent LEC notice of intent to retire any copper loops or copper subloops and replace such loops or subloops with fiber to the home loops or fiber to the curb loops shall be subject to the short term notice provisions of this section, but under no circumstances may an incumbent LEC provide less than 90 days notice of such a change.~~

(c) Objection procedures for short term notice ~~and notices of replacement of copper loops or copper subloops with fiber to the home loops or fiber to the curb loops.~~ An objection to an incumbent LEC's short term notice ~~or to its notice that it intends to retire copper loops or copper subloops and replace such loops or subloops with fiber to the home loops or fiber to the curb loops~~ may be filed by an information service provider or telecommunications service provider that directly interconnects with the incumbent LEC's network. Such objections must be filed with the Commission, and served on the incumbent LEC, no later than the ninth business day following the release of the Commission's public notice. All objections filed under this section must:

(1) State specific reasons why the objector cannot accommodate the incumbent LEC's changes by the date stated in the incumbent LEC's public notice and must indicate any specific technical information or other assistance required that would enable the objector to accommodate those changes;

(2) List steps the objector is taking to accommodate the incumbent LEC's changes on an expedited basis;

(3) State the earliest possible date (not to exceed six months from the date the incumbent LEC gave its original public notice under this section) by which the objector anticipates that it can accommodate the incumbent LEC's changes, assuming it receives the technical information or other assistance requested under paragraph (c)(1) of this section;

(4) Provide any other information relevant to the objection; and

(5) Provide the following affidavit, executed by the objector's president, chief executive officer, or other corporate officer or official, who has appropriate authority to bind the corporation, and knowledge of the details of the objector's inability to adjust its network on a timely basis:

"I, (name and title), under oath and subject to penalty for perjury, certify that I have read this objection, that the statements contained in it are true, that there is good ground to support the objection, and that it is not interposed for purposes of delay. I have appropriate authority to make this certification on behalf of (objector) and I agree to provide any information the Commission may request to allow the Commission to evaluate the truthfulness and validity of the statements contained in this objection."

(d) Response to objections. If an objection is filed, an incumbent LEC shall have until no later than the fourteenth business day following the release of the Commission's public notice to file with the Commission a response to the objection and to serve the response on all parties that filed objections. An incumbent LEC's response must:

(1) Provide information responsive to the allegations and concerns identified by the objectors;

(2) State whether the implementation date(s) proposed by the objector(s) are acceptable;

(3) Indicate any specific technical assistance that the incumbent LEC is willing to give to the objectors; and

(4) Provide any other relevant information.

(e) Resolution. If an objection is filed pursuant to paragraph (c) of this section, then the Chief, Wireline Competition Bureau, will issue an order determining a reasonable public

notice period, provided however, that if an incumbent LEC does not file a response within the time period allotted, or if the incumbent LEC's response accepts the latest implementation date stated by an objector, then the incumbent LEC's public notice shall be deemed amended to specify the implementation date requested by the objector, without further Commission action. An incumbent LEC must amend its public notice to reflect any change in the applicable implementation date pursuant to §51.329(b).

~~(f) Resolution of objections to replacement of copper loops or copper subloops with fiber to the home loops or fiber to the curb loops. An objection to a notice that an incumbent LEC intends to retire any copper loops or copper subloops and replace such loops or subloops with fiber to the home loops or fiber to the curb loops shall be deemed denied 90 days after the date on which the Commission releases public notice of the incumbent LEC filing, unless the Commission rules otherwise within that time. Until the Commission has either ruled on an objection or the 90-day period for the Commission's consideration has expired, an incumbent LEC may not retire those copper loops or copper subloops at issue for replacement with fiber to the home loops or fiber to the curb loops.~~

§51.335 Notice of network changes: confidential or proprietary information.

(a) If an incumbent LEC claims that information otherwise required to be disclosed is confidential or proprietary, the incumbent LEC's public notice must include, in addition to the information identified in §51.327(a), a statement that the incumbent LEC will make further information available to those signing a nondisclosure agreement.

(b) Tolling the public notice period. Upon receipt by an incumbent LEC of a competing service provider's request for disclosure of confidential or proprietary information, the applicable public notice period will be tolled until the parties agree on the terms of a nondisclosure agreement. An incumbent LEC receiving such a request must amend its public notice as follows:

(1) On the date it receives a request from a competing service provider for disclosure of confidential or proprietary information, to state that the notice period is tolled; and

(2) On the date the nondisclosure agreement is finalized, to specify a new implementation date.

