

Nos. 17-2296, 17-2342, 17-2344, 17-2685

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**IN THE UNITED STATES COURT OF APPEALS  
FOR THE EIGHTH CIRCUIT**

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**CITIZENS TELECOMMUNICATIONS OF MINNESOTA, et al.  
Petitioners - Appellants,**

**v.**

**FEDERAL COMMUNICATIONS COMMISSION, et al.  
Respondents - Appellees.**

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On Petition for Review of a Decision of  
the Federal Communications Commission

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**JOINT OPENING BRIEF OF CENTURYLINK, INC. AND  
CITIZENS TELECOMMUNICATIONS COMPANY OF MINNESOTA, LLC**

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## SUMMARY OF THE CASE AND REQUEST FOR ORAL ARGUMENT

These consolidated cases involve four petitions for review of the *Report and Order* in WC Docket No. 16-143, GN Docket No. 13-5, WC Docket No. 05-25, and RM-10593 (FCC 17-43), *Business Data Services in an Internet Protocol Environment*, 32 FCC Rcd 3459 (2017) (“*BDS Order*”). In the *BDS Order*, the Federal Communications Commission (“FCC”) established a new regulatory framework for certain “business data services” (“BDS”) – high-capacity services offered to business customers and other communications carriers. Among other things, the FCC set a new “X-factor” for rate-regulated BDS. The X-factor is a percentage by which caps on inflation-adjusted rates are reduced annually, intended to reflect productivity gains experienced by the regulated entities over time. Here, the FCC chose a 2.0% X-factor that significantly overstated efficiencies in the provision of rate-regulated BDS offerings and ignored evidence of slower productivity growth among such services relative to others. It also failed to account for evidence of declining utilization of these services, which has caused the per-unit cost of providing these services to remain steady or even increase. The resulting X-factor forces excessive annual rate reductions not supported by the record. Petitioners therefore ask this Court to hold unlawful, vacate, enjoin, and set aside the *BDS Order*’s 2.0% X-factor. Petitioners respectfully request 20 minutes of oral argument.

## **CORPORATE DISCLOSURE STATEMENT**

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure and Circuit Rule 26.1A, CenturyLink, Inc. (“CenturyLink”) and Citizens Telecommunications Company of Minnesota LLC (“Citizens”) submit the following corporate disclosure statements:

**CenturyLink:** CenturyLink is a publicly traded corporation that, through its wholly-owned affiliates, provides voice, broadband, video and communications services to consumers and businesses. CenturyLink’s local exchange carrier (“LEC”) affiliates provide BDS (and various other communications services) in operating territories that comprise 37 states.

CenturyLink does not have a parent company, and no publicly-held company owns 10 percent or more of CenturyLink’s stock.

**Citizens:** Citizens is a wholly owned subsidiary of Citizens NEWTEL LLC. Citizens NEWTEL LLC is a wholly owned subsidiary of Frontier Communications Corporation (“Frontier”). Two entities own more than 10 percent of the stock of Frontier: BlackRock Institutional Trust Co., N.A. and The Vanguard Group, Inc.

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## **GLOSSARY**

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| BDS   | “Business Data Services,” a class of high-capacity communications services generally sold to a business or government customer or to another communications carrier. Includes both DS <sub>n</sub> and Ethernet services.                              |
| DS1   | “Digital Signal 1,” a transmission capacity level offering data speeds of approximately 1.5 megabits per second.   |
| DS3   | “Digital Signal 3,” a transmission capacity level offering data speeds of approximately 45 megabits per second.  |
| DS <sub>n</sub>                                   | A class of services including both DS1 and DS3 offerings.  |
| Ethernet  | A class of services utilizing technology more advanced than the TDM technology often used to provide DS <sub>n</sub> services and offering higher data speeds than DS1 or DS3 services.  |
| FCC   | Federal Communications Commission.   |
| KLEMS<br>(Broadcasting and<br>Telecommunications) | The United States Bureau of Labor Statistics’s “Capital, Labor, Energy, Materials, and Services” dataset measuring productivity growth for the broadcasting and telecommunications sectors, including but not limited to rate-regulated BDS offerings. |
| TDM   | “Time Division Multiplexing,” an older legacy technology often used to provide service at the DS1 and DS3 capacity levels.   |
| X-factor  | The percentage by which the inflation-adjusted price cap index is reduced annually to reflect expected productivity gains associated with rate-regulated services.   |



## JURISDICTIONAL STATEMENT

This Court has jurisdiction over these consolidated petitions for review pursuant to 47 U.S.C. §402(a) and 28 U.S.C. §§2342 and 2344. The *BDS Order* was released by the FCC on April 28, 2017 and published in the Federal Register on June 2, 2017. 82 Fed. Reg. 25660 (June 2, 2017). Petitioners Citizens and CenturyLink timely filed petitions for review on June 13, 2017.<sup>1</sup> On June 15, 2017, the Judicial Panel on Multidistrict Litigation randomly selected this Court to hear the consolidated petitions for review.

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<sup>1</sup> On June 13, 2017, a petition for review of the *BDS Order* was also filed by Ad Hoc Telecom Users Committee, BT Americas, Inc., Granite Telecommunications, LLC, COMPTel d/b/a INCOMPAS, Sprint Corporation, and Windstream Services, LLC in the U.S. Court of Appeals for the D.C. Circuit. Access Point, Inc., Alpheus Communications, LLC, New Horizon Communications Corp., and Xchange Telecom LLC subsequently filed a petition for review in the U.S. Court of Appeals for the D.C. Circuit on June 30, 2017. These cases have been transferred to this Court and consolidated with the instant dispute.

## STATEMENT OF THE ISSUES

Did the Federal Communications Commission act arbitrarily, capriciously, or otherwise contrary to law in failing to address the fact that the price-cap formula it selected for regulating certain telecommunications providers' rates would (in its words) "likely overstate[] ... productivity growth" for the services subject to the formula?

Most apposite case:

*Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29 (1983)

Most apposite statutory provisions:

5 U.S.C. §706(2)

47 U.S.C. §201(b)

## STATEMENT OF THE FACTS

CenturyLink and Citizens support the great majority of the conclusions that the FCC reached in the *BDS Order*. The FCC met (indeed, well exceeded) its statutory duty to engage in reasoned decision-making with respect to all but one of the many issues before it. That lone exception, and the subject of this appeal, was the agency’s selection of a 2.0% “X-factor” to govern annual reductions to regulated BDS rates. To provide context for the narrow question under review, relevant aspects of its background are set forth below – specifically, (1) an overview of the “price cap” regime for regulating rates, including the role of the so-called “X-factor”; (2) the history of the application of that regime to the types of services at issue here; and (3) a synopsis of the relevant portions of the proceeding below and the order on review.

