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June 28, 2016

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *Business Data Services in an Internet Protocol Environment, WC Docket No. 16-143, Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans, WC Docket No. 15-247, Special Access for Price Cap Local Exchange Carriers, WC Docket No. 05-25, AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services, RM-10593*

Dear Ms. Dortch:

I hereby submit this Declaration on behalf of Level 3 Communications, LLC and Windstream Services, LLC in this proceeding. I am currently serving as an outside consultant to the above-mentioned parties and am a Senior Consultant for a subsidiary of FTI Consulting.

The attached Declaration contains Highly Confidential Information under the Protective Orders and should not be made publicly available. Parties who are admitted to the Protective Orders can request a copy of the Highly Confidential version of this Declaration by contacting Mia Hayes at Willkie Farr & Gallagher LLP (mhayes@willkie.com).

Please do not hesitate to contact me at 202-274-4315 if you have any questions regarding this submission.

Sincerely,



Jonathan Baker

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

In the Matter of)	
)	
Business Data Services in an Internet Protocol Environment)	WC Docket No. 16-143
)	
Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans)	WC Docket No. 15-247
)	
Special Access Rates for Price Cap Local Exchange Carriers)	WC Docket No. 05-25
)	
AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services)	RM-10593

DECLARATION OF JONATHAN B. BAKER ON COMPETITION AND MARKET POWER IN THE PROVISION OF BUSINESS DATA SERVICES

I. Introduction

1. I have been asked by Level 3 Communications and Windstream to comment on the competition analysis presented in the Federal Communication Commission’s (FCC’s) Further Notice of Proposed Rulemaking (FNPRM) in this matter and in the white paper submitted by Dr. Marc Rysman, the FCC’s outside econometrician, which was appended to the FNPRM.¹ This declaration supplements the declarations I have

¹ Business Data Services in an Internet Protocol Environment; Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans; Special Access Rates for Price Cap Local

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previously submitted in this proceeding.² Throughout this declaration, I will follow the FCC’s practice in the FNPRM of referring to “business data services” rather than using the terms “dedicated services” (which I used in my previous declarations) or “special access.”

2. Section II of this declaration explains that Dr. Rysman and I, using different empirical approaches, both find empirical evidence supporting the conclusion that incumbent local exchange carrier (ILEC) prices for business data services exceed competitive levels, reflecting the exercise of market power. We both find that prices tend to decline as rivalry increases: as the number of last-mile facilities-based business data services providers serving a location (building) rises, ILEC prices tend to fall.³

Exchange Carriers; AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services, Tariff Investigation Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd. 4723 (April 28, 2016) (FNPRM); Dr. Mark Rysman, Empirics of Business Data Services (April 2016) (attached as Appendix B to FNPRM) (Rysman Rep.).

² Declaration of Jonathan B. Baker on Market Power in the Provision of Dedicated (Special Access) Services (Jan. 22, 2016) (attached to Letter from Jonathan B. Baker to Marlene H. Dortch, Secretary, FCC, WC Docket No. 05-25, RM-10593 (Jan. 27, 2016)) (Baker Decl.); Reply Declaration of Jonathan B. Baker on Market Power in the Provision of Dedicated (Special Access) Services (Feb. 17, 2016) (attached to Letter from Jonathan B. Baker to Marlene H. Dortch, Secretary, FCC, WC Docket No. 05-25, RM-10593 (Feb. 19, 2016)) (Baker Reply Decl.); Supplemental Reply Declaration of Jonathan B. Baker on Market Power in the Provision of Dedicated (Special Access) Services (March 1, 2016) (attached to Letter from Jonathan B. Baker to Marlene H. Dortch, Secretary, FCC, WC Docket No. 05-25, RM-10593 (March 2, 2016)) (Baker Supp. Reply Decl.); Second Supplemental Reply Declaration of Jonathan B. Baker on Market Power in the Provision of Dedicated (Special Access) Services (April 21, 2016) (attached to Letter from Jonathan B. Baker to Marlene H. Dortch, Secretary, FCC, WC Docket No. 05-25, RM-10593 (April 21, 2016)) (Baker 2d Supp. Reply Decl.).

³ Throughout this declaration, when I refer to “business data services providers”, unless otherwise expressly stated, I am including only firms that provide business data services over their own last-mile facilities, including an IRU, and am excluding firms that provide such services over an unbundled network element (UNE) or leased facilities (other than through an IRU agreement). Similarly, references to “rivals” or “rivalry” are to last-mile facilities-based rivals, and “connections” to last-mile facilities-based connections.

