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Federal Communications Commission
Office of the Secretary

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

Re: *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket No. 03-123; *Structure and Practices of the Video Relay Service Program*, CG Docket No. 10-51

Dear Ms. Dortch:

In accordance with the *Second Protective Order* for the above-referenced proceedings, Sorenson Communications, LLC ("Sorenson") herein submits a redacted version of the attached comments in the above-referenced proceedings.

Sorenson has designated for highly confidential treatment the marked portions of the attached documents pursuant to the *Second Protective Order* in CG Docket Nos. 03-123 and 10-51.[1] Sorenson's comments include granular data with respect to its costs for various categories of both allowed and additional costs, in absolute total and on a per-minute basis, the amount of traffic it receives, a list of its intellectual property and the valuation thereof, its interpreter efficiency, and its interpreter wage levels over time. As such these materials fall under the following enumerated items in Appendix A of the *Second Protective Order*:

2. Information that discusses in detail current or future plans to compete for a customer or specific groups or types of customers (*e.g.*, business or residential customers), including current and future procurement strategies, pricing strategies, product strategies, advertising or marketing strategies, business plans, technology implementation or deployment plans and strategies (*e.g.*, engineering planning documents), plans for handling acquired customers, and human resources and staffing strategies.
3. Information that provides granular information about a Submitting Party's past, current or future costs, revenues, marginal revenues, or market share, and future dividends.
4. Information that provides numbers of customers or devices when broken down by sub-national geography, customer type (*e.g.*, business) and/or levels or patterns of VRS usage, or when in a time series.

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[1] *Structure & Practices of the Video Relay Serv. Program; Telecomms. Relay Servs. & Speech-to-Speech Servs. for Individuals with Hearing & Speech Disabilities*, Second Protective Order, DA 12-858, 27 FCC Rcd. 5914 (Cons. & Gov't Affs. Bur. 2012).

6. Information that provides detailed or granular information about specific end point equipment or network operation, including engineering information and information related to equipment purchases or payments of licensing fees.

Pursuant to the protective order and additional instructions from Commission staff, Sorenson is filing a redacted version of the document electronically via ECFS, one copy of the Highly Confidential version with the Secretary, two copies of the redacted version with the Secretary, and sending copies of the highly confidential version to Eliot Greenwald and Robert Aldrich of the Consumer and Governmental Affairs Bureau and the TRS Reports mailbox.

Please contact me if you have any questions or require any additional information.

Sincerely,

John T. Nakahata
Counsel to Sorenson

Attachment

cc: Eliot Greenwald
Robert Aldrich
TRSReports@fcc.gov

REDACTED – FOR PUBLIC INSPECTION

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20544

In the Matter of:	
Structure and Practices of the Video Relay Service Program	CG Docket No. 10-51
Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities	CG Docket No. 03-123

COMMENTS OF SORENSON COMMUNICATIONS, LLC, REGARDING SECTION IV.A-B AND F OF THE FURTHER NOTICE OF PROPOSED RULEMAKING

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COMMENTS OF SORENSON COMMUNICATIONS, LLC, REGARDING SECTION IV.A-B AND F OF THE FURTHER NOTICE OF PROPOSED RULEMAKING

Sorenson Communications, LLC ("Sorenson") hereby comments in response to Section IV.A-B and F of the Commission's Further Notice of Proposed Rulemaking, released March 23, 2017 ("*FNPRM*").[1] Sorenson appreciates the Commission's commitment to the Americans with Disabilities Act of 1990 ("ADA") by recognizing the value that video relay service ("VRS") brings to the deaf community to allow telephone communications using American Sign Language ("ASL"). Sorenson also applauds Chairman Pai's decision to prioritize VRS among the first items under this leadership. Sorenson urges the Commission to take this opportunity to adopt a market-based, more efficient methodology to set rates that sustain VRS over the long term.

The proposal in the *FNPRM* for continuation of a four-tier structure over four years is arbitrary and capricious, and would set rates at levels that would impose substantial end-user charges—amounting to hundreds or even thousands of dollars—on deaf consumers, in violation of the Americans with Disabilities Act of 1990. As set forth below, to avoid such a result, VRS rates should not be set lower than $4.19 unless as the result of an auction or private contracting, and, in any event, the rate for Tier III should not be reduced further.

SUMMARY AND INTRODUCTION

Section 225(a)(3) of the Communications Act, 47 U.S.C. § 225(a)(3), adopted as part of the ADA, gives deaf Americans the civil right "to engage in communication by wire or

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[1] *Structure and Practices of the Video Relay Service Program; Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order, Notice of Inquiry, Further Notice of Proposed Rulemaking, and Order, 32 FCC Rcd. 2436, 2017 WL 1167513 (rel. Mar. 23, 2017) ("*FNPRM*").

radio . . . that is functionally equivalent to the ability of a hearing individual" to do so. It places responsibility on the Commission to ensure the availability of VRS to "remedy the discriminatory effects of a telephone system inaccessible to persons with disabilities."[2] To meet that goal, the statute directs the Commission to:

(1) "ensure that [TRS is] available, to the extent possible and in the most efficient manner, to hearing-impaired and speech-impaired individuals;"[3]

(2) "require that users of [TRS] pay rates no greater than the rates paid for functionally equivalent voice communication;"[4] and

(3) "not discourage or impair the development of improved technology."[5]

The tiered proposal in the *FNPRM* will not fulfill those statutory requirements, nor will other proposals if VRS rates—particularly the Tier III rate in a tiered system—are set below sustainable levels that meet those requirements. As TRS Consumer Groups said in their TRS Policy Statement, "Functional equivalency must be the standard filter through which every TRS program action proposed or taken by the Commission . . . is assessed."[6]

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[2] *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, 19 FCC Rcd. 12,475, 12,543 ¶ 179 (2004) ("*2004 R&O*").

[3] 47 U.S.C. § 225(b)(1).

[4] *Id.* § 225(d)(1)(D).

[5] *Id.* § 225(d)(2).

[6] Consumer Groups' TRS Policy Statement at 1, attached to Letter of Tamar Finn and Brett Ferenchak, Counsel to TDI, to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 03-123 and 10-51 (filed Apr. 12, 2011) ("Consumer Groups' Policy Statement").

I. The Commission Must Ensure That VRS Users Do Not Pay Higher Rates To Obtain VRS Than Hearing Individuals Pay to Receive Voice Communications. As shown in Table 1 below, based on the FCC's 2017 Urban Rate Survey data, VRS consumers must on average pay far more than hearing users pay for voice communications—by more than $50 per month—just to procure the broadband service necessary to use VRS. To ensure sufficient video quality for a conversation, deaf consumers must subscribe to a broadband service that has sufficient upload capacity (5 Mbps for 1080p resolution). According to the FCC's own survey data, the average urban voice subscriber pays a little more than $32 per month for voice telephone service, whereas broadband upload capacity of 5 Mbps costs almost $84 per month. With this disparity already present, the Commission cannot lawfully set VRS compensation rates—and disallow cost recovery from the TRS Fund—in a manner that would lead to even greater end-user charges on deaf consumers than they already must pay just to obtain broadband.

Table 1

What Hearing Users Pay		**What Deaf Consumers Would Be Expected to Pay Under the FCC's Principal Proposal**	
Monthly Fixed Voice Service		**Monthly Service (Paid Today)**	
Average Service Charge (including state USF)[7]	$30.95	Broadband Internet Access with 5 Mbps Upload[8]	$83.91
Federal USF Pass-Through (Maximum Federal SLC x 17%)	$1.56	**Added Implied Monthly Charges**	
Numbering Surcharges	Varies[9]	Numbering Charges[10]	$3.08
Total Monthly Hearing Charge	$32.51+ number surcharge	**Total Implied Deaf Monthly Charge**	$86.99
Charge for Phone Equipment		**Implied Charge for VRS Equipment**[11]	
Single Line Telephone	$10 to $60	Videophone/Monitor or Soft Videophone/Computer or Tablet	$600 to $1800

When the FCC disallows certain service or access device costs from being reported as allowable and then proposes to set VRS rates based only on allowable, reported costs, it is implicitly holding that these disallowed costs must be recovered from—*i.e.*, charged to—VRS consumers. So when the FCC disallows numbering-related costs as costs recoverable from the TRS Fund, it is pushing these charges to VRS consumers, notwithstanding the statute's direction that VRS users not pay more than hearing users to be able to use VRS and the fact that VRS users are already bearing $50 per month more in end-user charges.

This conflict between the ADA and the *FNPRM* is most glaring with respect to the proposal, set forth in para. 99, to lower rates so that VRS providers cannot afford to provide videophones, monitors, and other equipment necessary to use VRS without charge. If the Commission adopts rates designed to implement that proposal, hundreds of dollars in charges will be shifted to VRS users in violation of the statutory requirement that they "pay rates no greater than the rates paid for functionally equivalent voice communication."[12] As shown in Table 1, the difference between what hearing users pay and what VRS users would have to pay for equipment is stark: a single line telephone costs between $10 and $60, while a videophone

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[7] FCC URBAN RATE SURVEY DATA AND RESOURCES, 2017 Voice Survey Methodology at 6, *available at* https://www.fcc.gov/file/12055/download ("2017 Voice Survey Methodology").

[8] FCC URBAN RATE SURVEY DATA AND RESOURCES, 2017 Broadband Survey Results, *available at* https://www.fcc.gov/file/12059/download (data for rates at 5 Mbps upload) ("2017 Broadband Survey Results").