### **A. The Price Cap Regime and Role of the X-Factor**

Section 201(b) of the Communications Act of 1934, as amended (“the Act”), states that “[a]ll charges” for communications services offered on a common-carrier basis “shall be just and reasonable, and any such charge ... that is unjust or unreasonable is declared to be unlawful.” 47 U.S.C. §201(b). To effectuate that provision and other statutory mandates, the FCC regulates the rates that certain providers – as relevant here, local exchange carriers (“LECs”) – may charge

customers for certain interstate telecommunications services.<sup>2</sup> Such “*ex ante*” rate regulation generally is based on forecasts calculated pursuant to one of several mutually exclusive methodologies. For the LEC services at issue here, the FCC prescribes maximum rates using “price caps.”<sup>3</sup> The price-cap system begins with the “price cap index” (“PCI”), which reflects the amount the LEC would need to charge across a collection of related services – a product “basket” – to recoup its reasonable investments and earn a reasonable profit. The regulator uses this figure to create a “cap” applicable to those services in the aggregate. It allows the provider to determine how to allocate charges among services within the cap, so long as the provider’s charges do not, collectively, exceed the cap. The PCI remains in place for successive years, subject to annual modifications discussed

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<sup>2</sup> For many offerings, the agency may alternatively determine *after the fact* that the rate charged was unjust or unreasonable, and therefore unlawful, even if it had not previously prescribed a maximum rate. 47 U.S.C. §201(b). Customers of common-carrier communications services are permitted under the Act to file a formal complaint alleging that rates are excessive and to seek damages. This option remains available for the vast majority of the services for which the *BDS Order* eliminated *ex ante* price regulation. *E.g.*, *BDS Order* ¶96 (JA\_\_\_).

<sup>3</sup> The chief alternative to price-cap regulation is “rate-of-return” (or “cost-of-service”) ratemaking, which applies to some incumbent LECs but is not pertinent to this appeal.

below.<sup>4</sup> See generally *Nat'l Rural Telecom Ass'n v. FCC*, 988 F.2d 174, 177-79 (D.C. Cir. 1993) (describing price-cap rate-setting).

During the period for which a price cap remains in place, it is automatically adjusted annually, through a mechanism established in advance by the FCC. First, the caps generally are adjusted to reflect inflation. Second – and of greatest import here – the caps are typically subjected to an annual “X-factor” (sometimes called a “productivity factor”) reduction, which is set by the FCC to address the fact that the efficiency gains of the telephone industry have historically exceeded those of the economy as a whole. The theory behind the X-factor is that a price cap that was adjusted annually for inflation but not also modified to reflect industry-specific productivity growth would permit the rate-regulated carrier to enjoy higher profits each year the cap remained in place, because its inflation-adjusted costs would be falling. The inflation adjustment and the X-factor generally work in concert – the nominal cap<sup>5</sup> is modified (usually *increased*) to adjust for inflation

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<sup>4</sup> For the sake of simplicity, this brief speaks of caps as if they apply to individual services rather than “baskets.” This simplification has no impact on the analysis presented, because the price-cap-regulated services at issue here all fall within the same “basket,” and that basket does not contain any other services.

<sup>5</sup> The word “nominal” is used here to mean the price paid, in dollars, irrespective of inflation. For example, if an item is priced at \$1.00, and the seller maintains that price the following year even though the economy has experienced inflation of 5.0%, that \$1.00 is worth less than it had been before, such that the “real” price has declined even as the “nominal” price (\$1.00) has remained constant. The price cap inflation adjustment is meant to keep the price cap constant in “real” terms,

but also modified (usually *decreased*) to reflect the extent by which providers' productivity gains are expected to outpace inflation.

To take a simplified example, imagine that a regulator determined that the appropriate price cap for a given service in a particular year was \$100 per month, and set the X-factor at 3% to reflect its view that productivity gains for the service will outpace inflation by 3% per year going forward. For the first year, the price cap would be \$100 per month. If inflation the next year equals 2%, then the cap will be adjusted by  $(2\% - 3\%) = -1\%$ , and the new price cap would be \$99.00 per month ( $\$100 * 99\%$ ). If inflation the year after that were only 1%, then the \$99 per month cap would be adjusted by  $(1\% - 3\%) = -2\%$ , and the new price cap would be \$97.02 ( $\$99 * 98\%$ ). Notably, the higher the X-factor, the more the price cap will decline (or, if productivity gains do not offset inflation, then the less it will increase) each year. *See generally BDS Order* ¶199 (Joint Appendix (“JA”) \_\_\_\_). “Between X-factor adjustments, firms can keep any additional profits that they achieve through cost reductions.” *Id.* ¶203 (JA\_\_\_\_).<sup>6</sup> In the above example, if the

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whereas the X-factor is meant to modify the real (*i.e.*, inflation-adjusted) price cap to reflect the degree, if any, to which productivity growth for the service at issue is expected to outpace inflation.

<sup>6</sup> Price caps also may be adjusted to account for “exogenous” factors – developments affecting the carrier’s costs that are beyond its control and not otherwise reflected in the price-cap formula. *See BDS Order App. B* ¶3 (JA\_\_\_\_). Exogenous cost adjustments are not material to this appeal.

provider managed to cut its monthly cost for providing the service at issue from \$97.00 in the first year to \$92.00 in the third year, it would still be permitted to charge up to \$97.02 in year three, earning up to \$5.02 in profits per customer per month (well up from the \$3.00 per customer per month it profited in year one).

Price-cap ratemaking promotes innovation by allowing providers to retain their gains if they can cut costs faster than the annual adjustments reduce the cap. Thus, “[p]rice cap regulation encourages [regulated providers] to improve their efficiency by harnessing profit-making incentives to reduce costs, invest efficiently in new plant and facilities, and develop and deploy innovative service offerings, while setting price ceilings at reasonable levels.” *Access Charge Reform*, Sixth Report and Order, 15 FCC Rcd 12962, ¶16 (2000) (“*CALLS Order*”).<sup>7</sup>

Nevertheless, regulatory errors in setting the price cap can have serious negative consequences. Most relevant here, if the regulator sets rates too low – for example, by setting the X-factor too *high*, such that price caps decline too quickly – providers will be starved of the capital needed to recover their costs and maintain their networks. As the FCC has recognized, “an error in the productivity factor” (*i.e.*, the X-factor) can lead to “[u]nusually low earnings” for the rate-regulated service, which “over a prolonged period could threaten the [carrier’s] ability to raise the capital necessary to provide modern, efficient services to customers.”

