Attachment A

Declaration of Joseph Gillan

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

In the Matter of	)	
	)	
International Comparison and Consumer	)	
Survey Requirements in the Broadband	)	**GN Docket No. 09-47**
Data Improvement	)	
	)	
A National Broadband Plan for Our Future	)	**GN Docket No. 09-51**
	)	
Inquiry Concerning the Deployment of Advanced	)	
Telecommunications Capability to All Americans in a	)	**GN Docket No. 09-137**
Reasonable and Timely Fashion, and Possible Steps to	)	
Accelerate Such Deployment Pursuant to Section 706	)	
Of the Telecommunications Act of 1996, as Amended	)	
By the Broadband Data Improvement Act	)	
	)	
Petitions for Rulemaking and Clarification	)	**RM-11358**
Regarding The Commission's Rules Applicable	)	
to Retirement of Copper Loops and Subloops	)	

Declaration of
Joseph Gillan

I, Joseph Gillan, declare that the following is true and correct, to the best of my knowledge, information and belief:

Introduction

1. My name is Joseph Gillan and my business address is PO Box 7498, Daytona Beach, Florida, 32116. I have approximately 30 years experience providing economic analysis addressing regulatory and business issues in the telecommunications industry.

2. I hold B.A. and M.A. degrees in economics from the University of Wyoming. From 1980 to 1985, I served on the staff of the Illinois Commerce Commission where I advised the Commission on policies related to the emergence of competition in regulated markets, in particular the telecommunications industry. While at the Illinois Commission, I served on the staff subcommittee for the NARUC Communications Committee and was appointed to the Research Advisory Council overseeing the National Regulatory Research Institute.

3. In 1985, I joined U.S. Switch, a venture firm organized to develop interexchange access networks in partnership with independent local telephone companies. At the end of 1986, I resigned my position of Vice President-Marketing/Strategic Planning to begin a consulting practice.

4. As a consultant I have provided testimony before 40 state commissions, six state legislatures, the Commerce Committee of the United States Senate, and the Federal/State Joint Board on Separations Reform. I have also provided expert testimony before federal and state civil courts by clients as diverse as the trustees of a small competitive carrier in the Southeast to Qwest Communications. In addition, I have filed analyses with the Finance Ministry of the Cayman Islands and the Canadian Radio-Telecommunications Commission.

5. I serve on the Advisory Council to New Mexico State University's Center for Regulation (since 1985) and am an instructor in their "Principles of Regulation" program taught twice annually in Albuquerque. I have also lectured at Michigan State University's Regulatory Studies Program ("Camp NARUC"), the School of Laws at the University of London (England), and Northwestern University's Law School. I currently serve on the Board of Directors for the Universal Service Administrative Company.

Purpose of Declaration

6. I have been asked by the COMPTEL to address the appropriate pricing principles that should apply when copper facilities that have abandoned by an incumbent local exchange carrier are reactivated and placed into service by an entrant.

7. The pricing of "retired" copper facilities presents an unusual economic issue not anticipated by the Commission's TELRIC rules for unbundled network elements (UNEs). UNE pricing rules were designed to provide appropriate price signals to guide the deployment of *new* loop facilities by establishing a price equal to the incumbent's (estimated) cost to rebuild its network. The pricing issue presented by abandoned copper facilities, however, is quite different – namely, how to fairly compensate the incumbent for facilities that will not be rebuilt, while encouraging the recycling of *existing* loop plant by competitive entrants into broadband facilities.

8. The Commission must establish clear pricing rules because the incumbent's incentive is to render its existing copper plant unusable in order to protect its investment in fiber from competitive pressure. In contrast, the public interest would be furthered by rules encouraging the transformation of copper to broadband facilities for precisely the same reasons that trouble the incumbent – *i.e.*, greater consumer choice, more innovation and lower prices.

9. As I explain below, the primary drivers of a cost-based rate for (what would otherwise be) "retired" copper facilities are the costs associated with maintenance and repair. Such costs are largely event-driven (that is, in response to a failure or fault) and are difficult to track to individual facilities. As such, I recommend that the Commission

adopt pricing rules that would permit a non-recurring charge for copper "reactivation" that would, on average, recover any repair/conditioning costs associated with bringing copper facilities back into service, and a monthly recurring charge limited to the recovery of ongoing maintenance and repair expenses. To the extent that the Commission permits any capital recovery in the price of recycled copper,[1] the cost should be no greater than the salvage value of the copper, less the costs to remove and transport the copper to a salvage facility.[2]

Recommended Pricing Principles for Recycled Copper

10. The incumbents' ubiquitous copper networks are an inheritance of a different regulatory and market era. Although funded by private investment, these networks were protected by decades of public policy that sacrificed competition to ensure ubiquitous deployment. As such, there is a legitimate and powerful justification for the Commission to take the steps needed to ensure that such facilities remain in service.