[9] Telecommunications carriers recover these costs in a variety of ways, including rolling these costs into general regulatory recovery fees. Both voice and broadband services may be subject to other fees and charges not listed here and not included in the FCC Urban Rate Survey, but they are not of a magnitude to alter the overall conclusions.

[10] *See* Section II.A.3, *infra.*

[11] *See* Section II.A.4.b, *infra.*

[12] 47 U.S.C. § 225(d)(1)(D).

(or equivalent combination of computer or tablet hardware and a software-based videophone) would cost between $600 and $1500 if a deaf consumer had to pay at retail.

No matter what rate proposal the Commission ultimately adopts—whether tiered, unified price-capped, or market-determined—in order to engage in reasoned decisionmaking in light of the statutory directive that deaf consumers not pay more than hearing consumers for voice telecommunications, it must expressly state exactly what charges it expects deaf consumers to pay, and offer a logical and rational explanation of how its rates and rate methodology achieve the statutory commands. Failing to do so would ignore the ADA and be arbitrary and capricious.

II. If the Commission Elects to Determine Cost-Based VRS Rate Levels Instead of Relying on a Market Mechanism, It Must Ensure That the Tier III Rate Is Set at a Sustainable Level That Does Not Impose Higher Charges on Deaf Consumers Than Hearing Consumers. As discussed below, Sorenson recommends that the Commission adopt a market-based mechanism to set VRS rates, as it proposed in 2013, and offers two such proposals. Each of these two market-based mechanisms is superior to again using a regulator-determined approach based on reported costs: as Chairman Pai recently observed, "Price regulation—that is, the government setting the rates, terms, and conditions . . . —is seductive. Who can possibly resist the promise of forcing prices lower *right now*? But in reality, price regulation threatens competition and investment. That's because regulators will always struggle to set the 'right' price."[13]

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[13] *See* Statement of Chairman Ajit Pai at 1, *Business Data Services in an Internet Protocol Environment,* WC Docket No. 16-143; *Technology Transitions*, GN Docket No. 13-5; *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 (Apr. 20, 2017), *available at* http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0420/DOC-344487A2.pdf ("Chairman Pai BDS Statement").

But if the Commission does not adopt either proposed market mechanism, and instead proceeds to set rates itself, it must take care to set an ultimate rate (at the end of any transition) that will allow the sustainable provision of VRS with end-user charges no higher for deaf consumers than the amount hearing consumers pay for voice telephone service. This is true regardless of whether the Commission adopts yet another set of transitional tiered rates or a unified price cap. Any rate below the level necessary to achieve reasonably comparable end-user charges would unreasonably and unlawfully force end-user charges above that level.

If the Commission were to set rates consistent with its 2013 statements that it sought to reach "market-based" rates, it would set the ultimate rate for all tiers at $4.35 per minute—the costs of the second-lowest-cost provider (based on the Tier II rates proposed by the other VRS providers). But even if the Commission sets *below-market* rates, a proper analysis of VRS costs—without any consideration of legacy debt service—demonstrates that the Commission should raise all tiers to $4.19 to cover both the service *and* necessary end-user equipment consistent with the statutory directive of charging deaf TRS users no more than what hearing users pay. Further, if the Commission were to continue to ignore end-user equipment charges and imposed hundreds of dollars of equipment charges on deaf consumers—which it should not—the rate for VRS alone should not be below $3.73.

This minimum VRS service-only rate of $3.73 is based on the following:

- Taking into account Sorenson's corrected 2016 Annual TRS Provider Data Request ("RSDR") report, the industry average projected reported allowable costs for 2017-2018 (excluding the return on investment component) is approximately $2.92. It is appropriate to use average 2017-2018 projected rates rather than 2016 actual rates because the principal difference is the cost of video interpreter wages which, in a labor-intensive-service business, should be expected to increase—not decrease—from year to year.

- In light of the fact that deaf consumers already pay substantially more for their broadband service necessary to use VRS than hearing users pay for voice service,

there is no justification for continuing to exclude numbering-related costs, including 911 fees, from VRS compensable costs. The $3.73 per minute rate includes these costs.

- The RSDR reports, which are based on explicit costs, wholly ignore the value of provider-owned intellectual property used in whole or in part in the design and operation of VRS. Inasmuch as these would clearly be allowable costs if paid to a third party, they must also be imputed to self-provisioning providers, and are included in the $3.73 per minute rate.

- The *FNPRM* correctly proposes to use a margin-based approach to establish the return component for a VRS provider, rather than the return on book capital investment approach used by incumbent local exchange telephone companies. An examination of adjusted EBITDA margins for large publicly-traded information-technology consulting companies (another high-skill service industry) listed by Bloomberg shows average margins of 15.9 percent—which, with a 40 percent tax rate, would be 9.54 percent after tax.[14] The $3.73 per minute rate includes this margin.

If the Commission is unwilling to raise any VRS rates despite the evidence showing that a Tier III rate increase is justified (which would itself be arbitrary and capricious), Sorenson urges that the Commission at a minimum not further reduce Tier III rates below $3.49 either immediately or at the end of any rate transition. That rate is already below the economically rational long-term rate and accordingly will "discourage or impair the development of improved technology," contrary to the statute.[15] Notably, Sorenson has not included *any* historical debt service costs in calculating this rate: it is asking the Commission to set a rational and sustainable rate without reference to the debt its former owners incurred.

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[14] The *FNPRM* proposed a margin of up to 9.75 percent based on the Commission's prescribed rate of return for incumbent telephone companies, but, contrary to the application of that rate to rate-of-return carriers, failed to adjust for taxes. As discussed further below, we assume that was an oversight.

[15] 47 U.S.C. § 225(d)(2).

After any rate transition, the Commission should adopt a price cap rather than continuing to set rates itself. Contrary to suggestions in the *FNPRM*, there is no basis for setting a different rate for every provider.

III. The Commission Should Use Market Mechanisms to Set VRS Rate Levels Rather Than Relying on Regulators' Determinations. Sorenson proposes two possible ways of using the market—rather than error-prone judgments by regulators—to set rates that fulfill the statutory commands: (1) using an individual carrier contracting system, as contemplated by the statute, or (2) employing a reverse auction to initialize a price-cap rate. Using either of these mechanisms, the Commission would specify the maximum charges to a VRS user for services and equipment and continue to enforce performance requirements (such as speed of answer, call privacy, and 24x7 operation), and the market would then discover the cost of providing functionally equivalent service to deaf consumers. These approaches would require the least amount of regulatory intervention and avoid artificial line drawing. Thus, the Commission would not have to determine costs and set rates annually—a process that the Commission has acknowledged is inexact and subject to errors, including the potential for setting rates too low,[16] which would also violate the statutory directive "not [to] discourage or impair the development of improved technology."[17]

An important reason to adopt a market-based approach is that it would enable the Commission to abandon the use of tiered rates—although the Commission should do so only after adopting a market-based rate or setting sustainable Tier III rates. It remains the case that

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[16] *See* Chairman Pai BDS Statement at 1 (noting with respect to network prices, "If it's too low, network owners won't have an incentive to invest in more modern networks. Why would they if by law they can't get a return on that investment?").

[17] 47 U.S.C. § 225(d)(2).

"no party . . . has presented a valid reason why the TRS Fund should support indefinitely VRS operations that are substantially inefficient."[18] But the principal proposal in the *FNPRM* not only continues the use of tiers; it proposes to continue for four more years a fourth tier—the so-called "Emergent" tier. In addition, contrary to the Commission's prior commitment to narrow the range between the rates for the various tiers, all of the proposals advanced in paras. 93 and 94 of the *FNPRM* would *broaden* the difference between Tier I and Tier III. Together, these would result in four more years of subsidization for the two least efficient providers, and put the Commission further from achieving its goal of establishing a unitary rate that provides functionally equivalent VRS "in the most efficient manner." As Chairman Pai recently warned, "There's an allure, I'll concede, to micromanaging prices, terms, and conditions. But hopes and good intentions can't override economic analysis and hard data. Micromanagement can thwart competition. It can stifle investment. It can prevent us from ever achieving long-term results that benefit consumers."[19]

The four-tier proposal submitted by the three other VRS providers (Global, Convo, and the now-combined ZVRS/Purple) and incorporated into the *FNPRM* lacks justification. For example:

- The proposed "Emergent" tier is inefficient and would subsidize very small providers by paying them a higher rate than anyone else for four more years—even though they do not project growth beyond the "Emergent" level during that time. These providers can hardly be considered "new entrants": by July 2017 when the new rate year commences, these providers will have been VRS providers eight (Convo) and nine

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[18] *Structure and Practices of the Video Relay Service Program; Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order and Further Notice of Proposed Rulemaking, 28 FCC Rcd. 8618, 8698 ¶ 198 (2013) ("*VRS Reform Order*").

[19] Chairman Pai BDS Statement at 1.

(ASL/Global) years, and will already have been paid higher per minute rates than all other providers for two full years.

- The Commission's effort to justify tiers on the basis that its failure to create a "neutral communications platform" prevented providers from expanding their businesses ignores "the general lack of industry interest in the neutral . . . platform" project[20] — which, in the same section of this *FNPRM*, the Commission now proposes to terminate entirely.[21]

- Interoperability problems for point-to-point calls between providers likewise do not support the adoption of the proposed tiered rates. These interoperability issues for point-to-point calls were largely resolved by 2012. Interoperability problems are now completely resolved for calls involving Sorenson, Purple, ZVRS, and Convo, although Global has declined to fully participate in coordination among the other providers that resolved the interoperability issues.