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<sup>7</sup> For this reason, price-cap regulation is sometimes called “incentive regulation.”

*Policy and Rules Concerning Rates for Dominant Carriers*, Second Report and Order, 5 FCC Rcd 6786, ¶147 (1990) (“*LEC Price-Cap Order*”).

Returning to the example above, if the X-factor were inappropriately set at 6% rather than 3%, and inflation were the same as above (2% and 1%), the price caps would fall from \$100 in year one to \$96.00 in year two and \$91.20 in year three. If the provider could only cut its costs to \$92.00 during that period (as above), it now would be unable to recoup its costs fully, forced to charge no more than \$91.20 for a service that cost it \$92.00 to provision every month. This would undermine its ability to provide high-quality service in this area going forward. Thus, “[s]etting a reasonable target and requirement for ... productivity is one of the critical tasks in ensuring that the price cap plan will work as intended.” *Id.* ¶75.

## **B. Historical Price Cap Regulation of BDS**

### **1. Application of Price Caps to Local Exchange Carriers**

The FCC first adopted price-cap regulation in 1989, applying it to AT&T – then a dominant long-distance provider. *See generally Policy and Rules Concerning Rates for Dominant Carriers*, Report and Order and Second Further Notice of Proposed Rulemaking, 4 FCC Rcd 2873 (1989) (“*AT&T Price-Cap Order*”). One year later, it applied price caps to certain LECs. Price caps were mandatory for the seven LECs that AT&T had spun off in the early 1980s and one other large provider, and optional for other dominant LECs. *Id.* ¶¶5-6. The LEC



offerings subject to price caps included some of those that are now collectively called “business data services,” or BDS. *LEC Price-Cap Order* ¶14. The FCC noted that services at capacity levels known as “DS1” and “DS3” (collectively known as “DSn” services) “represent[ed] a large and rapidly growing portion of the LECs’ [BDS] business.” *Id.* ¶15.<sup>8</sup>

In the Telecommunications Act of 1996, Congress established a class of LECs known as “incumbent LECs,” or “ILECs” – in essence, the local telephone companies that existed at the time of that legislation. 47 U.S.C. §251(h). The subset of ILECs subject to price caps – generally the larger ILECs, including Petitioners – are now known as “price-cap ILECs.”

In 1997 – the second time the FCC revisited the LEC X-factor since 1990 – the agency set the X-factor for LEC BDS offerings at 6.5%, comprised of 6.0% meant to reflect expectations based on historical trends and a 0.5% “consumer productivity dividend” designed to ensure that productivity gains accrued to consumers’ benefit. *Price Cap Performance Review for Local Exchange Carriers*, Fourth Report and Order, 12 FCC Rcd 16642, ¶¶19-34 (1997) (“*1997 Price-Cap Order*”). Various parties appealed. On review, the D.C. Circuit remanded this

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<sup>8</sup> Expertise on the full taxonomy of DSn services is unnecessary for purposes of this appeal, but, to minimize abstraction, a DS1 service offers data speeds of approximately 1.5 megabits per second (“Mbps”) and a DS3 offers speeds of approximately 45 Mbps. Both DSn capacity levels offer throughput well above that of a residential voice telephone line.

new X-factor, finding that the FCC had placed too much weight on rising productivity growth during a period of economic expansion and had given “no reason” for its choice to afford less weight to years showing lower productivity growth. *USTA v. FCC*, 188 F.3d 521, 525-26 (D.C. Cir. 1999).

## **2. The CALLS Plan and Afterward**

The FCC never addressed the D.C. Circuit’s remand on the merits. Rather, in 2000, it resolved a variety of long-standing debates by adopting, with some modifications, a comprehensive proposal set out by a coalition of providers calling itself the “Coalition for Affordable Local and Long Distance Service,” or “CALLS.” *CALLS Order*. As relevant here, the “CALLS Plan” set specific X-factors to govern BDS for 2001, 2002, and 2003, and then pegged the X-factor to inflation thereafter, such that the cap would be “frozen” (adjusted each year by inflation minus an X-factor that equaled inflation, resulting in no net change) until such time as the FCC revisited the issue. *CALLS Order* ¶149. The FCC emphasized that the CALLS Plan’s X-factor would “not be a productivity factor as it has been in past price cap formulas,” but rather “a transitional mechanism to ... lower rates for a specified time period for [BDS].” It was not based on any assessment of productivity gains; it was merely a “compromise” providing “a solution to the contentious X-factor” issue. *Id.* ¶160. Under the freeze, the price

cap remained the same from year to year in nominal terms, but, as a practical matter, decreased on an inflation-adjusted basis.

### **C. The Instant Proceeding and the Record Below**

Although the FCC had planned to revisit the CALLS Plan's conclusions within five years of 2000, *id.* ¶29, it did not do so. Beginning in 2005, the FCC initiated a series of proceedings aimed at reevaluating the BDS price cap regime in light of ongoing marketplace developments. In the years that followed, the FCC eliminated price caps for the more advanced services offered by many of the largest price-cap ILECs, largely limiting *ex ante* rate regulation to DS1 and DS3 services. *E.g.*, *Qwest Petition for Waiver of Pricing Flexibility Rules for Advanced Communications Networks Services*, Order, 22 FCC Rcd 7482 (WCB 2007); *Petition of the Frontier and Citizens ILECs for Forbearance Under Section 47 U.S.C. §160(c) from Title II and Computer Inquiry Rules with Respect to Their Broadband Services*, Memorandum Opinion and Order, 22 FCC Rcd 19478 (2007). During this time, however, it did not revisit the X-factor or other aspects of the price-cap methodology.