§ 51.337 Procedures for Retirement of Copper Loops or Copper Subloops

(a) Prior to retiring any copper loop or copper subloop that has been replaced with a fiber-to-the-home loop or a fiber-to-the-curb loop, an incumbent LEC shall provide public notice of such retirement in accordance with the requirements set forth in §51.325 through §51.335, and shall notify and submit a copy of its application to the public utility commission and the governor of the State in which the retirement is proposed.

(b) The incumbent LEC shall file with the Commission, on or after the date on which the public notice has been provided in accordance with the requirements set forth in § 51.325 through § 51.335 an application which shall contain the following:

(1) Caption “§ 51.337 Application for Retirement of Copper Loops or Copper Subloops;”

(2) Information listed in § 51.327(a)(1) through (6);

(3) A statement that public notice has been provided in accordance with the requirements set forth in § 51.325 through § 51.331, including a brief description of the dates and methods of such public notice. Where notice in writing of an incumbent LEC’s proposed retirement of copper loops or copper subloops is required under paragraph (a) of the section, a copy of the written notification submitted by the incumbent LEC to each information service provider and telecommunications service provider that directly interconnects with the incumbent LEC’s network, and a Certificate of Service, which shall include:

(A) A statement that, at least five business days in advance of its filing with the Commission, the incumbent LEC served a copy of its public notice upon each information service provider and telecommunications service provider that directly interconnects with the incumbent LEC’s network; and

(B) The name and address of each such information service provider and telecommunications service provider upon which the notice was served.

(4) A description of the service area, including geographic area, population and general character (i.e., whether a business or residential community) currently served by the copper loops or copper subloops that the incumbent LEC intends to retire;

(5) The name of any other carrier or carriers providing telephone service to the community;

(6) A description of any previous retirement of copper loops or subloops serving the community affected by the application, which the applicant has requested during the 12 months preceding the date of filing the application, and whether such application was approved by the Commission;

(7) A statement of any present plans for future retirement of copper loops or copper subloops to the community affected by the application; and

(8) Any other information that the Commission may require.

(c) Each application for retirement of copper loops or copper subloops shall be accompanied by a statement showing how the grant of the application will serve the public interest, convenience and necessity, and will not adversely affect other service providers or consumers.

(1) For purposes of this section, the Commission shall presume that retirement of copper loops and copper subloops does not serve the public interest, convenience and necessity. The applicant may rebut such presumption by a showing that retirement of the subject copper loops or copper subloops:

(a) Serves the public interest, convenience and necessity; and

(b) Is necessary to deploy fiber-to-the-home or fiber-to-the-curb loops to the end user's customer premises that currently is served by the existing copper facilities; such that deployment of fiber-to-home and fiber-to-the-curb loops to such customer premises would not be possible if the subject copper loops and copper subloops were maintained.

(d) Petition to deny application for retirement of copper loops or copper subloops. Any interested party may file a petition to deny an incumbent LEC's application for retirement of copper loops or copper subloops, in accordance with § 1.939, within 30 days following the release of the Commission's public notice of such application. Such petition to deny shall contain specific allegations of fact to show that the petitioner is a party in interest, and that a grant of the application would be inconsistent with the public interest, convenience and necessary, or is not necessary to permit deployment of the fiber facilities described in the application. Such allegations of fact shall, except for those of which official notice may be taken, be supported by an affidavit of a person or persons with personal knowledge thereof. The applicant may file an opposition to any petition to deny, and the petitioner may file a reply to such opposition, in accordance with § 1.45, and allegations of fact or denials thereof shall similarly be supported by an affidavit.

(e) Until the Commission has ruled on the application for retirement of copper loops or copper subloops, and any petition to deny such application, the incumbent LEC may not retire the subject copper loops or copper subloops for replacement with fiber-to-the-home or fiber-to-the-curb loops.