- Neither the proposal nor the *FNPRM* analyzes provider costs to ascertain whether the principal sources of cost differential are actually subject to economies of scale. Any examination of cost data provided by the TRS Administrator would have shown that the principal source of cost differentials between Sorenson and the now-combined ZVRS and Purple were Video Interpreters, corporate overhead and administrative, and marketing expenses. Neither the other providers' proposal nor the *FNPRM* attempts to explain why there are significant economies of scale with respect to these costs when, for example, more minutes of use require providers to hire more interpreters. Moreover, examination of confidential data submitted by the providers undermines any claim that there are significant economies of scale—for example, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

- The rates for Tier III proposed by the other providers (none of which would be compensated at the Tier III level unless they substantially expanded their minutes of service) were purportedly based on the Administrator's 2015 "allowable" industry average costs for all VRS minutes.[22] Those rates not only fail to reflect *actual* industry average VRS costs, but are also arbitrary because they are based on 2015 costs in a labor-intensive industry in which wages are a substantial portion of costs—and are projected to *increase*. There is no basis for concluding that Sorenson, the

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[20] *FNPRM*, 2017 WL 1167513 at *33 ¶ 104.

[21] *See id.*

[22] *See* Letter of Paul C. Besozzi and Benjamin D. Tarbell, Counsel for Purple Communications, Inc., to Marlene H. Dortch, Secretary, FCC, at 9, CG Docket Nos. 03-123 and 10-51 (filed Jan. 31, 2017) ("Small Providers' VRS Rate Proposal").

most efficient and only provider in Tier III, can further increase interpreter efficiency to offset wage increases.

Server-Based Routing. The *FNPRM* also seeks comment with respect to server-based routing. The Commission should change its rules expressly to permit server-based routing. Server-based routing has, for several years, been essential not only to the SIP Profile, but also to providing VRS behind corporate firewalls. Failure to permit server-based routing would substantially hinder the provision of VRS in institutional environments.

Research and Development. Sorenson does not object to the Commission continuing to use some money from the TRS Fund to support research and development. By itself, however, the proposal is insufficient to meet the statute's requirement that the Commission "not discourage or impair the development of improved technology."[23] The Commission should also consider research-and-development costs to be "allowable" regardless of whether the costs are necessary to meet mandatory minimum standards. Research to *improve* current technological capability necessarily aims at providing better service rather than service that meets today's minimum requirements.

ARGUMENT

I. REQUIRING DEAF USERS TO PAY SUBSTANTIALLY MORE FOR VRS THAN HEARING USERS PAY FOR PHONE SERVICE VIOLATES SECTION 225.

Section 225 of the Communications Act guarantees deaf Americans the right to communications services that are "functionally equivalent" to the services received by hearing Americans.[24] Equally important, the statute requires that deaf individuals "pay rates no greater

[23] 47 U.S.C. § 225(d)(2).

[24] *Id.* § 225(a)(3).

than the rates paid for functionally equivalent voice communications services."[25] And the Commission must ensure that its regulations "do not discourage or impair the development of improved [VRS] technology."[26] In addition, the Commission "shall ensure" that "services are available, to the extent possible and in the most efficient manner."[27]

The Commission must read these statutory commands harmoniously, so that each criterion is satisfied. Therefore, the Commission may not, for example, decide not to make functionally equivalent service available on the ground that it would more efficient not to do so. Nor may the Commission choose to make deaf individuals pay more than hearing individuals for equivalent communications services even if it were to decide that it would be more efficient to do so. The statute guarantees users the right to functionally equivalent services at comparable rates, and the Commission must ensure that functionally equivalent services are provided in the most efficient manner.

As VRS rates approach the average per-minute cost, however, costs deemed by the Commission not to be "allowable" will be forced onto VRS consumers. In order to avoid violating the statute's prohibition against higher rates for deaf users, the Commission must ensure that costs in excess of what hearing users pay for functionally equivalent voice services are captured in VRS rates. Moreover, while the Commission in the past has stated that it will only recognize "*the providers'* expenses in making the service available and not the customer's costs of receiving the equipment,"[28] that determination ignores reality from the consumer's perspective. From a user's perspective, in order to use VRS, he or she must acquire a

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[25] *Id.* § 225(d)(1)(D).

[26] *Id.* § 225(d)(2).

[27] *Id.* § 225(b)(1).

[28] *VRS Reform Order*, 28 FCC Rcd. at 8696 ¶ 193.

videophone, monitor and, if needed for voice-carryover, speakers. When the user does not already have these, these are "costs caused by interstate telecommunications service" because the consumer would not incur them without the need to use VRS.[29]

The Commission cannot blithely assume that deaf consumers already possess computers, tablets, or high-resolution (1080p) video monitors with HDMI connections that are necessary to use VRS at the levels of visual clarity needed to discern and distinguish signs. Indeed, with respect to broadband, census data shows that individuals who identify themselves as deaf or having serious difficulty hearing are far less likely (58.6 percent versus 77.4 percent) to have broadband in the home than hearing individuals. This becomes even more pronounced at lower income levels, with individuals who are deaf or have serious difficulty hearing and who have annual incomes below $25,000 only having 34.2 percent household broadband adoption, as compared to 52.3 percent of hearing individuals in the same income stratum.[30]

As summarized in Table 1, above, just at the level of the base monthly expenditure required to put service in place, deaf consumers pay far more for their broadband service necessary to operate VRS than hearing consumers would pay for a standalone voice telephone service. The FCC's 2017 Urban Rate Survey—which the FCC uses to establish both minimum and maximum voice telephone service rates supported by high cost universal service support—shows that the nationwide average urban rate for unlimited local usage voice telephone service, including the federal subscriber line charge, is $30.95.[31] In addition to these charges, a voice

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[29] *Cf. id.* at 8697 ¶ 194, stating that equipment costs are not "costs caused by interstate telecommunications relay service."

[30] This data comes from the Census Bureau's 2015 American Community Survey. UNITED STATES CENSUS BUREAU AMERICAN COMMUNITY SURVEY, Data, *available at* http:// census.gov/programs-surveys/acs/data.html/ (last visited Apr. 23, 2017).

[31] 2017 Voice Survey Methodology at 6.

consumer would be subject to both federal universal service charges (estimated in Table 1 at 17 percent of the maximum federal subscriber line charge of $9.20), and other taxes and fees, including in some cases surcharges that include numbering costs.[32]

To make an equivalent call, a deaf consumer must first purchase broadband service. Moreover, because consumer broadband is generally offered as an asymmetric service, with faster download speeds than upload speed, a deaf consumer must purchase a tier of broadband with sufficient *upload* capacity. Although VRS can be used at 480p with 1.5 Mbps upload capability, the higher quality 1080p which provides sharper definition for discerning signs requires 5 Mbps upload capability. According to the data in the FCC's 2017 Urban Rate Survey, the average monthly rate for a fixed broadband service with 1.5 Mbps upload is $60.99 and for 5 Mbps is $83.91.[33] Both of these substantially exceed the average cost of voice service by far more than any additional fees not captured in the Urban Rate Survey, and in any event are themselves subject to additional taxes and fees (including FCC regulatory fees).

With respect to equipment, voice telephones are mass produced and can be easily purchased and installed by the consumer without the assistance of a technician simply by plugging in an RJ-11 jack. According to Amazon.com, a rudimentary single line voice telephone costs approximately $10, and even more fully featured single line voice telephones only cost $15 to $60.[34]

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[32] As noted in Table 1, although the actual federal universal service fee may be higher if there are separate charges for long-distance calling, that increment and any other fees and charges are not material given the magnitude of the difference between telephone and broadband rates.

[33] *See* 2017 Broadband Survey Results.

[34] *See, e.g.*, AT&T 210M Trimline Corded Phone, Black 1 Handset, AMAZON.COM, *available at* https://www.amazon.com/AT-Trimline-Corded-Phone-Handset/dp/B00005MITU/ref=sr_1_1?s=office-electronics&ie=UTF8&qid=1492631783&sr=1-1&keywords=telephone&refinements=p_n_feature_four_browse-bin%3A2057443011 (last visited Apr. 21, 2017)

Videophones and related equipment necessary for VRS are significantly more expensive. The Cisco phone that ZVRS provides as the Z70[35] has a current retail price of $1762.76.[36] Sorenson's costs (without any mark-up) to provide videophones are lower—approximately $650 per subscriber—taking into account the costs of manufacturing the videophone, a 19" monitor with an HDMI connector,[37] necessary cabling and routers, installation labor time, and a share of the research-and-development costs. For a consumer that chose to use a tablet or laptop, the costs would be similar, taking into account the consumer's cost of purchasing the underlying device and the costs to develop the software.

It should not be surprising that videophones and necessary related equipment are significantly more expensive than telephones, given that they must have significant computer processing capability and a video display. The fact that Sorenson has designed and improved its videophone over the years is not an example of gold-plating as para. 99 of the *FNPRM* would

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($9.77); AT&T CL2939 Corded Phone, Black, 1 Handset, AMAZON.COM, *available at* https://www.amazon.com/AT-CL2939-Corded-Phone-Handset/dp/B002L3XJ3Y/ref=sr_1_3?s=office-electronics&ie=UTF8&qid=1492631541&sr=1-3&keywords=telephone&refinements=p_n_location_browse-bin%3A5875854011%2C4744452011%2C6286841011%2Cp_n_feature_four_browse-bin%3A2057443011 (last visited Apr. 21, 2017) ($18.50); GE 29586GE1 Corded Desktop Speakerphone with Tilt Screen, AMAZON.COM, *available at* https://www.amazon.com/GE-29586GE1-Corded-Desktop-Speakerphone/dp/B00192L746/ref=sr_1_7?s=office-electronics&ie=UTF8&qid=1492631541&sr=1-7&keywords=telephone&refinements=p_n_location_browse-bin%3A5875854011%2C4744452011%2C6286841011%2Cp_n_feature_four_browse-bin%3A2057443011 (last visited Apr. 21, 2017) ($58.95).