3. Section III.A presents empirical evidence that **[BEGIN HIGHLY**

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CONFIDENTIAL] an analysis in Section III.C of the likely direction of biases in estimating a relationship between price and the number of rivals in the FCC’s business data services data. In addition, Section III.D explains why the validity of my empirical analyses of the business data services data is not called into question by the data on the location of hybrid fiber-coaxial networks capable of providing Ethernet connections during 2013 that was recently submitted by several cable providers.

4. **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] **[END HIGHLY CONFIDENTIAL]** nor the entry

analysis discussed in this section **[BEGIN HIGHLY CONFIDENTIAL]**

[REDACTED]

[REDACTED]

[REDACTED] **[END HIGHLY CONFIDENTIAL]**

II. Market Power in the Provision of Business Data Services

5. As explained in my previous declarations in this proceeding, ILECs are likely able to exercise market power in the provision of business data services in most markets, and would be expected to charge prices above competitive levels unless prevented by regulation. That conclusion is based on the structure of business data services markets, and is consistent with my analysis of the business data services data provided through the FCC’s 2015 Data Collection.⁴

6. My prior analysis supports several findings in the FNPRM about competition in the supply of business data services. Among other things, I explained why best efforts services are not competitive substitutes for business data services, and showed that concentration is high.⁵ The FCC’s

⁴ The 2015 Data Collection covered business data services provided during 2013. *See* FNPRM ¶¶ 36-37.

⁵ *Compare* FNPRM ¶ 160 (“Best Efforts services do not appear to be competitive substitutes for BDS.”), *and id.* ¶ 161 (“Geographic concentration on any measure is high.”), *with* Baker Decl. ¶¶ 31-33 (explaining why best efforts business broadband should be excluded from a business data services product market), *and id.* ¶¶ 44-46 (explaining most customer locations are served by a single firm, and most of the rest are served by only two firms). The FNPRM finds that market concentration is high within geographic markets that were defined based on both demand substitution and supply substitution considerations. *See* FNPRM ¶ 216. The market shares I presented were based on the approach to market definition employed by the Merger Guidelines, which looks solely to demand substitution. U.S. Dep’t of Justice & Fed. Trade Comm’n, Horizontal Merger Guidelines § 4.1.1 (2010).

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conclusion that nearby suppliers can constrain the price of business data services is also consistent with the empirical results I presented previously, with the caveat that the same empirical evidence also indicates that in-building providers provide a greater price constraint, on average, than nearby providers.⁶

7. Dr. Rysman’s analysis of the FCC’s business data services data is broadly consistent with mine. He finds that prices fall when a provider of business data services faces competition, and indicates that this empirical result provides evidence that these providers exercise market power when they do not face rivalry.⁷ As Dr. Rysman explains, “if more competition reduces prices, it tells us that markets without competition exhibit market power.”⁸

8. In the prior work referenced above, Dr. Rysman and I both find that ILEC prices tend to fall as the number of in-building rivals increases,⁹ though we employ different regression specifications, analyze different measures of price, and cut the data in different ways.¹⁰ Dr. Rysman

⁶ *Compare* FNPRM ¶ 161 (finding “nearby suppliers can constrain BDS prices”), *with* Baker Decl. ¶ 63 (identifying a “greater cumulative effect of in-building providers” relative to nearby providers).

⁷ Rysman Rep. at 211.

⁸ Rysman Rep. at 227; *accord* Baker Decl. ¶ 54.

⁹ In the same analyses, Dr. Rysman and I each also found that prices tend to fall further as the number of nearby rivals increases.

¹⁰ Our approaches also differ in the control variables employed, the way we constructed some variables, and the way we cleaned the data.

aggregates ILEC prices (studying retail and wholesale prices together) and separates out three bandwidth categories. He finds an inverse relationship between rivalry and price for DS1 and DS3 prices.¹¹ The primary specification in my prior work instead separates out ILEC retail prices and combines bandwidths.¹² That analysis also finds an inverse relationship between rivalry and price.¹³

9. The overarching conclusion that Dr. Rysman and I both reach – that greater rivalry tends to lower the price of business data services – is robust to the differences in the empirical approaches we adopted. That robustness supports the FCC’s description of the empirical results as providing “direct evidence of market power in the supply of various services.”¹⁴

III. Market Power at High Bandwidths

A. Estimation Results

10. The FNPRM suggests that the supply of business data services with a bandwidth in excess of 50 Mbps “tends to be more competitive” than the

¹¹ *E.g.*, Rysman Rep. at 229-30 (reporting estimates of the reduction in DS1 and DS3 prices associated with the presence of facilities-based in building rivals).