In 2012 and 2016, the FCC sought additional comment on a wide range of issues concerning BDS regulation, including (1) which services should remain subject to *ex ante* price caps going forward, and (2) what adjustments should be made to the price-cap formulas applied to such offerings. *See generally Special*

*Access for Price Cap Local Exchange Carriers*, Report and Order and Further Notice of Proposed Rulemaking, 27 FCC Rcd 16318, ¶¶66-90 (2012) (“2012 NPRM”) (JA\_\_-\_\_); *Business Data Services in an Internet Protocol Environment*, Tariff Investigation Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 4723, ¶¶344-446 (2016) (“2016 FNPRM”) (JA\_\_-\_\_). With regard to the X-factor, the agency asked which of several possible data sources it should use to measure productivity gains in the provision of BDS. Among the possible options, the FCC inquired about the use of the U.S. Bureau of Labor Statistics’s “Capital, Labor, Energy, Materials, and Services” (“KLEMS”) dataset specific to the telecommunications and broadcasting industries – generally referred to as “KLEMS (Broadcasting and Telecommunications)” data – and about “any adjustments to the KLEMS data that we should make to improve its utility as a measure of [BDS] productivity.” 2016 FNPRM ¶¶377-78 (JA\_\_-\_\_).

CenturyLink and Citizens (through its parent, Frontier) submitted multiple filings regarding the X-factor, including four white papers by Drs. Mark Schankerman of the London School of Economics and Pierre Régibeau of Imperial College, London.<sup>9</sup> AT&T likewise submitted numerous filings on this topic from

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<sup>9</sup> See generally MARK SCHANKERMAN AND PIERRE RÉGIBEAU, RESPONSE TO THE FCC FURTHER NOTICE: REGULATION OF DS1 AND DS3 SERVICES (2016) (attached to letter from Russell Hanser, Wilkinson Barker Knauer, LLP, to Marlene H. Dortch, Secretary, FCC (Aug. 9, 2016)) (“SCHANKERMAN/RÉGIBEAU I”) (JA\_\_-\_\_); MARK SCHANKERMAN, PRICE CAP DESIGN FOR BUSINESS DATA SERVICES

its own economic experts.<sup>10</sup> Like these other experts, Schankerman and Régibeau urged the agency to rely on the KLEMS (Broadcasting and Telecommunications) data. They explained, however, that for two key reasons, this dataset would overstate productivity growth for the DSn BDS offerings likely to remain subject to price caps, requiring a downward adjustment of any X-factor produced.

The first reason that Drs. Schankerman and Régibeau identified for the likely overstatement of productivity growth was that the KLEMS (Broadcasting and Telecommunications) dataset encompassed a wide range of communications offerings, including many new and innovative services relying on fast-developing

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(Aug. 15-16, 2016) (attached to letter from Russell Hanser, Wilkinson Barker Knauer, LLP, to Marlene H. Dortch, Secretary, FCC (Aug. 17, 2016)) (JA\_\_-\_\_); MARK SCHANKERMAN AND PIERRE RÉGIBEAU, SUPPLEMENTAL DECLARATION: COMMENTS ON THE FRENTRUP-SAPPINGTON REPORT (Oct. 6, 2016) (attached to letter from Russell Hanser and Brian W. Murray, Wilkinson Barker Knauer, LLP, to Marlene H. Dortch, Secretary, FCC (Oct. 6, 2016)) (“SCHANKERMAN/RÉGIBEAU II”) (JA\_\_-\_\_); MARK SCHANKERMAN AND PIERRE RÉGIBEAU, SECOND SUPPLEMENTAL DECLARATION (Oct. 28, 2016) (attached to letter from Russell Hanser and Brian W. Murray, Wilkinson Barker Knauer, LLP, to Marlene H. Dortch, Secretary, FCC (Oct. 28, 2016)) (“SCHANKERMAN/RÉGIBEAU III”) (JA\_\_-\_\_).

<sup>10</sup> See generally Reply Comments of Mark E. Meitzen, Ph.D., and Philip E. Schoech, Ph.D., Christensen Associates, Consultants to AT&T, at 1-2 (Aug. 9, 2016) (attached to letter from Kyle J. Fiet, Sidley Austin LLP, to Marlene H. Dortch, WC Docket No. 16-143 et al. (Aug. 9, 2016)) (JA\_\_-\_\_); MARK E. MEITZEN AND PHILIP E. SCHOECH, ASSESSMENT OF THE FCC’S PROPOSED OPTIONS FOR THE SPECIAL ACCESS PRICE CAP X-FACTOR (June 28, 2016) (attached to letter from Kyle J. Fiet, Sidley Austin LLP, to Marlene H. Dortch, Secretary, FCC (June 28, 2016)) (“MEITZEN/SCHOECH”) (JA\_\_-\_\_).

technologies (such as fiber-optic-based “Ethernet” offerings) that are displacing legacy BDS in the marketplace. The dataset’s inclusion of services such as these, which are experiencing faster productivity growth than rate-regulated BDS, would lead to an X-factor that exaggerated expected productivity growth for the specific services at issue, which generally rely on older “Time Division Multiplexing” (“TDM”) technology.<sup>11</sup> Likewise, the record showed that the inclusion of broadcasting offerings in the dataset was likely to overstate the productivity associated with DS<sub>n</sub> services. For instance, the evidence showed that annual labor productivity growth over the relevant timeframe in the broadcasting sector was, at 6.6%, *eleven times greater* than that in the wireline telecommunications sector (0.6%) (*i.e.*, the sector to which price-capped BDS services belong).

SCHANKERMAN/RÉGIBEAU II at 10 (JA\_\_\_). The X-factor would thus need to be adjusted downward to reflect “input prices and productivity changes that are similar to those influencing the costs of the regulated services (in this case, these

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<sup>11</sup> Consider, for example, a hat manufacturer designing a “one-size-fits-all” children’s hat meant for elementary school students aged five through ten. It might be that the most relevant dataset available regarding children’s head sizes is one that includes measurements for individuals age five through eighteen. If so, that dataset should be used. In that case, however, the resulting size information would have to be adjusted downward to reflect the fact that the dataset is skewed by the inclusion of information that is likely to overstate the head sizes of the children for whom the hats are intended. Likewise, here the KLEMS (Broadcasting and Telecommunications) dataset was the best set available, but required downward adjustment due to its inclusion of services that (1) would not be subject to the resulting X-factor, and (2) were apt to skew the productivity data.

are DS1 and DS3, which are only a subset of the telecommunications sector).”

SCHANKERMAN/RÉGIBEAU I ¶26 (JA\_\_).