35 ZVRS.COM, *Introducing the New Z70*, *available at* http://www.zvrs.com/services/products/z70/ (last visited Apr. 23, 2017).

36 *See* Cisco Video Conferencing Kit (CP-DX70-W-K9=), AMAZON.COM, *available at* https://www.amazon.com/Cisco-Video-Conferencing-Kit-CP-DX70-W-K9/dp/B00PRY6KJ4/ref=sr_1_1?s=electronics&ie=UTF8&qid=1492632085&sr=1-1&keywords=cisco+video+conferencing+kit (last visited Apr. 23, 2017).

37 Sorenson frequently uses televisions, which are readily available and include speakers necessary for voice carryover. However, in this cost estimate, we have used the lower price of a 19" monitor from Amazon.com.

seem to suggest (referring to "state-of-the-art" videophones), but design to provide functionally equivalent services and features through, in the words of Section 225(d)(3), "the development of improved technology." For example, Sorenson videophones prioritize video over audio, while devices built primarily for hearing users (such as the Cisco videophone or applications such as FaceTime or Google Voice) do the opposite. Sorenson has also designed its videophones with different lenses, one for an office-type setting in which the user sits close to the videophone, and one in which the user is standing further away, such as in a living room. Sorenson's videophones have distinctive light rings, similar to distinctive rings on hearing phones, and the ability to interact with the core network for features such as speed dial and contacts, SignMail instead of voicemail, and group video calling. These features have to be designed for use by the deaf, with costs recovered over the much smaller base of deaf consumers. When the FCC states that customer premises equipment costs are "not allowable," that sounds technical. But it means that the FCC believes that deaf consumers are responsible for spending the hundreds of dollars necessary to procure this equipment, which is functionally equivalent to the $10 to $60 voice telephones.

Finally, in addition to requiring VRS users to pay more for equivalent service, setting rates to require users to buy videophones will undoubtedly discourage the development of new technology, in violation of Section 225(d)(2). Deaf Americans are, on average, poorer than hearing Americans,[38] and providers are likely to forgo investing in new and better technology if service rates are set at levels very near to average allowable costs—which do not include

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[38] *See* Blanchfield et al., *The Severely to Profoundly Hearing-Impaired Population in the United States: Prevalence Estimates and Demographics* at 4, JOURNAL OF THE AMERICAN ACADEMY OF AUDIOLOGY, Vol. 12 No. 4 at 185-186 (Apr. 2001), *available at* https://www.audiology.org/sites/default/files/journal/JAAA_12_04_03.pdf.

equipment costs—and deaf consumers must bear the cost themselves rather than obtaining equivalent communications service for comparable rates.

II. IF THE COMMISSION ITSELF DETERMINES VRS RATE LEVELS, RATHER THAN RELYING ON A MARKET MECHANISM, IT MUST SET A SUSTAINABLE TIER III RATE THAT DOES NOT UNLAWFULLY SHIFT COSTS TO VRS USERS.

If the Commission does not use a market-based mechanism such as auctions or private contracting to determine VRS compensation rates (as discussed *infra* at Section III), it needs to ensure that the Tier III rate—or ultimate unified price-cap rate—is sufficient to permit deaf Americans to obtain functionally equivalent communications services without paying more than hearing persons pay for equivalent voice communications services.[39] It is appropriate to focus on the Tier III rate because under any regime that uses tiers as a transitional mechanism, the Tier III rate will mark the endpoint for the transition.[40]

Even if the Commission sets rates based on cost reports rather than relying on an auction mechanism or private contracts, it can still set rates that mimic those of a market. In a market with multiple providers with differing costs a market-based rate would be the rate reflecting the costs of the *second-lowest-cost provider*.[41] All data indicate that the costs of the second-lowest-

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[39] For convenience, all references to a Tier III rate include the rate that would be used if the Commission were to move immediately to a unified rate in a price-cap mechanism. Of course, if at a given level the Tier III rate would be above the Tier I or Tier II rate, then the reference to the Tier III rate includes those tiers as well.

[40] While it is logically possible for the Commission to increase Tier III rates at a later point in the transition so as to equalize the compensation for tiers at a higher level, that is unlikely to occur in practice.

[41] *See* An Economic Analysis of VRS Policy Reform: Declaration of Michael L. Katz, *attached as* Appendix A to Comments of Sorenson Communications, Inc., CG Docket Nos. 10-51 and 03-123 (filed Mar. 9, 2012) ("March 9 Katz Declaration") (setting rates equal to the costs of the N+1st provider will "mimic the competitive process and provide competitive incentives for providers to lower their costs.").

cost provider are substantially above the $3.49 rate currently applicable to Tier III, and thus, the Commission should not further reduce Tier III if it seeks—as it has stated—to achieve market-based rates.

Indeed, if the Commission were to set rates consistent with its 2013 statements that it sought to reach "market-based" rates, it would set the ultimate rate (Tier III in a transitional tiered system) at $4.35 per minute—the costs of the second-lowest-cost provider (based on the Tier II rates proposed by the other VRS providers). But even if the Commission sets *below-market* rates, a proper analysis of VRS costs—without any consideration of legacy debt service—indicates that the Commission should raise the Tier III rate to $4.19 to cover both the service *and* necessary end-user equipment consistent with the statutory directive of assessing the deaf no more than what hearing users pay, and a commercially reasonable margin reflective of what would be expected in a service industry. This rate is higher than the rates contemplated by the *FNPRM* because it includes not only necessary VRS equipment costs, but also numbering costs that are clearly attributable to providing VRS—which the Commission has refused to recognize as allowable costs—and imputed intellectual property costs. Even if the Commission continues to exclude costs relating to physical endpoints—thereby placing a large financial burden on deaf consumers—the Tier III rate should not be lower than $3.73.

Not only do the *FNPRM*'s proposed Tier III rates omit the costs of both service and end-user equipment, but they also are not based on current data even for the periods cited, and fail to account for predictable increases in Video Interpreter wages and benefits in the coming years. As such, those rates would be arbitrary and capricious.

A. The *FNPRM*'s Proposed Tier III Rates Do Not, As They Must, Capture the True Costs of Providing VRS over the Long Term.

As discussed above, Section 225's requirement that deaf individuals who use VRS must "pay rates no greater than the rates paid for functionally equivalent voice communications services" is a critical element of the ADA's remedial goal.[42]

To fulfill its responsibility to deaf consumers, the Commission needs to adopt a rate structure adequate to sustain—and indeed *improve*[43]—VRS over the long run. The *FNPRM*'s proposed rates would not do that because they rely on an unreasonably incomplete subset of providers' actual costs of providing the service.

There are four steps to setting a reasonable Tier III rate using a regulator-determined, reported-costs approach rather than a market-based approach. First, the Administrator's calculations should be examined to identify the most reasonable starting point based on its analysis of allowable costs. Second, that figure should be increased on account of allowable costs that the Administrator did not consider, in particular imputed intellectual property costs. Third, it should be further increased on account of actual costs that are not considered allowable, but must be considered in order to meet the statutory mandate that deaf consumers not be required to pay more than hearing consumers pay for voice service. And fourth, an appropriate margin reflecting the fact that VRS is a labor-intensive service, not a capital-intensive telephone company, should be added in the place of the rate-of-return on booked capital investment, which has historically provided a margin of only one to two percent (or even less).

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[42] 47 U.S.C. § 225(d)(1)(D).

[43] *See id.* § 225(d)(2).

1. The Commission Cannot Reasonably Rely on Outdated Allowable Cost Data, or Fail to Recognize That VRS Labor Costs Are Likely to Increase over Time.

In paras. 93 and 94 of the *FNPRM*, the Commission lists two possible Tier III rates for year 1: $3.49, the current rate, and $2.83, the rate proposed by the other providers. For year 4, the Commission list three possible rates: $3.49; $2.83; and $2.63, which the Commission describes as the "average historical expenses for all providers."[44] None, and particularly not $2.83 nor $2.63, is a reasonable starting point, as both are based on out-of-date data summaries and fail to take into account predictable increases in VRS labor costs.

a. Historical Data.

The *FNPRM* sets forth a possible $2.63 rate for Tier III stating that it is "based on average historical expenses for all providers."[45] The *FNPRM* does not identify the historical period to which it refers, but presumably it purports to be referring to 2015, because in 2016, the Administrator reported industry average VRS costs of $2.96 per minute for 2014, indicating that reported allowable costs declined from 2014 to 2015.[46] However, the most recent data from the Administrator states that total industry allowable costs averaged $2.7270 per minute for 2015, and increased to $2.7937 in 2016. Accordingly, the $2.63 figure appears to be either an error or obsolete. There is no basis for a Tier III rate of $2.63.

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[44] *FNPRM*, 2017 WL 1167513 at *31 ¶ 94.

[45] *Id.*

[46] *See* RolkaLoube, *2016-2017 TRS Filing Presentation* at slide 20 (Washington, DC, Apr. 6, 2016), *available at* http://media.wix.com/ugd/455e4d_5c1ce53a10894091b74dcfc19063c1da.pptx?dn=Spring%20Council%20Meeting%20Material%20-2016.pptx. Because the Commission has not yet provided, pursuant to protective order, the data on which it actually relied, we cannot verify the actual data to which the FNPRM refers.