¹² My first declaration also reports results for specifications that combine wholesale and retail prices and specifications that separate out bandwidth tiers.

¹³ *E.g.*, Baker Decl. ¶ 63 (reporting estimate of the cumulative effect of four or more in-building providers on ILEC retail prices over all bandwidths).

¹⁴ FNPRM ¶ 237.

supply of business data services with lower bandwidths¹⁵ based in part on Dr. Rysman’s empirical results evaluating the influence of rivalry on the prices of business data services connections at bandwidths above 45 Mbps.¹⁶ Yet, when Dr. Rysman’s approach is modified as explained below, the data reveal **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]

11. [REDACTED]
- [REDACTED]
- [REDACTED]

[END HIGHLY CONFIDENTIAL] These specifications are modeled

¹⁵ FNPRM ¶ 162.

¹⁶ FNPRM ¶ 244.

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on Dr. Rysman's Table 19 specification (though Dr. Rysman did not estimate that specification for connections in the high-bandwidth category),¹⁷ and modify Dr. Rysman's approach in four ways.¹⁸

12. First, the results summarized in columns 1 through 4 account for the presence of (at least one) in-building rival and (at least one) nearby rival, with the columns varying according to the location fixed effects employed and the observations included in the sample, as discussed further below.¹⁹ By contrast, the results summarized in columns 5 through 8 account for the total number of in-building and nearby rivals (not just presence or absence), with the columns again varying according to the fixed effect specifications and observations included.²⁰ (Dr. Rysman's Table 19 specification is instead a hybrid of the two approaches I adopted: it accounts for the *presence* of in-building rivals (as I do in columns 1 through 4) and the *number* of nearby rivals (as I do in columns 5 through 8).) The columns of Table 1 follow Dr. Rysman by reporting results

¹⁷ The specifications include the control variables Dr. Rysman employed in the DS1 and DS3 specifications he reported in his Table 19, as well as a variable accounting for whether the connection was packet-based comparable to what Dr. Rysman included in the high bandwidth specifications reported in his Tables 14-18. See Rysman Rep. at 234-41. As discussed below, bandwidth variations are accounted for differently. Before varying Dr. Rysman's approach, his results were first replicated. It was not possible to do so perfectly because the FCC masked some variables.

¹⁸ The empirical analyses reported here adopt Dr. Rysman's approach to cleaning the data and constructing the regression data set.

¹⁹ This specification is analogous to those reported in Table 3 of my initial declaration. Baker Decl. tbl. 3.

²⁰ This specification is analogous to those reported in Table 2 of my initial declaration. Baker Decl. tbl. 2.

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alternately using Census tract fixed effects (odd-numbered columns) and county fixed effects (even-numbered columns).²¹

13. Second, Dr. Rysman’s approach to accounting for the number of nearby rivals is modified in the results reported in columns 5 to 8 to allow for the possibility that each incremental nearby provider influences price differently. It does so by including separate variables to account for the competitive influence of the second and third nearby provider, while Dr. Rysman used one variable to account for their combined influence.

14. The third modification involves the identification of nearby providers. In his Table 19, Dr. Rysman does so based on whether the rivals have a facilities-based connection in the relevant Census block. In the results presented here, nearby providers are instead identified (albeit overinclusively due to limitations in the underlying data) as those with the potential to provide high-bandwidth connections, which will be referred to interchangeably as “nearby rivals” or as “in-block high-bandwidth rivals.”²² It is appropriate to focus on fiber-based providers, as

²¹ See Rysman Rep. at 229 (indicating that it is “difficult to say” whether Census tract fixed effects or county fixed effects are “more appropriate”).