The second reason Drs. Schankerman and Régibeau identified for concern regarding overstated productivity growth was that any productivity analysis must account for lost economies of scale resulting from declining demand for the BDS services at issue, and the KLEMS-based X-factor would not reflect this overstatement unless an appropriate downward adjustment were made. The record demonstrated that increased competition from cable providers, non-ILEC fiber providers, and others had led to a reduction in utilization of ILEC plant, meaning that incumbents were required to amortize the largely fixed costs of provisioning BDS among fewer customers, such that unit costs would remain steady or rise even if total costs were falling as a result of efficiency gains. *E.g.*, Joint Comments of CenturyLink, Inc., Consolidated Commc’ns, FairPoint Commc’ns, Inc., and Frontier Commc’ns Corp., WC Docket No. 16-143 et al., at 70-71 (June 28, 2016) (“Mid-Size ILEC Comments”) (JA\_\_-\_\_).

[B]ecause ILECs have seen their relative position in the supply of DS1 and DS3 services using legacy TDM technology erode over time due to competition from new, superior technologies and because these services are characterised by economies of scale, traditional computations are likely to overstate the size of the adjustment required in the level of regulated price.

SCHANKERMAN/RÉGIBEAU I ¶10 (JA\_\_). In light of these principles and other concerns, Drs. Schankerman and Régibeau conducted several detailed economic analyses, which concluded that, far from being subjected to an annual decline, inflation-adjusted prices should be allowed to *rise* by at least 0.5% per year going forward, such that, accounting for inflation, the net annual adjustment to BDS price caps should be an *increase* of 1.06% per year. *See, e.g.*, SCHANKERMAN PRESENTATION at 13.<sup>12</sup>

#### **D. The BDS Order**

In the *BDS Order* released in 2017, the FCC determined (among other things) that, going forward, *ex ante* price-cap regulation would (1) apply to older, DSn-capacity service offerings only in specific geographic areas deemed non-competitive under a new “competitive market test,” (2) only apply to DSn services offering transmission to a customer’s location (“channel terminations”), *not* to those services offering transmission between and within networks (“transport”), and (3) not apply to any services relying on newer, more robust Ethernet technology. *BDS Order* ¶¶94-144, 77-85 (JA \_\_-\_\_, \_\_-\_\_). Petitioners CenturyLink and Citizens strongly support these conclusions. Each has intervened

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<sup>12</sup> Schankerman/Régibeau also showed that developments during the period from 2000-2017 necessitated a one-time catch-up rate *increase*. *See, e.g.*, SCHANKERMAN/RÉGIBEAU I ¶¶8-11 (JA\_\_-\_\_); SCHANKERMAN/RÉGIBEAU II at 7 (JA\_\_); SCHANKERMAN/RÉGIBEAU III at 3-9 (JA\_\_-\_\_). Petitioners do not here challenge the FCC’s rejection of this option.



in consolidated case *Ad Hoc Telecommunications, et al. v. FCC, et al.* (No. 17-2342) to defend the *BDS Order* on these points.<sup>13</sup>

With respect to the services still subject to price caps, the FCC set an X-factor of 2.0% for price-capped BDS offerings. The FCC’s selection of that X-factor – in particular, its decision not to adjust downward the range produced by applying the KLEMS dataset – is the subject of Petitioners’ challenge. As proposed by Petitioners’ and AT&T’s economists, the FCC set its X-factor using KLEMS data for the “Broadcasting and Telecommunications” category. *Id.* ¶¶207-16, App. B ¶15 (JA\_\_-\_\_, \_\_). Although other datasets had been proposed by other parties (guided in part by a desire to address concerns about overbreadth), the FCC concluded that each was problematic in its own way and that the KLEMS (Broadcasting and Telecommunications) dataset “provides the best available information under the circumstances.” *Id.* ¶211 (JA\_\_).

The FCC then evaluated the X-factors that would be produced by reviewing four timeframes – 1987-2014, 1997-2014, 2005-2014, and 2009-2014. These ranges produced X-factors of 2.0%, 2.3%, 2.0%, and 1.7%, respectively. *Id.* ¶¶218-24, App. B. ¶14 (JA\_\_-\_\_, \_\_). The FCC then asserted that these four data points established a “[z]one of [r]easonableness” and observed that “[t]he

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<sup>13</sup> Citizens intervened through USTelecom, a trade association to which its parent company Frontier belongs. CenturyLink intervened on its own, as well as through USTelecom, to which it also belongs.

arithmetic average and the mid-point of the four X-factors are both 2.0 percent.” *Id.* ¶225 (JA\_\_\_). The FCC cited the concerns that Schankerman/Régibeau had raised about use of the KLEMS data without adjustment, but nevertheless failed to rebut them (indeed, it expressly agreed with one of them) or to make necessary adjustments to the zone of reasonableness. Rather, it selected a 2.0% X-factor, claiming that no party had “submitted an X-factor study or similar data-based analysis purporting to show that the X-factor should be lower than” that figure, *id.* ¶235 (JA\_\_\_), even though Schankerman/Régibeau had done *precisely* that, computing a maximum permissible X-factor of 1.06%. SCHANKERMAN/RÉGIBEAU I ¶¶110-11 (JA \_\_-\_\_). Petitioners sought review in this Court, challenging only the FCC’s decision with respect to the X-factor and not any other aspect of the *BDS Order*.

## SUMMARY OF ARGUMENT

In establishing a methodology for regulating BDS rates, the FCC made a single crucial mistake: It adopted an *unadjusted* X-factor to assess productivity gains in connection with rate-regulated BDS offerings. It did so with its eyes wide open. In fact, it affirmed record evidence that the historical data on which it relied to set the X-factor was over-inclusive because it captured productivity increases across the *entire* telecommunications and broadcasting sectors, without isolating trends among the specific subset of services at issue. The FCC further agreed that

the average cost of providing the services that would be subject to rate regulation was “steadily climb[ing]” as their utilization declined and their costs had to be allocated among fewer and fewer customers, a trend that underscored the lack of efficiencies among these services relative to others included in the dataset. *BDS Order* ¶229 (JA\_\_\_). Ultimately, the FCC acknowledged that its approach would “likely overstate[ ]” efficiency gains associated with the relevant services, *id.* ¶231 (JA\_\_\_), yielding excessive annual rate cuts that the agency admitted were not justified by the evidence before it.

Fortunately, the record supplied a logical remedy for these undisputed problems. Specifically, multiple economic analyses filed by Petitioners detailed ways in which the FCC could effectuate a “downward adjustment” to the X-factor its methodology produced. Unfortunately, the FCC failed even to acknowledge that such evaluations were in the record – notwithstanding the fact that the same section of the order expressly cited to these analyses more than fifteen times. Instead, the agency calculated four options for the X-factor based on four different time periods, lined them up in increasing order, declined to adjust the range downward, and simply picked the one in the middle – an X-factor of 2.0%.