For the same reasons, the proposed Tier III rate of $2.83—based on the proposal by the higher cost VRS providers—also lacks any basis. Those providers stated that $2.83 was the industry average cost reported by the Administrator when including outreach, but excluding return on investment.[47] However, the most recent data published by the Administrator shows that total would be $2.8135 for 2015 and $2.9173 for 2016.[48] Neither the *FNPRM* nor the other providers explain why it would be rational to use 2015 data in lieu of 2016 actuals (or 2017-2018 projections, as discussed below), or to remove the return component from Tier III rates. (Sorenson agrees that it is rational to include outreach, which the Commission excluded in 2013 on the theory that it would conduct all outreach.)

Moreover, the Administrator provided estimated allowable costs of $2.8758 for 2017 and $2.9140 for 2018. Due to Sorenson's correction and refiling of its cost reports, the projected industry average costs are actually approximately $2.93 for 2017 and $2.97 for 2018.[49] The average of these updated 2017 and 2018 estimates (which would be $2.92 when the return component is excluded) provide the appropriate starting point for setting 2017 VRS rates because they reflect the fact that VRS labor costs predictably will increase over 2016 levels. The Administrator's data show that the differential between the 2016 actual reported allowable costs and 2017 projected allowable costs, as well as virtually all of the difference between 2018 projected costs and 2017 projected costs, is entirely due to increases in Video Interpreter costs

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[47] *See* Small Providers' VRS Rate Proposal at 9.

[48] *See* RolkaLoube, *2017-2018 TRS Filing Presentation* at slides 17 and 19 (Washington, DC, Mar. 29, 2017), *available at* http://media.wix.com/ugd/455e4d_ea792561fd72442090 ec35c37c591e01.pptx?dn=advisory%20council%20draft%20presentation.pptx ("2017-2018 TRS Filing Presentation"). Sorenson filed revised cost reports for 2016 and projections for 2017 and 2018 after Rolka Loube presented these numbers to the TRS Advisory Committee. Thus, the actual industry averages are higher.

[49] *See* note 48, *supra*.

(termed "CA-related" in the Administrator's reports). In fact the 2017 projected costs include cost reductions in other categories that offset some anticipated increases in VRS labor costs.

b. Interpreters.

Video Interpreters are the largest component of VRS costs—alone comprising approximately half of the industry average allowable costs reported by the Administrator. As shown in the chart below, interpreters' wages have been essentially flat for approximately the past six years as providers have coped with declining VRS rates.[50]

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[50] For example, the average hourly wage for Sorenson's full-time VIs has *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** over the period from February 2011 to February 2017. Likewise, its part-time interpreter average hourly wage has *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** over the same period.

This wage stagnation cannot be expected to continue; the wages for Video Interpreter can reasonably be expected to *increase* in coming years at least on pace with inflation, and most likely more because wages for community interpreters have increased substantially over the last few years. According to Sorenson's surveys, wages for community interpreters increased more than 9 percent from 2012 to 2016, and the most-skilled interpreters' community rates increased by 23 percent. Sustained stagnation in Video Interpreter wages is therefore not sustainable over the longer term. Because these highly skilled individuals have opportunities for higher paying community interpreting, they can easily shift hours away from VRS.[51] By failing to build in any increase in Video Interpreter costs, the Commission would be implicitly stating that its long-term plan is to reduce VRS quality.

Moreover, Sorenson will be unable to offset these increased Video Interpreter wages by increasing Video Interpreter efficiency. While Sorenson has been able to increase interpreter efficiency (defined as the ratio of VRS compensable minutes to minutes for which the Video Interpreter is paid), those gains have diminished substantially and are reaching the vanishing point.

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[51] In Sorenson's experience, its VIs work on average ***BEGIN HIGHLY CONFIDENTIAL*** [redacted] ***END HIGHLY CONFIDENTIAL*** whereas those same interpreters work 15-20 hours per week in community interpreting. This work is generally less demanding than VRS (work in teams, ability to choose the type of work), and it is standard for interpreters to be paid their hourly rate for travel to and from the community assignment.

The chart below shows Sorenson's interpreter efficiency since the July 2013 rate order.

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Given this trajectory, it is not reasonable to assume that increased interpreter productivity will offset increased interpreter wages.

Indeed, a VRS provider could never expect to reach 100-percent interpreter efficiency: Video Interpreters are highly skilled humans, not machines. Video Interpreters require breaks in order to maintain effective interpretation. Sorenson interpreters have a ten-minute break every hour, but also need some break between calls. Furthermore, approximately 25 percent of the time that a Video Interpreter is handling a VRS call is spent setting up and taking down the call, which are not compensable minutes. Thus, with a ten-minute break per hour, the maximum efficiency that could be achieved by an interpreter that never took a break between calls, never attended training "on-the-clock," never had any calls scrubbed as non-compensable, never

teamed with another interpreter to assist with a hard-to-understand or 911 caller, and never had any paid leave time would be 62.5 percent—or 37.5 minutes per hour. This level of interpreter efficiency is, of course, unattainable under industry best practices and, if attempted, would rapidly lead to interpreter burnout.[52]

Accordingly, the appropriate base level from which to begin determining Tier III rates, subject to further adjustments discussed below, is the average of projected costs for FY2017 and FY2018, which including Sorenson's revisions, would be approximately $2.92, excluding the return on capital component assuming a margin approach is used (as it should be, as discussed further below). To the extent the Commission is setting rates for four years, it would be appropriate to assume continued growth in VRS costs driven by VRS interpreter wages. As discussed in Section II.B.2 below with respect to price-cap productivity factors, it is not clear that VRS will be significantly more productive than the economy as a whole.[53]

2. Imputed Intellectual Property Costs Must Also Be Included in Setting a Long-Term, Sustainable Target Rate.

Beginning from those costs of $2.92 without the return component, the Tier III base rate should be further adjusted upward to take intellectual property rights into account. The RSDR reports are based on explicit costs, and thus wholly ignore the value of provider-owned intellectual property used in the design and operation of VRS because there is no booked transfer cost. Inasmuch as these are clearly allowable costs if paid to a third party, they must also be imputed to self-provisioning providers in setting rates.

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[52] *See* Kathryn Bower, *Stress and Burnout in Video Relay Service (VRS) Interpreting*, JOURNAL OF INTERPRETATION Vol. 24 Issue 1 (2015), *available at* http://digitalcommons.unf.edu/cgi/viewcontent.cgi?article=1047&context=joi (finding that the top two suggestions by Video Interpreters to reduce stress from VRS were to increase time between calls and increase break time).

[53] *See* Section II.B.2, *infra.*

There is no question that intellectual property is an allowable cost when a VRS provider pays a royalty or license fee to a third-party patent holder. In the analogous IP CTS context, for example, two providers of IP CTS license technology from a third-party patent holder.[54] These license fees are plainly a cost for those IP CTS providers and appear to be reported as such on their RSDR reports.[55] The same should, of course, be true when a VRS provider develops its own intellectual property; the Commission cannot rationally consider third-party charges for intellectual property licenses (whether or not separately stated) to be an allowable TRS cost, but ignore a commensurate value for intellectual property when self-provisioned. As explained below, Sorenson's VRS intellectual property rights, reflecting the amount another VRS provider should expect to pay were it to lease Sorenson's patents, would have a value of approximately *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** per minute when amortized over ten years, and can be used as a proxy for the industry average in calculating VRS rates.

Exhibit 1, attached, is the expert report of Scott Cragun, an expert who conducted a valuation of Sorenson's intellectual property. Mr. Cragun reviewed other comparable types of licenses and litigation results and determined an appropriate royalty rate, which he then applied to a ten-year projection of revenues earned using the licenses and determined a net present value for the intellectual property.[56] Mr. Cragun separately identified the value attributable to

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[54] *See, e.g.*, Comments of Ultratec, Inc. and CapTel, Inc. on Petition Filed by Sorenson Communications, Inc. and Captioncall, LLC Regarding Licensing of Internet Protocol Captioned Telephone Service, CG Docket Nos. 03-123 and 13-24 (filed Dec. 29, 2014).

[55] Sorenson lacks first-hand knowledge of those providers' RSDR reports. However, industrywide summaries prepared by the Administrator indicate large payments in the "Other" category, which is where such fees would be reported. *See* 2017-2018 TRS Filing Presentation at slides 12-13.

[56] The value of this intangible asset is based on the investment standard value to Sorenson. The basis is set forth in the attached expert evaluation. *See* Letter from Scott W. Cragun,

intellectual property used solely for end-user devices and intellectual property used for the service. ***BEGIN HIGHLY CONFIDENTIAL*** [redacted] ***END HIGHLY CONFIDENTIAL*** per minute represents the amortized annual value of intellectual property used for VRS, divided by reported VRS minutes for 2016 (which were ***BEGIN HIGHLY CONFIDENTIAL*** [redacted] ***END HIGHLY CONFIDENTIAL*** minutes). In addition, calculated in the same manner, the per-minute value of intellectual property associated with the end point and not used for VRS was ***BEGIN HIGHLY CONFIDENTIAL*** [redacted] ***END HIGHLY CONFIDENTIAL*** per minute.

Even if the Commission were to reach a different conclusion about the value of Sorenson's service-related intellectual property, it cannot ignore it entirely and must include those costs in calculating a long-term, sustainable rate. It would plainly be arbitrary and capricious to impute *no* value to Sorenson's—or any other provider's—intellectual property, especially because the Commission would recognize those costs if they were paid to a third party and because doing so would discourage innovation. And it would be particularly bad policy to penalize providers who develop their own intellectual property if the Commission is to encourage innovation. The Commission cannot simply disregard these costs without any rational basis.