11. As the Commission is well aware, new technologies have revitalized the competitive potential of copper loops to provide broadband services. Significantly, however, carriers looking to deploy such technologies will incur substantial sunk costs (in electronics, transport, back office systems, as well as customer-acquisition and support) in order to enter the market.

12. The key to encouraging the widespread deployment of copper-based broadband investment is the creation of a stable planning horizon for entrants. This means adopting rules that prevent the incumbent from withdrawing copper (particularly in response to competitive success), and pricing rules that reasonably compensate the incumbent without discouraging entry.

13. Economics tells us that prices matter. Price is the principal mechanism by which resources are directed to their most productive use. Existing TELRIC rules are designed to provide pricing signals that reflect the incumbent's cost to reconstruct network components. Such prices enable entrants to make efficient lease/build decisions by encouraging network duplication only where the entrant's expected cost is below that of the incumbent.

14. In the case of recycled copper, however, the goal is not to encourage the duplication of copper loop facilities, but to extend its economic useful-life through investment in electronics that increase its potential capacity and support broadband

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[1] I use the term "recycled copper" to refer to facilities that the incumbent has retired and a competitor is now seeking to use for the provision of service.

[2] As noted in the ETC Declaration (¶ 39), there is little historical precedent or practical value to removing copper to recoup its salvage value. Consequently, it is unlikely that an ILEC would be able to justify a request to include salvage costs in the calculation of a cost-based rate for recycled copper.

service. Enabling that investment requires clear pricing and provisioning rules to provide the stable planning horizon referenced above.[3] Such rules should permit the incumbent to recover its direct costs to reactivate and maintain copper facilities, but the incumbent should not be compensated in advance for replacement copper facilities that it has no intention of deploying.[4]

15. As explained in the ETC declaration,[5] any non-recurring costs associated with the reactivation of recycled copper should be relatively small and generally related to repairs in response to specific events. Rather than attempt to track specific repair activities to particular facilities – so that unique costs can be recovered in response to individual requests for service – I recommend that the Commission adopt pricing rules that would permit a standard charge recovering, on average, the expected frequency of repair activities need to reactivate a copper loop that has been retired-in-place.[6]

16. Similarly, the Commission should adopt rules only permitting a monthly recurring charge for recycled copper that recovers no more than an estimate of ongoing maintenance/repair costs. This monthly recurring charge should recover an average of repair costs on all in-service copper loops, including loops that the incumbent uses to continue to provide retail service.

17. Because recycled copper are facilities that the incumbent has already removed from service, there is no need to include in the price the forward-looking cost for replacement facilities. As indicated earlier, the existing UNE price would overprice recycled copper facilities because they are designed to reflect the cost to rebuild the network, not merely extend its economic useful life.[7]

18. A separate question involves whether the charge for recycled copper should provide for the recovery of any remaining accounting cost (*i.e.*, original cost less

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[3] Although not directly addressed by my declaration, it is my understanding that the standard procedure for an incumbent is to retire copper "in place," where the costs and activities needed to bring such facilities back into service are relatively modest.

[4] Because repair/maintenance costs are event driven, costs should be roughly proportional to the number of loops with little to no scale economy.

[5] Declaration of David J. Malfara and William E. Steenson ("ETC Declaration").

[6] Establishing a known non-recurring fee to recover the expected cost of repairs needed to bring idle facilities back into service should provide more stable conditions for entrants and incumbents than a system of non-recurring charges that would apply to the individual repairs required by specific facilities.

[7] As explained herein, I recommend that the Commission adopt cost-based pricing rules to ensure that entrants can continue to access and use copper loop facilities, even after the incumbent has chosen to serve its retail customers over other facilities. As with the Commission's existing UNE pricing rules, however, entrants and incumbents would still have the option of negotiating other prices, including the option to apply existing UNE prices to recycled copper if acceptable to both parties.

accumulated depreciation). Two points should be considered. First, because the incumbent (by definition) has chosen to remove these facilities from service, it has already decided to surrender any further recovery (at least from its retail customers). Having made the voluntary decision to (effectively) write-off any remaining book value, there is no reason for the Commission to impose the burden on competitors in the price for recycled copper.

19. Second –and, perhaps, a partial explanation for the incumbent's decision – the evidence suggests that the investment in most copper loop facilities has *already* been recovered through accumulated depreciation. As shown in Table 1 (below), the RBOCs had recovered over 75% of *all* investment in cable and wire facilities (a category that would include more than just copper loop facilities) by 2007, and I estimate that this percentage will have risen to (at least) 85% by year-end 2009.