The FCC’s selection of the 2.0% X-factor was arbitrary and capricious, and thus unlawful. First, the agency failed to address adequately the fact that the dataset used to compute the X-factor included many services likely to experience

higher productivity growth than the legacy BDS services that would remain subject to price caps. The FCC suggested that productivity growth for unregulated services might also promote efficiencies for price-capped BDS offerings, but this point was not relevant: Unless the capped services would experience productivity gains at a rate equal to or greater than those other services, the X-factor would still overstate efficiencies for the services subject to regulation. It is clear, though, that productivity growth for the regulated offerings trails behind that for the other services included in the dataset. The FCC's failure to account for this fact was impermissible.

Second, the FCC acted arbitrarily and capriciously in failing to respond to arguments that declining utilization of ILEC facilities required a downward adjustment to any X-factor it computed. The record showed that the shift away from ILEC services results in unit costs that are constant or increasing, even amidst any productivity advances. The FCC expressly agreed with this point, and concluded that, as a result, its X-factor "likely overstates, rather than understates, [BDS] productivity growth." *Id.* ¶231 (JA\_\_\_). It nevertheless refused to correct this problem by adjusting the X-factor range downward, claiming that there was no "X-factor study or similar data-based analysis purporting to show the X-factor should be lower than [2.0%]" in the record. *Id.* ¶235 (JA\_\_\_). But that assertion was wrong: Petitioners submitted detailed economic papers showing that the

maximum permissible X-factor would be 1.06%, and the order cited to these papers repeatedly. By ignoring the evidence before it, the FCC acted arbitrarily and capriciously.

## **ARGUMENT**

### **I. STANDARD OF REVIEW**

This Court will “set aside agency action ... found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. §706(2)(A); *St. Luke’s Methodist Hosp. v. Thompson*, 315 F.3d 984, 987 (8th Cir. 2003). In particular, it must ensure here that the FCC has “examine[d] the relevant data and articulate[d] a satisfactory explanation for its action including a rational connection between the facts found and the choice made.” *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (internal quotation marks and citation omitted); *accord Niobrara River Ranch, L.L.C. v. Huber*, 373 F.3d 881, 884 (8th Cir. 2004) (“[The] agency must provide a satisfactory explanation for its actions based on relevant data.”).

### **II. THE FCC’S FAILURE TO ACCOUNT FOR THE KLEMS DATASET’S INCLUSION OF OFFERINGS WITH HIGHER PRODUCTIVITY GROWTH THAN DSN BDS WAS ARBITRARY AND CAPRICIOUS.**

Petitioners and others demonstrated that use of KLEMS (Broadcasting and Telecommunications) data would, given that category’s breadth, result in an X-factor that significantly overstates expected efficiencies in the provision of DSn

services. For instance, they presented economic analysis concluding that “the rate of productivity growth used to determine the price cap for DS1 and DS3 services should be lower than the rate computed from the KLEMS data, which applies to the whole Telecom and Broadcasting sectors.” SCHANKERMAN/RÉGIBEAU I ¶8 (JA\_\_); *see also id.* ¶¶74-86 (JA\_\_-\_\_). As Petitioners observed, “productivity growth is not evenly distributed throughout the sector” – rather, “[m]ature and declining technologies such as DS1 and DS3 services are likely to experience much lower efficiency gains than newer and more innovative products (such as fiber-based Ethernet offerings and information services).” Joint Reply Comments of CenturyLink, Inc., Consolidated Commc’ns, FairPoint Commc’ns, Inc., and Frontier Commc’ns Corp., WC Docket No. 16-143 et al., at 13-16 (Aug. 9, 2016) (“Mid-Size ILEC Reply Comments”) (JA \_\_-\_\_). As Schankerman and Régibeau elaborated, unadjusted KLEMS-based estimates were

likely to overstate very significantly the cost reductions that suppliers of DS1 and DS3 services experienced because they are based on [productivity growth in] the telecommunications sector as a whole.... Even if one uses data on productivity and input costs which are specific to the telecommunication sector, we know very well that this sector is characterised by very different segments facing different cost conditions. For example, there is no reason to believe that the change in cost for wireless services closely tracks the changes in DS1/DS3 costs. In a similar vein, the cost of providing cable service is unlikely to evolve in the same manner as the cost of DS1/DS3, which rely much less on fiber technology. Finally, as DS1/DS3 services use old, legacy

technologies, potential sources of productivity gain seem much less likely than in more fluid parts of the telecommunication sector....

SCHANKERMAN/RÉGIBEAU I ¶8 (JA\_\_\_). Thus, “[a]pplication of an industry-wide factor therefore would badly overstate expected efficiency gains, leading to rates that do not allow appropriate cost recovery.” Mid-Size ILEC Reply Comments at 13-16 (JA \_\_\_-\_\_\_).

AT&T filed similar economic evidence. Its expert witnesses, Drs. Mark E. Meitzen and Philip E. Schoech, observed that the “KLEMS-based approach comes closest to the FCC precedent of basing the X-factor on industry-specific [productivity] and input prices.” MEITZEN/SCHOECH at 7 (JA\_\_\_). As AT&T elaborated, though, an unadjusted KLEMS-based X-factor “likely overstates expected productivity gains for the DS<sub>n</sub> services to which it would apply,” because KLEMS reflects “an industry-wide measure encompassing productivity gains in the broadcasting and telecommunications industries,” and “[m]ost of the telecommunications productivity gains captured in the [KLEMS] measure ... are likely attributable to productivity gains in other telecommunications services that are the focus of far greater investment and technological dynamism than legacy DS<sub>n</sub> services, including wireless services, broadband Ethernet services, and cable and wireline Internet access services.” Comments of AT&T Inc., WC Docket No. 16-143 et al., at 58 (June 28, 2016) (“AT&T Comments”) (JA\_\_\_). For this reason,

the KLEMS (Broadcasting and Telecommunications) dataset “likely overstates productivity gains for the small subset of TDM-based DS<sub>n</sub> services.” *Id.* (JA\_\_\_).