Director, Echelon Analytics, to L. Rex Sears, Counsel, Sorenson Communications, LLC (Apr. 19, 2017), attached as Exhibit 1. In computing the royalty in order to determine the per-minute rate for intellectual property, Mr. Cragun did not incorporate any changes to existing VRS rates, even though the rate should increase, nor did he include any projected growth in VRS demand. If the VRS rate were to increase to reflect all service and equipment costs that are currently excluded, the per-minute value of intellectual property used for the VRS service would be ***BEGIN HIGHLY CONFIDENTIAL*** [redacted] ***END HIGHLY CONFIDENTIAL*** per minute, with an additional ***BEGIN HIGHLY CONFIDENTIAL*** [redacted] ***END HIGHLY CONFIDENTIAL*** per minute with respect to endpoint access devices.

3. The Commission Cannot Continue to Disallow Numbering Costs Without Violating Section 225's Requirement That Deaf Consumers Not Pay More Than Hearing Consumers.

In addition to adding recovery of self-provisioned intellectual property costs, the Commission must also include recovery of numbering costs in its allowable costs. Although the Commission has historically disallowed local numbering costs on the basis that hearing users bear them as well,[57] under the statute, deaf users can pay no more than hearing users for functionally equivalent service and, as demonstrated in Section I, above, deaf consumers already pay far more per month in order to be able to use VRS than hearing users pay to be able to use voice telephone service. To make that comparison, the Commission must consider *all* costs that fall on deaf users. In the last two years (2015-16), Sorenson has incurred *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** per year in numbering costs, including 911 fees passed through by local exchange carrier numbering providers. Using its costs as a proxy, Sorenson estimates that disallowed numbering costs amount to approximately *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** per minute. If the Commission successfully moves to rates that permit VRS providers to recover *only* allowable costs plus a Commission-determined margin, VRS providers will need to recover these local number costs from VRS users. Because deaf users of VRS already must pay more than hearing users for functionally equivalent service, it would plainly violate the statute to add these costs to those borne by VRS users.

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[57] *Telecommunications Relay Services and Speech-to-Speech Services for Individuals With Hearing And Speech Disabilities*; *E911 Requirements for IP-Enabled Service Providers*, Second Report and Order and Order on Reconsideration, 24 FCC Rcd. 791, 812-816 ¶¶ 46-54 (2008) ("*2008 R&O*"). Note, as well, that for mobile service, a VRS user likely must pay for the cost of a number through his or her mobile-phone carrier. Requiring that user to pay an additional fee to obtain a VRS number would impose this charge twice in violation of the ADA.

4. To Prevent Deaf Consumers from Bearing Charges Far in Excess of Hearing Consumers, the Commission Must Also Include Recovery for Equipment Related Costs, Including Research and Development and Installations, As Well As Outreach.

The chart below is a summary of the disallowed actual costs in addition to service-related numbering costs that Sorenson incurs to provide and support consumers' access to and use of VRS which, if not accounted for in the VRS rate, will inevitably be borne by VRS users.

Disallowed Actual Costs—Per-Minute Costs in Dollars

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The *FNPRM* describes "giv[ing] out" video monitors and videophones as "marketing tactics with little or no social welfare value."[58] But as the Commission itself has previously recognized, VRS as a service involves three components: "videophone equipment, video communications service, and ASL relay interpreter service."[59] Without each of these components, a deaf user would be unable to place a VRS call, and that would violate the Commission's duty to ensure the availability of VRS.[60]

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[58] *FNPRM*, 2017 WL 1167513 at *32 ¶ 99.

[59] *Structure and Practices of the Video Relay Service Program*, Notice of Inquiry, 25 FCC Rcd. 8597, 8608 ¶ 32 (2010).

[60] 47 U.S.C. § 225(b)(1).

a. Research and Development Related to Service Beyond Mandatory Minimum Standards or for Customer Premises Equipment

Section 225 of the ADA requires providers to invest to improve VRS beyond the mandatory minimums specified in the rules to keep pace with calling options available to hearing users. Continuing to disallow research-and-development costs beyond mandatory minimum standards or for access devices while at the same time proposing to substantially decrease rates is not consistent with the statute's directive that the Commission "not discourage or impair the development of improved technology."[61]

At present, research and development to support mandatory minimum standards is allowable, but other research and development—and particularly research and development on access devices—is not considered to be allowable. This artificial distinction is misplaced with Internet-based technology, where changes in features frequently require changes in *both* the network and in access devices. Sorenson's most recent videophone, for example, supports upgraded 1080p video, which allows for greatly enhanced resolution and makes it easier for a deaf consumer to discern signs. Notwithstanding the critical importance of this change to deaf consumers, the portion of research and development for this feature related to the access device was not considered allowable. Similarly, implementing the SIP Profile and TRS-URD required changes to both access devices and to the network—as did expanding VCO/HCO support for higher-quality audio codecs for those with partial hearing; developing support for ad-hoc deaf-to-deaf conference calls and N11 calling; incorporating services to better integrate to corporate environment settings (such as integration with corporate directories); and adopting features to allow users to block Caller ID and to block anonymous calls. Sorenson also had to incur

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[61] *Id.* § 225(d)(2).

research and development time to create soft videophones for Windows, iOS, and Android. None of those costs are "allowable" today, but VRS would not be functionally equivalent if it could not be used on smartphones in tablets so that deaf consumers could have the benefit of mobility available to all hearing voice communications users. In sum, Sorenson currently incurs several millions of dollars per year of research-and-development costs that are not reported as "allowable" in its annual cost reports, but which are critical to providing functionally equivalent service and to developing improved VRS technology. In the last two years (2015-16), Sorenson has incurred *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** per year in such research-and-development costs. Using 2016 cost data, this accounts for *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** per minute in additional costs.

Simply asserting that these research-and-development costs are related to customer premises equipment ("CPE") and not the service fails to address the statutory requirement in Section 225(d)(3) that the Commission must "not discourage or impair the development of improved technology." It is difficult to imagine a step that the Commission could take that would do more to discourage innovation than to set VRS rates at levels that do not support the recovery of costs to develop software-based videophones for mobile devices, thereby imposing those costs on deaf consumers who are already paying more to be able to use VRS.

b. Customer Premises Equipment

The Commission has previously declined to include the costs of VRS customer equipment (some of which are expensed and some of which are capitalized and depreciated) on the ground that providers may be compensated only for the "*the providers'* expenses in making

the service available and not the customer's cost of receiving the service."[62] But this distinction between *provider* costs and *customer* costs of VRS is misplaced. There is no question that video equipment—both videophones and video monitors—are integral parts of VRS without which there simply would be no service. And, as discussed in Section I, above, unlike the telephones used by hearing users, which can be purchased for a nominal cost at Walmart, Amazon, or similar stores or websites, videophones purchased at retail can cost about $1800.[63] As Consumer Groups have previously informed the Commission: "Because many people who are deaf, hard of hearing, deaf-blind and speech-disabled are unemployed or underemployed, they cannot afford expensive VRS equipment." As a result, consumers universally obtain their VRS equipment from VRS providers, at a significant expense to the provider.[64] It accordingly makes no sense to say that these are *customer* costs of VRS, other than perhaps the $10 to $60 of equipment charges comparable to a voice telephone.

The *FNPRM* declines to revisit whether the costs of videophones should be allowable, stating that "[t]he Commission has repeatedly declined to expand the types of 'compensable expenses' that are factored into VRS rates, and its determinations have been repeatedly upheld."[65] But the 2011 and 2014 courts of appeals cases on which the Commission bases that claim do not support it.[66] Indeed, the 2014 D.C. Circuit decision did not address Sorenson's "challenge to the list of compensable expenses" at all. Instead, the court held that challenge to

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62 *VRS Reform Order*, 28 FCC Rcd. at 8628 ¶ 17.

63 *Supra* at pages 15-16.

64 *See* Comments of the Telecommunications for the Deaf and Hard of Hearing Association et al. at 11, CG Docket No. 10-51 (filed Aug. 18, 2010).

65 *FNPRM*, 2017 WL 1167513 at *32 ¶ 99 n.242.

66 *See Sorenson Commc'ns, Inc. v. FCC*, 659 F.3d 1035 (10th Cir. 2011); *Sorenson Commc'ns, Inc. v. FCC*, 765 F.3d 37 (D.C. Cir. 2014).

be "precluded" because the "Tenth Circuit [had] rejected Sorenson's challenge to the Commission's current list of compensable costs" in 2011.[67]

But even the Tenth Circuit's 2011 decision has no bearing on the issue presented today because the relevant circumstances have changed dramatically in the intervening six years. As set forth above, the Commission is now attempting to "bring[] the rate for each tier as close as possible to the marginal per-minute cost of the affected firms."[68] That has not been the case in the past. For example, in 2005 the Fund Administrator proposed a rate of $5.92 per minute based on the Commission's list of "allowable" costs. But the Commission adopted a higher rate of $6.64,[69] which it then retained for two years. In 2007, Sorenson joined two other providers in proposing rates that were deliberately *not* based on the Commission's incomplete list of allowable costs.[70] Those rates remained in place—with annual adjustments—until 2010, when the Commission set rates by taking an *average* of the NECA-proposed rates based on "allowable" costs and the rates that had been in place under the 2007 approach for 2009-2010.[71]

It was these rates based on an *average* of the historical rates plus allowable costs that were at issue before the Tenth Circuit in its 2011 decision. Sorenson argued there that the rates were flawed because "allowable" costs did not include, *inter alia*, "videophones and technical

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67 *Sorenson Commc'ns, Inc.*, 765 F.3d at 44.