EXHIBIT B

EFM/DSL Rates/Range

John M. Cioffi
EE Dept, Stanford Univ

Cioffi@stanford.edu

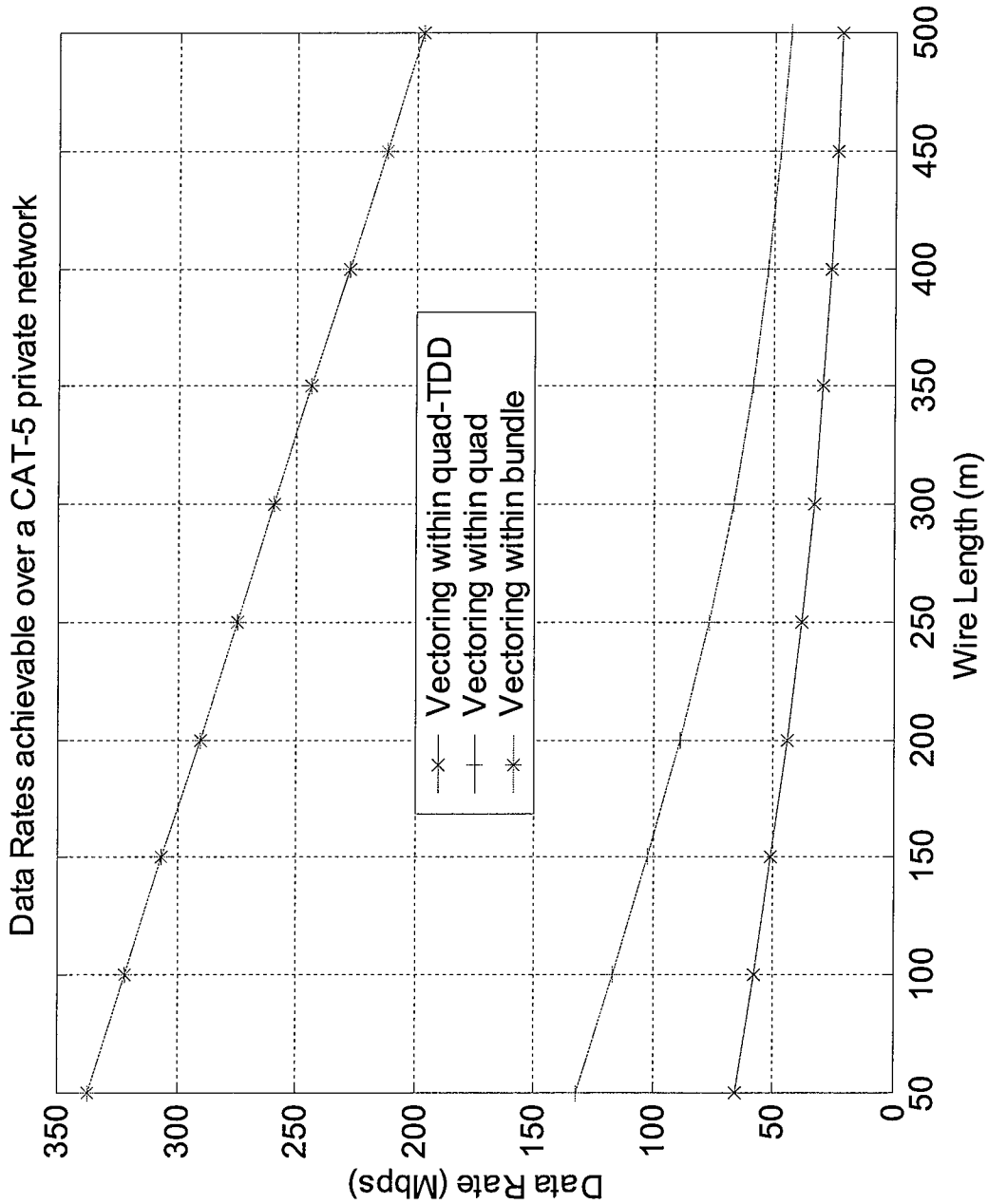


Vectored EFM

- 4 lines in quad are coordinated at one end, or possibly all 50 are coordinated in telco network
- Allows use of vectored transmitter and receiver
 - ◆ Higher rates
 - ◆ Lower power/cost as coordination allows simpler signal processing per line
- Following are simulated results based on vectored DMT VDSL model at Stanford