²² In my prior empirical analyses, I identified a provider as being nearby if it had fiber within either the same Census block or a Census block with a boundary less than 0.5 miles away. Baker Decl. ¶ 43. Here I follow Dr. Rysman’s approach of limiting nearby providers to those with facilities within the same Census block, but not serving a given building. In order to focus on firms potentially offering high-bandwidth connections, I further limit nearby providers to those with fiber-based facilities. More specifically, the variable I use identifies a firm as an in-block high-bandwidth rival if it appears in the business data services data with a fiber connection to at least one building in the Census block or with a fiber network present in the Census block (and is not an in-building provider, currently offering service in the building where the customer is located). This approach to identifying in-block high-bandwidth rivals is likely overinclusive because it does not address the plausible possibility that different kinds of nearby providers (*e.g.*, those currently providing high-bandwidth connections with fiber-based facilities, those providing

distinguished from providers not using fiber-based facilities, when identifying nearby firms with the potential to provide high-bandwidth service because fiber connections are typically employed when high transmission capacity is required.²³

15. Fourth, Dr. Rysman’s approach is modified by introducing fixed effects to control for specific ILEC providers and specified bandwidth levels. The fixed effects identify the provider and bandwidth speed

[BEGIN HIGHLY CONFIDENTIAL] [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]²⁴ **[END HIGHLY**

CONFIDENTIAL] The specifications are estimated on two samples: the high-bandwidth sample used by Dr. Rysman, **[BEGIN HIGHLY**

lower bandwidth connections with fiber-based facilities, those not providing any connections but with a fiber splice point in the Census block, and those not providing any connections and not offering a splice point but with fiber-based facilities passing through the Census block) would pose different degrees of competitive constraint. It is not possible in the data to identify separately, among firms with fiber in the Census block but no connections, firms that offer splice points in the Census block and those purely passing through the Census block with no splice point. For these reasons, the definition of nearby providers used here for the purpose of estimating their influence on price in the business data services data is likely too broad to serve as the basis for a definition that would be used to determine the number of nearby providers when determining whether regulation is appropriate.

²³ Baker Decl. ¶ 12. Non-fiber connections typically have lower maximum bandwidths than fiber connections and may have less reliable service. *Id.* Although the competitive constraint on ILEC prices provided by the non-fiber connections of providers in the Census block may be greater at lower bandwidths, these results do not demonstrate the absence of a competitive constraint from such connections at bandwidths above 45 Mbps. Moreover, the results presented in my previous declaration and in Dr. Rysman’s report demonstrate that all connections by nearby providers matter competitively in the data overall (albeit less on average than in-building connections in my results).

²⁴ Dr. Rysman’s alternative control for bandwidth, measured as the logarithm of bandwidth, is removed from the specification.

CONFIDENTIAL] [REDACTED]

[REDACTED]

[REDACTED]²⁵ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]²⁶ **[END HIGHLY**

CONFIDENTIAL] Although both sets of results are reported in Table 1, the discussion will interpret only the results of estimation using the

[BEGIN HIGHLY CONFIDENTIAL] [REDACTED]

[REDACTED] **[END HIGHLY CONFIDENTIAL]** (which are reported in columns 3, 4, 7 and 8).²⁷

16. The results presented in columns 4 and 8, which use county fixed effects, **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

²⁵ When the specification is estimated on the sample used by Dr. Rysman, additional fixed effects are included to account for all other providers (at every bandwidth) grouped together and all other bandwidths (for every provider) grouped together.

²⁶ Estimation over the sample limited to **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]
[REDACTED]
[REDACTED]
[END HIGHLY CONFIDENTIAL]

²⁷ **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]
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[REDACTED]

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18. The results presented in odd-numbered columns 3 and 7, which use Census tract fixed effects, are consistent with the results of estimating using county fixed effects. As with the county fixed effects results,

[BEGIN HIGHLY CONFIDENTIAL] [REDACTED]

[REDACTED] ³⁰ [REDACTED]

19. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

³⁰ **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]

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B. Bandwidth Thresholds

20. **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]

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[REDACTED]

[REDACTED]

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[REDACTED] 31 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] 32

21. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] 33 [REDACTED]

31 [BEGIN HIGHLY CONFIDENTIAL] [REDACTED] [END HIGHLY CONFIDENTIAL]

32 [BEGIN HIGHLY CONFIDENTIAL] [REDACTED] [END HIGHLY CONFIDENTIAL]

33 FNPRM ¶¶ 162, 237, 244. [BEGIN HIGHLY CONFIDENTIAL] [REDACTED] [END HIGHLY CONFIDENTIAL]

[REDACTED] ³⁴ **[END**

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22. It is possible that nearby providers (as distinct from in-building rivals) matter more to competition at higher bandwidths than at lower bandwidths.³⁵ That suggestion is consistent in a general way with an entry analysis by Level 3 indicating that it is more likely to be profitable to build last-mile connections at higher bandwidths.³⁶ **[BEGIN HIGHLY**

CONFIDENTIAL] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] ³⁷ [REDACTED]

³⁴ **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]

[END HIGHLY CONFIDENTIAL] In

addition, as discussed below in Section III.C, the bias in the data analysis against identifying an inverse relationship between prices and the number of rivals is likely greater at higher bandwidths.