68 *FNPRM*, 2017 WL 1167513 at *32 ¶ 99.

69 *See Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Order, 20 FCC Rcd. 12,237, 12,232-43 ¶ 14 (2005).

70 *See Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order, 22 FCC Rcd. 20,140, 20,167 ¶ 67 (2007).

71 *See Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Order, 25 FCC Rcd. 8689, 8694 ¶ 8, Table 1 (2010).

assistance it provides at no cost to its users."[72] The Tenth Circuit pointed out that the 2010 *Order* indicated the Commission would "reevaluate[] categories of compensable costs during th[e] interim period" for which that Order set rates.[73] The court concluded that "the Commission provided a sufficient explanation for declining to change the categories of allowed costs during the interim period."[74] In other words, the Commission had built in a large cushion above its allowable cost calculations in 2010, and the court concluded that the Commission's approach was acceptable for a one-year interim rate plan.

The rate plan adopted in 2013 also included a cushion. The Commission stated that, "[a]lthough the cost data would justify immediate adoption of [the Adminstrator's] proposed cost-based rate of $3.396 per minute, we concur with [the Administrator] that taking a step-by-step transition from existing, tiered rates toward a unitary cost-based rate is appropriate."[75] The glide path the Commission adopted set the final Tier III rate at $3.49 and the final Tier I and Tier II rates at $4.06 in 2017.[76] Thus, the final rates were 9 cents and 66 cents above the amount of a rate calculation based strictly on allowable costs.

In the past, then, the Commission has always intentionally set the rate *higher* than the rate that would result from the marginal per-minute cost determined by only "allowable costs." Those rates have accordingly left room for providers to distribute videophones without charge.

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[72] *Sorenson Communications, Inc.*, 659 F.3d at 1046.

[73] *Id.* The Commission never did exactly "reevaluate" whether to include video equipment in the costs of providing VRS. In its 2013 *VRS Reform Order*, the Commission only briefly reiterated its prior refusals to allow equipment costs. *See VRS Reform Order*, 28 FCC Rcd. at 8696 ¶ 193.

[74] *Sorenson Communications, Inc.*, 659 F.3d at 1047.

[75] *VRS Reform Order* ¶ 212.

[76] *See id.* ¶ 215.

But, again, the Commission *now* asks whether it should set rates determined by the current list of allowable costs *in order to prevent providers from supplying equipment*. This is a changed circumstance that would necessarily result in VRS users paying far more than voice users pay for service. The Commission should reconsider whether to include the costs of supplying video equipment in "allowable" costs to avoid shifting the costs of that equipment onto VRS consumers in violation of the statute.[77] For reference, Sorenson incurs several millions of dollars per year to provide deaf consumers with necessary access devices—which are costs separate from those needed to develop and improve VRS functionality. Using 2016 cost data and including depreciation, this accounts for *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** per minute in additional costs.

c. Field Staff to Service Customer Premises Equipment and Outreach

Sorenson has a field staff composed almost entirely of deaf individuals. Some of the tasks these employees perform are service-related, such as assisting consumers with the use of VRS and its features and thus are allowable customer support and marketing, while other tasks are related to CPE and are thus not "allowable costs." The Commission also disallowed outreach expenses. In the last two years (2015-16), Sorenson has incurred *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** per year in such field-staff costs associated with installing, maintaining, and upgrading CPE, as well as outreach. Using 2016 cost data, this accounts for *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** per minute in additional costs.

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[77] *See* Section II.A.4, *supra*.

5. The Commission Should Apply a Reasonable Margin Appropriate to a Labor-Intensive Industry, Rather Than Continuing to Use the Return on Book Capital Approach Used for Capital-Intensive Telephone Companies.

The Commission has correctly concluded that determining a return component based on an allowable margin above costs is more appropriate for a labor-intensive business such as VRS than the "rate-of-return" approach that has been used to set rates for capital-intensive business sectors.[78] In the traditional rate-of-return methodology applied to incumbent telephone companies, those companies were permitted no profit on expenses, but earned their entire profit based on a percentage (the authorized rate of return) of their accumulated booked capital investment (also known as the "ratebase").[79] This approach makes sense for capital-intensive telephone companies because the authorized rate of return—which was 11.25 percent, but is being phased down to 9.75 percent—is applied against a sufficiently large ratebase that the telephone company typically can earn a sufficient return to attract capital.[80]

The *FNPRM* (at para. 96) correctly notes that VRS providers have long argued that with little capital plant and substantial labor expenses, the traditional rate-of-return formula produces

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[78] For instance, state regulators have found operating ratio particularly appropriate for businesses, like motor carriers, with "relatively insignificant" operating property, "inherently low capital bases," or "infirmit[ies] in the capital base[s]." Leonard S. Goodman, *Process of Ratemaking*, 1 Ratemaking Part 8, 2005 WL 998303 (1998) ("*Process of Ratemaking*") (internal quotation marks omitted). As one state regulator noted, operating ratio should be used when "any approach to its earnings based upon its invested funds" would be "meaningless." *Id.* In industries whose revenues depend on labor rather than capital, an approach based on investment will yield an inappropriate rate.

[79] The FCC defined the telephone companies' rate base in 47 C.F.R Part 65, Subpart G.

[80] *Cf. Process of Ratemaking*, 1 Ratemaking PT 8, 2005 WL 998303 (suggesting that operating ratio is appropriate where amount of investment in property is "relatively insignificant"); *In Re Long Beach Motor Bus Co.*, 12 P.U.R.3d 198, 2005 WL 76791 (Cal. P.U.C. 1955) 1declining to use only rate-of-return analysis because "the company's rate base . . . [was] less than one-quarter of the original cost of the properties").

little return. Like all other cost-recovery issues, this becomes more pronounced as VRS compensation rates approach the level of the permitted base of costs. The Administrator's reports and projections for 2015-2018 yield margins of 1.2 to 1.6 percent.[81] This is a paltry amount, and not comparable to other skilled labor-intensive, service-based industries. Indeed, weighted average cost of capital has no relationship whatsoever to an appropriate, market-relevant margin for earnings of companies that are not telephone companies, are not capital intensive, and do not have a similar capital structure or risk profile.

By comparison, a survey of leading publicly traded information technology consulting companies shows that they collectively show average adjusted EBITDA margins of 15.9 percent.[82] Because these margins are pre-tax margins, at a 40 percent tax rate, they would equate to a 9.54 percent margin after taxes. This margin, applied to total costs, provides a more reasonable and reasoned basis for setting the return component of VRS rates than rote application of the rate-of-return methodology used for capital-intensive telephone companies. Accordingly, the Commission should calculate its VRS rates using a margin of 15.9 percent.

Although it yields similar after-tax numbers as the Commission's 9.75 percent prescribed rate of return for rate-of-return carriers, the *FNPRM*'s proposal (para. 97) simply to import the weighted average cost of capital for rate-of-return telephone companies makes no sense and would be arbitrary and capricious. The weighted average cost of capital "is the sum of the cost of debt, the cost of preferred stock, and the cost of equity, each weighted by its proportion in the

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[81] *See* 2017-2018 TRS Filing Presentation at slide 17.

[82] This is based upon data reported by Bloomberg of U.S.-listed public companies with market cap equal to or greater than $1 billion as of April 17, 2017 with 100 percent of revenue from "IT services" as classified by Bloomberg. *See* Attachment B. One company in Bloomberg's list was excluded because it had negative margins, which would not be sustainable.

capital structure of the telephone companies."[83] Weighted average cost of capital has no relationship whatsoever to an appropriate, market-relevant margin for earnings of companies that are not telephone companies, are not capital intensive, and do not have a similar capital structure.

It is also important to note that para. 97 of the *FNPRM* contains several errors. First, it asserts that a 7.12-9.75 percent margin, based on an average weighted cost of $2.63, would be $2.82-$2.89. That would be the case if federal and state corporate taxes did not exist. However, if this operating margin is an after-tax margin—just as the prescribed rate-of-return yields and after-tax return on investment, then a 9.75 percent after-tax operating margin on a base of $2.63 would yield a rate of $3.06, assuming a 40 percent tax rate.[84] Second, as noted above, $2.63 is not the correct starting point, even if the Commission were relying on 2015 data, since the Administrator has now reported 2015 costs at near $2.73.[85] Of course, even actual 2015 data is not the correct starting point. A 9.75 percent margin applied to the average of updated industry average projected costs for 2017 and 2018 ($2.92 without the return component to avoid double counting) is $3.39, taking account of a 40 percent tax rate. Third, as discussed above, additional costs should be included prior to applying the margin. Fourth, para. 97's comparison of total

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[83] 47 C.F.R. § 65.305.

[84] *Beehive Telephone Co., Inc. Beehive Telephone, Inc. Nevada*, Memorandum Opinion and Order, 13 FCC Rcd. 2736, 2748 (1998) (applying a tax gross-up in calculating return on investment for cost-of-service ratemaking); *Implementation of Sections of the Cable Television Consumer Protection & Competition Act of 1992*, First Order on Reconsideration, Second Report and Order, and Third Notice of Proposed Rulemaking, 9 FCC Rcd. 1164, 1196 ¶ 58 (1993) ("Further, cable operators may apply the rate of return at a rate "grossed up" for income taxes, and the instructions for the calculation of income taxes includable in Column G of Schedules A and C have been revised to reflect this change."); *see also* FCC Form 1205 Instructions at 8, *available at* https://transition.fcc.gov/Forms/Form1205/1205inst.pdf ("The Commission's rules allow you to recoup a return on investment that is adjusted ('grossed-up') to account for your payment of federal and state income taxes.").