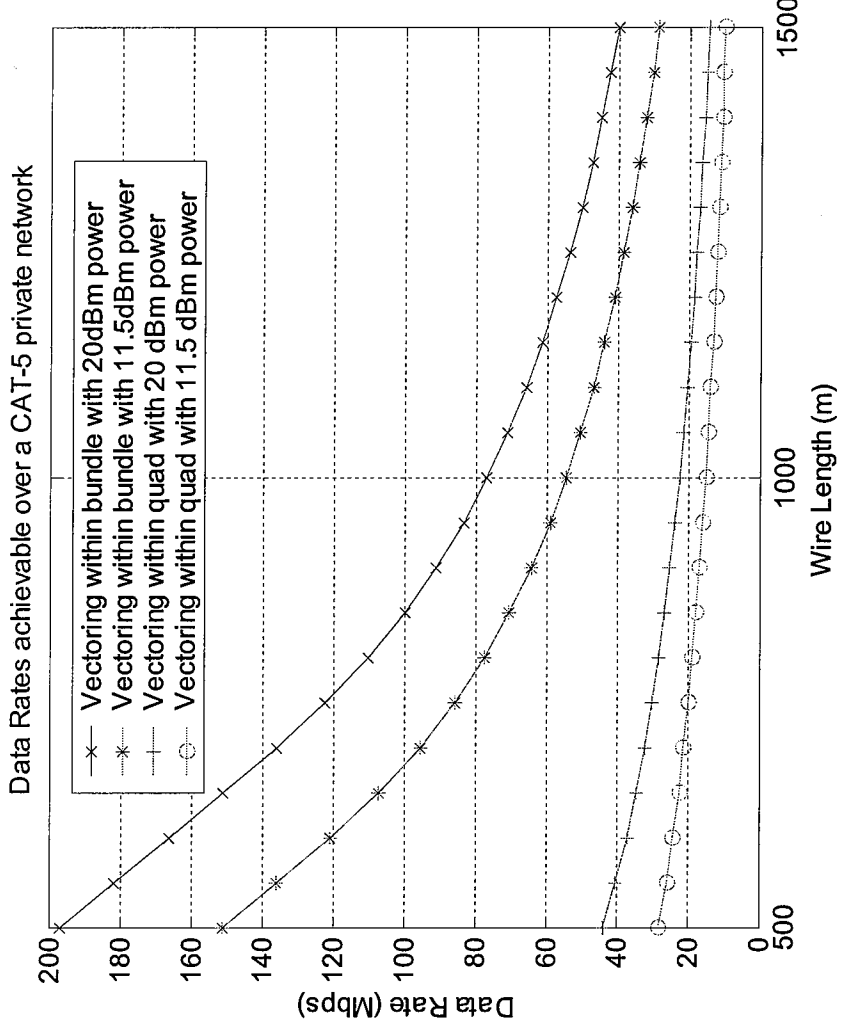
EFM Examples



◆ Per line data rates



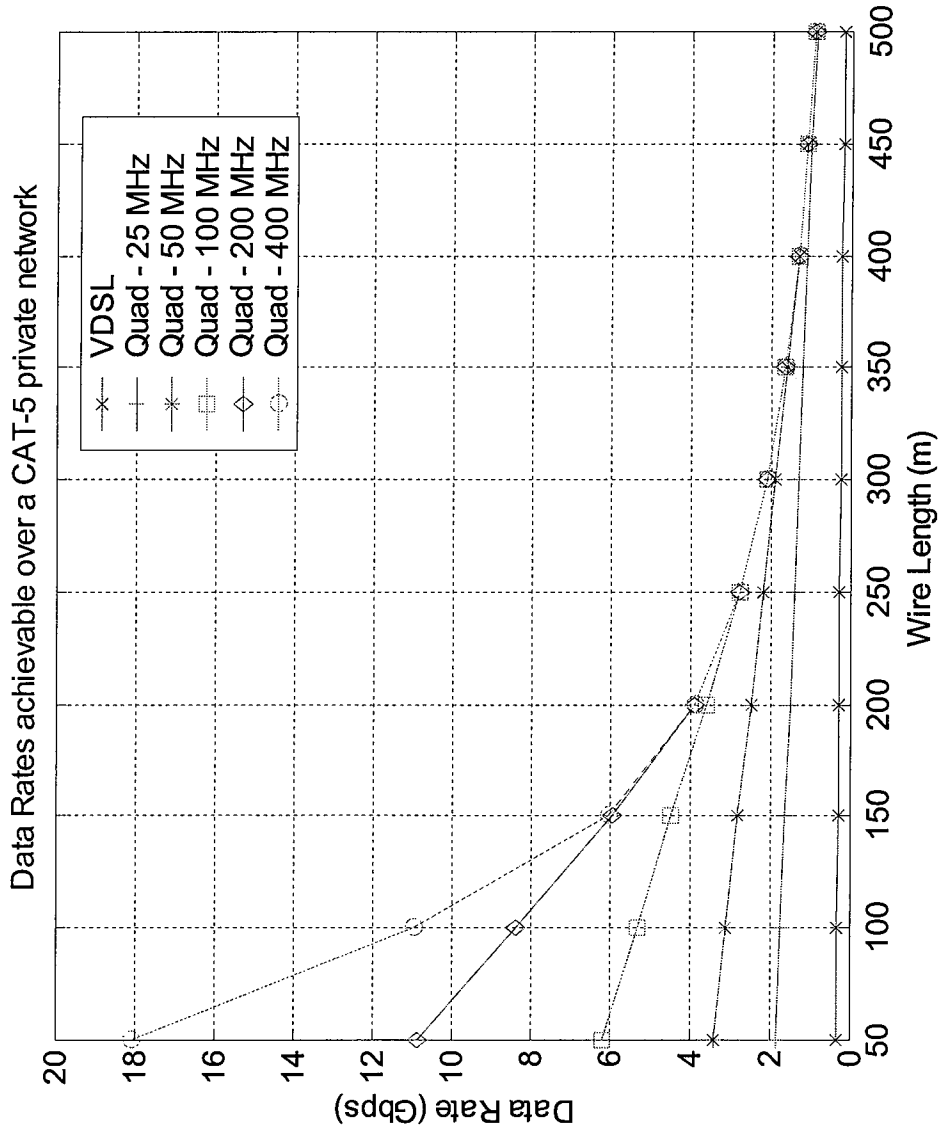
EFM Range



- 2 lines, 100BT at 1 km
- 10BT at 1 km on one line is easy
- 4 lines, 100BT at 2 km



Ethernet Examples



◆ Greater than VDSL band used

◆ 4 lines combined



Copper has more bw than fiber?

- 50 line bundle in last segment of phone network (500 meters of cat 3 tp)
 - ◆ 50 lines (200 Mbps/line) = 10 Gbps
 - ◆ FTTH shares 2.5 Gbps among several homes in PON architecture
- Network/Metro fiber is actual BW constraint
 - ◆ Copper in last mile has more BW than system can handle
- 100BT/100 Mbps to everyone, everywhere a phone line goes, is possible in the next decade.



Conclusions

- Enormous wireline opportunity for multiuser
 - ◆ Gains may be even larger than for wireless
 - ◆ Relatively stationary environment
- The real broadband
 - ◆ At least 100 BT to everyone anywhere over a twisted pair
 - ☞ Data
 - ☞ Voice, voice, voice
 - ☞ Video
 - ◆ Welcome to the DSL/EFM broadband age in this century



EXHIBIT C



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

THE DIRECTOR

June 30, 2005

M-05-16

MEMORANDUM FOR THE HEADS OF DEPARTMENTS AND AGENCIES

FROM: Joshua B. Bolten
Director

SUBJECT: Regulation on Maintaining Telecommunication Services During a
Crisis or Emergency in Federally-owned Buildings

On June 29, 2005, the President assigned the Director of Management and Budget (OMB) the authority to issue a regulation on certain telecommunications functions under Section 414 of the Transportation, Treasury, Independent Agencies, and General Government Appropriations Act, 2005 (Division H of Public Law 108-447).