³⁵ As indicated in my previous submissions, overall in-building providers likely provide a greater competitive constraint on ILEC retail pricing than do nearby providers. Baker Decl. ¶ 63. **[BEGIN HIGHLY CONFIDENTIAL]**

[REDACTED]

[END HIGHLY CONFIDENTIAL]

³⁶ See Declaration of John Merriman on Behalf of Level 3 Communications, LLC, attached as an Appendix to Reply Comments of Birch Communications, Inc., EarthLink, Inc., and Level 3 Communications, LLC, WC Docket Nos. 16-143, 15-247, & 05-25, RM-10593 (filed June 28, 2016) (Merriman Decl.) (table indicating greater construction feasibility limits for higher bandwidth services than lower bandwidth services).

³⁷ Moreover, the entry evidence from Level 3 and Windstream indicates that entry would rarely be profitable at bandwidths at or below 100 Mbps. Merriman Decl. ¶ 6; Declaration of David Schirack and Mike Baer (June 28, 2016) (Windstream June Decl.) ¶¶ 16-18. Accordingly, ease of entry would not justify removing regulatory oversight at bandwidths at 100 Mbps or less.

[REDACTED]
[REDACTED]
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C. Direction of Biases in the Estimated Coefficients

23. **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] **[END
HIGHLY CONFIDENTIAL]**

24. As discussed in detail in my previous declarations, each additional rival is likely associated with a greater reduction in ILEC prices than measured by the regression equations for six reasons: unobservable customer heterogeneity, unobservable impediments to CLEC expansion, errors in measuring the price of dedicated services, multi-year ILEC contracts, unobservable wholesale switching costs, and ILEC wholesale

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pricing policies.³⁸ Theoretical possibilities that missing price data would bias the results in the opposite direction can be rejected based on empirical tests,³⁹ and the theoretical possibility that the endogeneity of entry would bias the results in the opposite direction can be rejected as unlikely to be important practically because it has been largely controlled for in the empirical analysis.⁴⁰

25. Moreover, two of the factors tending to suppress an inverse relationship between rivalry and price in the regression results may grow more important as bandwidth increases. First, as I explained in a previous declaration, the bias resulting from unobservable customer heterogeneity may be greater at higher bandwidths because customers purchasing higher bandwidth business data services connections may tend to buy more complex managed services, and those that need more complex managed services would tend to value business data services more.⁴¹ Second, retail prices in the business data services data may tend to incorporate greater measurement error when the customer is purchasing managed services along with business data services, which again may be more likely at

³⁸ Baker Decl. ¶¶ 68-94.

³⁹ Baker Supp. Reply Decl. ¶¶ 15-16.

⁴⁰ Baker Supp. Reply Decl. ¶¶ 19-21; Baker 2d Supp. Reply Decl. ¶¶ 10-17.

⁴¹ Baker Decl. ¶ 75.

higher bandwidths, increasing the difficulty of isolating the relationship between prices and rivals in the data set.⁴²

26. **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] **[END HIGHLY CONFIDENTIAL]**

D. Location of Hybrid Fiber-Coaxial Ethernet Networks

27. The validity of the estimation results I have presented, including

[BEGIN HIGHLY CONFIDENTIAL] [REDACTED]

[REDACTED] **[END HIGHLY CONFIDENTIAL]** those presented in

my prior declarations, is not called into question by the data on the

location of hybrid fiber-coaxial (HFC) networks capable of providing

Ethernet connections during 2013 that was recently submitted by several

cable providers.⁴³ The new cable data does not add any new business data

⁴² See Baker Decl. ¶ 89.

⁴³ Letter from Matthew H. Brill, Counsel for Comcast Corp., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 05-25 (June 1, 2016) (Comcast Letter); Letter from Samuel L. Feder, Counsel for Charter Comm'ns, Inc., to Marlene H. Dortch, Secretary, FCC, WCC Docket No. 05-25 (May 27, 2016) (Charter Letter); Letter from Michael H. Pryor, Counsel for Cox Comm'ns, Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 05-25 (May 18, 2016) (Cox Letter); Letter from Matthew H. Brill, Counsel for Time Warner Cable Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 05-25 (May 12, 2016) (Time Warner Cable Letter).