Accordingly, Petitioners and others pointed out that the use of KLEMS (Broadcasting and Telecommunications) data – which Petitioners otherwise supported – would only be appropriate if subjected to a downward adjustment. The *BDS Order* ignored this core concern and, despite record evidence, refused to adjust the X-factor downward to reflect slower productivity growth for services subject to the cap. Although it acknowledged the “overbreadth” of the KLEMS data, *BDS Order* ¶226 (JA\_\_\_), the closest the FCC came to addressing its implications was to speculate that cost reductions affecting services outside the price caps might also contribute to efficiencies in providing price-capped services. The FCC stated that “[c]ost-reducing growth is clearly occurring in price cap LECs’ overall [BDS] operations,” claimed that a “significant portion” of the network facilities “used to provide” the DS<sub>n</sub> services still subject to price caps were also used to provide the services experiencing such growth, and posited that cost-sharing thus placed downward pressure on DS<sub>n</sub>-related costs. *Id.* ¶227 (JA\_\_\_). The agency emphasized that growth in the services not subject to price caps was “outpacing declining [DS<sub>n</sub>] services,” stating that this trend “strongly suggests that overall unit costs [for those services] will continue decreasing into the foreseeable future.” *Id.* ¶228 (JA\_\_\_). Ultimately, however, the FCC



acknowledged that it did not know “to what extent, *if any*, these decreasing unit costs and overall productivity gains” associated with services outside the price-cap framework “will apply to the services that will remain under price caps.” *Id.* ¶229 (JA \_\_) (emphasis added).

As a response to the concern that inclusion of other services in the KLEMS data would overstate productivity for DS<sub>n</sub> offerings, the argument that growth in other BDS offerings would redound to some degree to DS<sub>n</sub> services is nonsensical. What matters is not whether productivity for price-capped BDS is growing *at all*, but whether it is growing at the same rate as, or faster than, productivity for uncapped services within the KLEMS (Broadcasting and Telecommunications) dataset. That is because the KLEMS productivity factor reflects an average of the productivity for both price-capped and uncapped BDS, as well as other services. Refusal to adjust the KLEMS-based X-factor downward to account for this averaging would only be appropriate if productivity for price capped BDS were growing at the same rate as the other services reflected in the KLEMS data. But it is not – productivity growth is *slower* for price-capped services than for other offerings within the dataset. Even if a “significant portion” of the facilities used to provide DS<sub>n</sub> BDS are also used to provide Ethernet offerings, a large share of the facilities are distinct. As noted above, under the *BDS Order*, price caps apply only to services reaching an end-user’s location – for example, an office building. The

FCC itself has acknowledged that an ILEC providing a DS1 or DS3 link to a building will not necessarily *also* have an Ethernet connection to that building. *Special Access for Price Cap Local Exchange Carriers*, Report and Order, 28 FCC Rcd 13189, ¶26 (WCB 2013) (“*2013 Data Collection Order*”) (JA\_\_\_). Thus, for many of the expenses in play, there are *no* shared efficiencies between DS<sub>n</sub> and Ethernet connections.

Given that Ethernet productivity growth undeniably exceeds DS<sub>n</sub> productivity growth, any claim that shared efficiencies eliminate the need to adjust the KLEMS-based productivity factor downward is flatly wrong. Imagine that the KLEMS dataset included only uncapped Ethernet offerings and capped DS<sub>n</sub> offerings, and that customers purchase an equal amount of both, such that the X-factor reflects a simple average of the two productivity growth rates. Imagine further that, in a given year, Ethernet services are expected to enjoy 4% productivity growth, and DS<sub>n</sub> services, which benefit from some of those advances, will enjoy 2% productivity growth. The averaged KLEMS-based productivity factor would be 3%, still significantly overstating productivity gains for the DS<sub>n</sub> services that would actually be subject to the price cap. Making matters worse, as consumption of Ethernet products grows and demand for DS<sub>n</sub> services continue to decline, the X-factor will be increasingly weighted toward

those offerings with higher productivity growth, further undermining its utility as a measure of DS<sub>n</sub> productivity growth.

In short, even if uncapped services are experiencing high productivity growth, and even if *some* of that growth also cuts costs for capped DS<sub>n</sub> offerings, those facts only *bolster* the conclusion that a KLEMS-based X-factor must be adjusted downward to reflect slower productivity growth for services subject to the cap. The FCC’s explanation for refusing to adjust the X-factor in this manner “runs counter to the evidence before [it],” *Mausolf v. Babbitt*, 125 F.3d 661, 669 (8th Cir. 1997) (quoting *State Farm*, 463 U.S. at 43), and thus was arbitrary and capricious.

Even setting aside the FCC’s flawed logic, it committed reversible error in opting not to adjust the X-factor “range of reasonableness” downward because it did not know “to what extent, if any,” the “decreasing unit costs and overall productivity gains” associated with uncapped services would “apply to the services that will remain under price caps.” *BDS Order* ¶229 (JA\_\_\_). The ILECs demonstrated that use of an unadjusted KLEMS-based factor would overstate productivity gains for price-capped BDS offerings. The FCC tacitly acknowledged as much when it (appropriately) rejected on the merits arguments that would have favored an upward adjustment. *BDS Order* ¶232 (JA\_\_\_). In failing to either rebut

or account for the same arguments when considering a downward adjustment, the FCC acted arbitrarily and capriciously.<sup>14</sup>

### **III. THE FCC’S FAILURE TO ACCOUNT FOR THE EFFECT OF DECLINING UTILIZATION ON ILECS’ UNIT COSTS WAS ARBITRARY AND CAPRICIOUS.**

Petitioners and others also showed that figures derived using KLEMS data would need to be adjusted downward to reflect the effects of declining utilization rates on unit costs. Given the dramatic market shift toward BDS services provided by cable companies and others, “customer utilization of ILEC plant is still rapidly eroding, meaning that ILECs must amortize shared costs (*e.g.*, the capacity of a loop that serves a commercial building or mobile antenna site) among fewer customers than before.” Mid-Size ILEC Reply Comments at 11 (JA\_\_).

Therefore, “unit costs would be rising even if total costs were holding steady, or even falling some.” *Id.* (JA\_\_). As Schankerman/Régibeau explained:

[B]ecause ILECs have seen their relative position in the supply of DS1 and DS3 services using legacy TDM technology erode over time due to competition from new, superior technologies and because these services are characterised by economies of scale, traditional computations are likely to overstate the size of the adjustment required in the level of regulated price.

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<sup>14</sup> To be sure, any effort to adjust the X-factor downward to account for declining utilization would have been inexact. *See, e.g.*, SCHANKERMAN/RÉGIBEAU I ¶¶111-12 (JA \_\_-\_\_). The inability to respond with scientific precision, however, did not absolve the FCC of its obligation to account in some way – even if imperfectly – for the bias in its approach.