Effective July 1, 2005, in accordance with the Presidential Memorandum ("Assignment of Certain Functions Relating to Telecommunications") and Section 414, this regulation requires each agency to initiate a review of its telecommunication capabilities in the context of planning for contingencies and continuity of operations (COOP) situations. Through the agency's initiation and conduct of this review (and the agency's follow-up implementation of the results of this review), the agency will be in compliance with the requirements of Section 414 with respect to the provision after July 1, 2005, of telecommunications services for Federally-owned buildings.

Each agency is responsible for ensuring, in the context of contingencies and COOP situations, the continued availability of its mission essential and national security/emergency preparedness telecommunications services. Each agency's review shall be directed to this objective. First, your agency's review shall confirm that the agency, in its planning for contingencies and COOP situations, has appropriately addressed the agency's need for viable, risk-based and cost-effective methods for ensuring the availability of mission essential and national security/emergency telecommunications services. These methods may include, when determined by the agency to be appropriate in the context of the agency's circumstances, the use of redundant and physically separate telecommunications service entry points into buildings and the use of physically diverse local network facilities. Second, your agency shall review and confirm that it is complying with directives issued by the National Communications System and guidance issued in the Federal Emergency Management Agency's (FEMA) Federal Preparedness Circular 65 (FPC 65), as appropriate. Additional information on these directives and FPC 65 guidance is provided in the attachment.