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services connections to the FCC's business data services data. Nor does it identify any new locations served by fiber-based providers. It merely identifies Census blocks where the cable provider was capable of offering low-bandwidth (up to 10 Mbps symmetrical) Ethernet services over its HFC network.⁴⁴

28. Ethernet service provided over HFC networks were appropriately excluded from a business data services product market during 2013, the year covered by the FCC's business data services data, because they were not substitutes for business data services. They were not offered with Service Level Agreements (SLAs) comparable to those offered to business data services customers (*e.g.*, with comparable performance objectives for availability, latency, jitter, and packet loss).⁴⁵ For this reason, HFC Ethernet connections are properly excluded from the data set used for the regression analysis presented in this declaration and my earlier declarations, and it is unnecessary to account for them in any empirical analyses relating business data services pricing to the extent of rivalry.

⁴⁴ Cox, Charter, and Time Warner Cable provided these data to the FCC by Census block. Comcast identified building addresses, which the FCC used to identify Census blocks for inclusion in the data file it made available for statistical analysis.

⁴⁵ *E.g.*, [BEGIN HIGHLY CONFIDENTIAL] [REDACTED] [END HIGHLY CONFIDENTIAL] See Declaration of Dan Deem, Douglas Derstine, Mike Kozlowski, Arthur Nichols, Joe Scattareggia, and Drew Smith, ¶ 30 (Jan. 22, 2016) (attached to Comments of Windstream Services, LLC, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) (refiled Apr. 20, 2016)) (Windstream Jan. Decl.) (indicating that no cable provider offers SLAs with adequate performance assurances for connections over coaxial cable or HFC).

29. Even if HFC Ethernet connections had been identified as business data services connections, doing so would have been unlikely to have changed any of the conclusions reached in my empirical analysis. The availability of HFC Ethernet connections is unlikely to have mattered to business data services customers considering high-bandwidth connections: HFC Ethernet connections have a maximum symmetrical bandwidth of 10 Mbps.⁴⁶ To the extent these connections nevertheless were viewed as substitutes by business data services customers in 2013, moreover, their availability is controlled for to some extent by the location fixed effects used in the regressions.⁴⁷

30. **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

⁴⁶ See FNPRM ¶ 62 (Ethernet services with symmetrical speeds in excess of 10 Mbps with performance guarantees are not available to users connected to cable operators' HFC networks).

⁴⁷ TWC **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED] **[END HIGHLY CONFIDENTIAL]** indicate that in 2013 they were capable of offering HFC Ethernet across their entire service footprints. Time Warner Cable Letter at 1; **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED] **[END HIGHLY CONFIDENTIAL]**.

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[REDACTED] 48 [REDACTED]

[REDACTED] 49 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] 50

31. [REDACTED]

[REDACTED]

[REDACTED] 51 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] 52

32. [REDACTED]

[REDACTED]

⁴⁸ The variable was constructed by identifying Census blocks in which the cable provider had HFC Ethernet available, and removing the Census block if the cable provider was previously identified as providing a connection in the block or as having a fiber network in the block.

⁴⁹ **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]
[REDACTED]
[END HIGHLY CONFIDENTIAL]

⁵⁰ **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]
[REDACTED] **[END HIGHLY CONFIDENTIAL]**

⁵¹ The variables accounting for nearby providers included all facilities-based providers (following the approach Dr. Rysman employed in his Table 19). The variable accounting for HFC Ethernet competition was constructed by identifying Census blocks in which the cable provider had HFC Ethernet available, and removing the Census block if the cable provider was previously identified as providing a connection in the block.

⁵² **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]
[REDACTED] **[END HIGHLY CONFIDENTIAL]**

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

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V. Conclusion

33. In my original declaration in this proceeding, I concluded that ILECs are likely able to exercise market power in the provision of business data services, and would be expected to charge prices above competitive levels unless prevented by regulation. This conclusion was based on an analysis of the structure of business data services markets, and was consistent with my empirical analysis of the business data services data, which indicates that ILEC prices are lower when CLECs compete with them and that those prices tend to decline as the number of business data

⁵³ **[BEGIN HIGHLY CONFIDENTIAL]** [REDACTED]

[END HIGHLY CONFIDENTIAL]

services rivals increases. **[BEGIN HIGHLY CONFIDENTIAL]** 



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I declare under penalty of perjury that the foregoing is true and correct to the best of my information and belief.

A handwritten signature in blue ink, appearing to read "Jonathan Baker". The signature is fluid and cursive, with the first name "Jonathan" and last name "Baker" clearly distinguishable.

Jonathan B. Baker

Executed on June 28, 2016