Table 1: Capital Recovery of Cable and Wire Facility Investment ($ billions)[8]

Company	Plant in Service (2007)	Accumulated Depreciation (2007)	Percent Recovered (2007)	Estimated Recovered (2009)[9]
Qwest	$16.1	$14.0	87%	96%
AT&T	$87.4	$64.5	74%	82%
Verizon	$41.6	$31.3	75%	85%
	$145.0	$109.8	76%	85%

20. Because there is only a small likelihood that there exists any remaining book investment for copper loop facilities that have been "retired" – and a voluntary decision by the incumbent to remove the facility from service, even if some unrecovered investment remained – I recommend the Commission not include any further recovery of capital cost in the price for recycled copper. Alternatively, the Commission may consider including the salvage value of the copper, reduced by an estimate of the costs an incumbent would incur to physically remove copper plant and transport to a salvage point (but only if the incumbent can demonstrate that it would, in fact, salvage the plant but for the obligation to make it available).

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8 Source: ARMIS 43-04, Table 1 Separations and Access Data, Column "Subject to Separation," Rows 1530 (Total Plant in Service – Cable and Wire Facilities) and Row 3060 (Accumulated Depreciation – Cable and Wire Facilities).

9 2009 value estimated by assuming deprecation levels during 2007-2009 were comparable to the prior period (2005-2007), with no significant new investment in copper cable and wire facilities since 2007.

Fiber Access Where Copper Cannot be Recycled[10]

21. Although copper facilities should remain available in most instances, there may be occasions where an ILEC must physically remove copper plant in order to deploy fiber cable.[11] In such instances, ILECs should be required to provide on its fiber a Carrier Ethernet bitstream as described in the ETC declaration comparable to the capacity that an entrant would have been able to derive (had the copper been available).[12] Specifically, I recommend the Commission adopt pricing rules structured in a way that would leave the entrant indifferent to the removal of the copper.

22. For instance, assume that entrants are commonly providing Ethernet over bonded-copper in a market at speeds of 10 and 50 Mbps. In situations where copper is not available, the incumbent should be required to provide Carrier Ethernet at 10 and 50 Mbps on its fiber. Moreover, I recommend that the prices for these connections be established based on the estimated cost of an Ethernet-over-copper (EoC) configuration, which is the alternative that the entrant would have had available to it (had the copper been available).

23. Establishing the price of the fiber-based wholesale Carrier Ethernet service based on the EoC configuration has a number of advantages. Determining the cost of the EoC configuration (which would reflect the prices for recycled copper plus the requisite electronics) would be more straightforward than attempting to determine a cost-based rate for a comparable level of capacity on a fiber that is likely to be used by other customers and services.[13]

24. Moreover, the EoC-equivalent price should leave the entrant indifferent to the incumbent's decision to remove copper, while the incumbent should prefer the EoC-equivalent price to any price based on the economics of its fiber deployment. Because the incumbent chose fiber over the alternative of Ethernet-over-copper, it is reasonable to conclude that the cost of an equivalent level of capacity on the fiber is lower than the cost to derive that capacity over copper. Therefore, basing the incumbent's compensation on

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[10] The purpose of my declaration is to recommend pricing rules applicable to the reactivation and use of recycled copper by entrants. Because of this specific focus, I have limited my discussion regarding competitive access to fiber facilities where copper is not available. This focus, however, should not be interpreted as supporting the denial of access to fiber facilities more generally, or the pricing policies appropriate to other conditions.

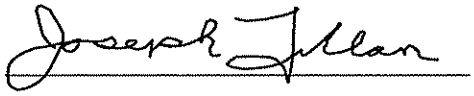
[11] For instance, where conduit is exhausted and no practical alternative route exists, the incumbent may have to remove copper cable to create the space needed to deploy fiber.

[12] *See* ETC Declaration ¶ 44

[13] Because fiber facilities are commonly shared by multiple customers/services, determining the price of any unit of capacity is likely to involve cost allocations that are unreliable measures of economic cost. In contrast, the EoC configuration is largely comprised of specific facilities/investments that are more easily quantified for specific speeds.

the (presumably) higher cost of the configuration it rejected (*i.e.*, Ethernet-over-copper) should more than cover the cost of an equivalent level of capacity on the fiber.[14]

This concludes my declaration.



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[14] Given the ILECs' market-share and scale advantage, the ILEC is able to achieve capacity levels that would justify a fiber-build in situations that would be uneconomic for any entrant.