SCHANKERMAN/RÉGIBEAU I ¶10 (JA \_\_). Moreover, they concluded, “the magnitude of this bias is material.” *Id.* (JA\_\_). AT&T concurred: “[D]emand for DS<sub>n</sub> services has been in rapid decline in recent years, as price cap LECs retire their legacy TDM networks.” AT&T Comments at 54 (JA\_\_). As a result, “AT&T is currently experiencing very low utilization on its legacy TDM switches” and “[t]he accompanying loss of scale economies suggests that it is unlikely that price cap LECs have achieved productivity gains that are in excess of inflation.” *Id.* at 55 (JA\_\_).

To make this dilemma more concrete, CenturyLink and Citizens offered the following illustration:

Assume ... that an ILEC in 2005 served a commercial building over a single [DS<sub>3</sub>-capacity connection], which it used to provide two DS<sub>1</sub>-capacity [connections] to each of ten tenants. At that point, the ILEC could recover its annual revenue requirement by dividing that requirement by ten. If, a decade later, the ILEC still served the same building using the same DS<sub>3</sub> [connection], but now served only five tenants (because others have shifted to [the ILEC’s competitors]), the ILEC now must cover its revenue requirement by amortizing that requirement [over those five customers]. Moreover, because fixed costs are so high relative to marginal costs, the total cost to serve the five tenants is no less (or almost no less) than the cost to serve all ten would have been. Put differently, between 2005 and 2015, if inflation-adjusted costs had remained the same, the ILEC’s per-unit costs would have *doubled*. Even if its productivity gains had resulted in its total real costs falling by half, the provider would only have broken

even, winding up with the same per-unit real cost in 2015 as in 2005. And if efficiencies had resulted in a 20 percent decline in real costs between 2005 and 2015, unit costs still would have *risen* by 60 percent.

Mid-Size ILEC Comments at 73-74 (emphasis in original) (JA\_\_-\_\_).

The FCC agreed that loss of scale was likely depressing or eliminating ILECs' productivity gains, bringing them below the levels that the KLEMS data would otherwise suggest. It recognized that "declining utilization of DS<sub>n</sub>-specific plans means that providers must amortize shared costs among fewer customers," such that "operating expenses may have fallen at a much slower rate than the demand for [DS<sub>n</sub>] services, *causing the average cost of providing DS<sub>n</sub> services to steadily climb.*" *BDS Order* ¶229 (JA\_\_) (emphasis added); *see also id.* ¶233 (JA\_\_) (finding that "[a]s demand for [DS<sub>n</sub>] services continues to fall, the costs directly attributable to ... maintaining this legacy technology[] will begin to rise" and that "there will likely be additional costs associated with warehousing, work programs, and maintaining expertise in TDM technology [the kind used to provide DS<sub>n</sub> service]"). It explicitly concluded, moreover, that, in light of this problem, its use of KLEMS data to set the going-forward X-factor "likely overstates, rather than understates, [BDS] productivity growth" for the services that would remain subject to price caps. *Id.* ¶231 (JA\_\_).

Having correctly identified the problem with the KLEMS data, however, the agency refused to correct it by adjusting the KLEMS-based X-factor range

downward. Instead, it simply selected the figure that was “[t]he arithmetic average and the mid-point of the four X-factors” produced by applying the KLEMS data to four time periods – *i.e.*, 2.0%. In defense of this approach, it claimed that no party had “submitted an X-factor study or similar data-based analysis purporting to show the X-factor should be lower than” that figure. *Id.* ¶225 (JA\_\_).

The FCC’s claim that there was no “X-factor study or similar data-based analysis purporting to show the X-factor should be lower than [2.0%]” in the record was simply false. Drs. Schankerman and Régibeau submitted detailed economic papers showing that the maximum permissible X-factor would be 1.06%. *E.g.*, SCHANKERMAN/RÉGIBEAU I ¶¶110-11 (JA \_\_-\_\_). Nor did this work escape the FCC’s notice: The *BDS Order* cites it more than 15 times in the section setting the X-factor alone. *See BDS Order* nn. 534, 543, 548, 560, 561, 562, 563, 564, 565, 577, 578, 579, 580 (JA\_\_-\_\_). The FCC’s selective memory on this front had potentially drastic consequences. As the *BDS Order* itself acknowledges, “[r]equiring DS1 and DS3 rates to be reduced by percentages that ignore the transition from a legacy, TDM technology to an advanced technology could require the incumbent LECs to supply [DSn offerings] at rates that do not recover their costs, and that inefficiently incentive businesses to rely on [DSn] services, rather than more advanced business data services.” *BDS Order* ¶234 (JA\_\_). To the extent the FCC opted for this outcome based on the purported absence of

evidence it well knew was in the record, its decision was arbitrary and capricious, and cannot stand.

### **CONCLUSION**

Petitioners respectfully ask the Court to hold unlawful, vacate, enjoin, and set aside the *BDS Order*'s 2.0% X-factor as arbitrary, capricious, and otherwise contrary to law.

Respectfully submitted,

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DATED: September 26, 2017

## CERTIFICATE OF COMPLIANCE

1. Pursuant to Fed. R. App. P. 32(a)(7)(B), as modified by the Court's August 22, 2017 briefing order granting the Petitioners Citizens and CenturyLink 10,000 words, the undersigned certifies that this brief complies with the applicable word limitations. Excluding the parts of the motion exempted by Fed. R. App. P. 32(f), the document contains 7,568 words, as determined by the word-count function of Microsoft Word; and

2. This document complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type-style requirements of Fed. R. App. P. 32(a)(6) because this document has been prepared in a proportionally spaced typeface using Microsoft Word 2016 in 14-point Times New Roman font.

3. This brief and the attached addendum have been scanned for viruses and are virus-free.

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## CERTIFICATE OF SERVICE

I, Melissa L. Turcios, hereby certify that on September 26, 2017, I electronically filed the foregoing Joint Opening Brief for Petitioner-Appellants Citizens Telecommunications of Minnesota and CenturyLink, Inc. (“Joint Petitioners Brief”) with the Clerk of the Court for the United States Court of Appeals for the Eighth Circuit using the CM/ECF system. Participants in the case who are registered CM/ECF users will be served by the CM/ECF system.

I further certify that I caused one copy of the foregoing Joint Petitioners Brief to be served via First Class Mail on the following:

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