Section 414 is directed solely at telecommunications services for Federally-owned buildings. However, an agency's planning for contingencies and COOP situations must also address those

agency operations that are carried out in leased buildings. Thus, as a matter of Executive Branch policy regarding the planning for contingencies and COOP situations, your review should also include the agency's activities in leased buildings as well as owned buildings. However, as just noted, Section 414 is limited to telecommunications services for Federally-owned buildings; therefore your agency's review of such services for its activities in Federally-owned buildings will satisfy the requirements of Section 414.

Finally, when your agency initiates new telecommunications procurements, the agency shall determine the appropriate level of availability, performance and restoration that is required, in accordance with the agency's contingencies and COOP plans and programs.

Please have your agency's staff report to OMB on the status of the agency's review by August 1, 2005. Send your responses via email to telecomguidance@omb.eop.gov. Questions concerning this regulation may be addressed to Kim A. Johnson at Kim_A._Johnson@omb.eop.gov or via telephone at (202) 395-7232.

This regulation is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by a party against the United States, its departments, agencies, entities, officers, employees, or agents, or any other person.

Attachments

Attachment

Federal Preparedness Circular 65 (FPC 65)¹

FPC 65 provides guidance to Federal Executive Branch departments and agencies for use in developing contingency plans and programs for continuity of operations (COOP). COOP planning facilitates the performance of department/agency essential functions following the disruption of normal operations.

An important part of COOP planning is the selection as appropriate of an alternate operating facility and the provisioning of interoperable communications with all essential internal and external organizations, customers and the public. In accordance with FPC 65, agencies should have already considered locating alternate operating facilities in areas where power, telecommunications, and internet grids would be distinct from those of the primary site. Agencies should also have taken advantage of existing agency field infrastructures and give consideration to options such as telecommuting locations. FEMA recommends telecommunications circuits at alternate facilities be tested on a regular basis.

National Communication System Directives

National Communications System directives establish policies and procedures for national security/emergency preparedness (NS/EP) telecommunications. NS/EP telecommunications services are defined as those services that are used to maintain a state of readiness or to respond to and manage any event or crisis (local, national, or international) that causes or could cause injury or harm to the population, damage to or loss of property, or degrade or threaten the national security or emergency preparedness posture of the United States.

National Communications System directives require participation in programs such as the Telecommunications Service Priority System which establishes precedence for vendor restoration of critical government telecommunications circuits.

The National Communications System has recently developed a methodology for assessing a facility's route diversity and also an accompanying methodology to assess the risk of not having route diversity. Please contact <mailto:routediversity@dhs.gov> for additional information.

¹ Department of Homeland Security Federal Preparedness Circular 65: Federal Executive Branch Continuity of Operations, June 15, 2004, http://www.fema.gov/onsc/docs/fpc_65.pdf.

THE WHITE HOUSE

WASHINGTON

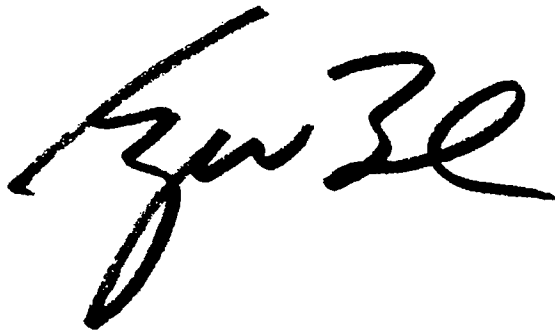
June 29, 2005

MEMORANDUM FOR THE DIRECTOR OF THE OFFICE OF MANAGEMENT
AND BUDGET

SUBJECT: Assignment of Certain Functions Relating
to Telecommunications

By virtue of the authority vested in me by the Constitution and the laws of the United States, including section 301 of title 3, United States Code, I hereby assign to you the functions of the President under section 414 of the Transportation, Treasury, Independent Agencies, and General Government Appropriations Act, 2005 (Division H of Public Law 108-447), and the authority to issue regulations to which section 414 refers.

You are authorized and directed to publish this memorandum in the Federal Register.

A handwritten signature in black ink, appearing to read "GWB", is written in a cursive style. The signature is positioned in the lower right quadrant of the page.