[85] *See* discussion at Section II.A.1, *supra.*

2015 VRS compensation to the amount generated through even a corrected margin calculation ignores the fact that those numbers also include the higher compensation paid to "Emergent" providers, as well as for Tiers I and II, and thus are not indicative of Tier III, even without inclusion of additional costs that must be included to meet the statute's command of equivalent charges for deaf and hearing consumers.

Accordingly, the Commission should move to an approach of setting VRS rates using a permitted margin rather than a return on booked capital investment. And it should set that permitted margin at 15.9 percent, comparable to other highly skilled labor-intensive industries.

6. Calculating the Total Sustainable VRS Rate.

As set forth above, the industry average projected allowable costs for 2017-2018 plus the additional allowable costs in Sorenson's revised RSDR filing ($2.955), *less* the $.035 per minute rate of return, or $2.92 should be the starting point in calculating a sustainable Tier III rate. The table below shows that, totaling the true costs of VRS and applying a reasonable 15.9 percent permitted pre-tax margin, the rate should be no lower than $4.19.

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The Sustainable Tier III Rate

Starting Rate	$2.92
Numbers-Related Costs	[redacted]
Intellectual Property for Service	[redacted]
CPE Research and Development	[redacted]
Customer Premises Equipment	[redacted]
Intellectual Property for End Points	[redacted]
Installs and Outreach	[redacted]
15.9% Permitted Margin	$0.58
Total Rate	$4.19[86]
Taxes Paid	($0.23)
Margin After Taxes	9.54%

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Alternatively, calculating the rate while continuing to exclude costs relating to customer premises equipment but applying the same margin calculation yields a rate of $3.73. Thus, if the Commission chooses to pursue a below-market approach to calculating VRS rates, a proper analysis of VRS costs—without any consideration of legacy debt service—indicates that the Commission should raise the Tier III (and other tiers') rate to $4.19 to cover both the service *and*

[86] The figures here sum to $4.21 rather than $4.19, due to error introduced by rounding to two decimal places.

necessary end-user equipment consistent with the statutory directive of assessing the deaf no more than what hearing users pay. Even if the Commission were to continue to ignore end-user equipment charges—which it should not—the rate for VRS alone should not be below $3.73.

If the Commission is unwilling to raise rates for any tier, no matter how justified, Sorenson urges that the Commission at a minimum not further reduce Tier III rates below $3.49 either immediately or at the end of any rate transition. That rate is already below the economically rational long-term rate and already is so low as to "discourage or impair the development of improved technology," contrary to the statute.[87] And again, Sorenson has not included *any* historical debt service costs in calculating this rate: it is asking the Commission to set a rational and sustainable rate without reference to the debt its former owners incurred.

Notably, these rates are comparable to at least some VRI rates. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** These VRI rates validate that the Tier III rates Sorenson proposes are reasonable. Nevertheless, the Commission should not use any VRI rates as a basis for setting VRS rates because the services simply are not comparable. Unlike VRS, VRI does not handle telephone calls, so VRI providers do not need to have an infrastructure to receive and to send calls to the public switched telephone network ("PSTN"); they do not need to assign North American Numbering Plan telephone numbers; and they do not need to pay for the costs of delivery PSTN traffic, and do not need to have handle and deliver 911 calls. VRI does not have a requirement to operate 24x7, 365 days per year; it can be provided on a scheduled rather than on-demand basis; it does not have to support access

[87] 47 U.S.C. § 225(d)(2).

to 911 or other regulatory mandates; and equipment is subject to separate end-user charges without any statutory mandate of comparable rates to hearing users. In addition, VRI rates often come with minimum usage periods (such as a minimum 10- or 15-minute charge regardless of call length) and may require take-or-pay volume commitments. And VRI does not have a speed-of-answer requirement, meaning that VRI providers can be very thinly staffed in the middle of the night or just limited to pre-scheduled events during low-demand periods. Moreover, VRI providers are under no requirement to accept all requests for service, so can reject those they do not wish to provision. In short, the Commission should not set VRS rates by reference to VRI.

B. The Commission Could Use This Same Approach to Initialize a Multiyear Price-Cap Regime That Accounts for the True Costs of Providing VRS.

If the Commission moves forward with a multiyear tier-based rate system, it should commit to using that as a glide path toward initializing a multiyear price-cap regime. This would simplify future ratemaking, provide a sustained period of investment stability, and provide a more technologically flexible and innovation-friendly framework than the current system of tightly defined allowable and disallowed costs. To ensure that the cap reflects a sustainable rate that meets all statutory criteria, it should be set in the same manner as discussed in Section A, above, with respect to Tier III rates, and should be a unified rate of no less than $4.19 to account for both service and access device costs necessary to prevent deaf consumers from having to pay even more than they already do above the amounts expended by hearing consumers for voice telephone service. Alternatively, as described in Section III.B.1, below, the Commission could use an auction to initialize a price cap.

The Commission has long recognized that price caps, and incentive regulation more generally, can provide substantial public interest advantages as compared with continued cost-of-service approaches. For example, the Commission in 2016 adopted a model-based support

mechanism as an alternative to providing high cost universal service support based on annual cost-of-service calculations, noting that in doing so it "advance[s] the Commission's longstanding objective of adopting fiscally responsible, accountable and incentive-based policies to replace outdated rules and programs."[88] Similarly, nearly thirty years ago, when the Commission first introduced price caps to replace rate-of-return regulation for AT&T, it observed:

> The attractiveness of incentive regulation lies in its ability to replicate more accurately than rate of return the dynamic, consumer-oriented process that characterizes a competitive market. In general, such regulation operates by placing limits on the rates carriers may charge for services. In the face of such constraints, a carrier's primary means of increasing earnings are to enhance its efficiency and innovate in the provision of service. . . . The system also is less complex than rate of return regulation and easier to administer in the long run, which should reduce the cost of regulation.[89]

Those benefits of incentive regulation of course remain true today.

1. The Commission Should Not Set Price Caps Based on Individual Providers' Costs Because It Would Encourage Inefficiencies.

At para. 103, the *FNPRM* asks whether it should initialize price caps for each VRS provider based on its own historical costs—citing the example of the transition of monopoly local exchange carriers to price caps in the early 1990s. It should not do so. Such a system could not be reconciled with the statutory directive to provide TRS "in the most efficient manner." Moreover, the transition of monopoly telephone companies that operated in separate geographic areas with different density and deployment characteristics is not a relevant precedent

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[88] *Connect America Fund; ETC Annual Reports and Certifications; Developing a Unified Intercarrier Compensation Regime*, Report and Order, Order and Order on Reconsideration, and Further Notice of Proposed Rulemaking, 31 FCC Rcd. 3087, 3090-91 ¶ 4 (2016).

[89] *Policy and Rules Concerning Rates for Dominant Carriers*, Report and Order and Second Further Notice of Proposed Rulemaking, 4 FCC Rcd. 2873, 2893 ¶ 36 (1989).

for initializing a price-cap system for competitors providing the same services in the same geographic areas in competition with one another.

Allowing each provider to recover its historical costs through VRS price caps would perpetuate inefficiencies that the Commission has sought to eliminate from the VRS market. The Communication Act requires TRS services to be provided "in the most efficient manner,"[90] and the Commission has long recognized that "inefficient VRS operations requiring higher compensation rates are inconsistent with the sound management of the TRS fund."[91] Since rates that are based on providers' varied historical costs, by definition, "require[e] higher compensation" for some VRS operations than others, initializing rates based on historical costs would be inconsistent with the Commission's goal of eliminating inefficiencies from the VRS market. Although the Commission has "tolerat[ed] some degree of additional inefficiency in the short term"[92] it has only done so "in order to maximize the opportunity for successful participation of multiple *efficient* providers in the future."[93] The *VRS Reform Order* contemplated gradually lowering the gap between rates for efficient and inefficient providers in order to allow smaller providers a chance to become more efficient,[94] but the Commission's goal was eventually to eliminate the need for tiered rates,[95] and it was never the Commission's intention to permanently establish separate rates that allow all providers to thrive regardless of

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[90] 47 U.S.C. § 225(b)(1).

[91] *VRS Reform Order*, 28 FCC Rcd. at 8698 ¶ 197.

[92] *Id.* at 8699 ¶ 200.

[93] *Id.* (emphasis added).

[94] *See id.*

[95] *See id.* at 8698-99 ¶ 199.

their inefficiency levels. Setting provider-specific rates is a step backward from the Commission's long-term goals for the VRS industry.

There is no policy justification for locking in existing inefficiencies that high-cost providers may have and allowing them to continue operating inefficiently. The Commission has acknowledged that "small-provider inefficiencies may not be due to a 'learning curve' but rather may reflect inherent economies of scale that prevent smaller providers from ever operating efficiently."[96] If smaller providers can never operate efficiently, the Commission should not allow them to continue burdening the TRS Fund by recovering costs under artificially high price caps. In its original price-cap proceedings, the Commission explained that the purpose of caps is to "harness the profit-making incentives common to all businesses to produce a set of outcomes that advances the public interest goals of just, reasonable, and nondiscriminatory rates"[97] and to "reward companies that become more productive and efficient."[98] If inherent economies of scale prevent small providers from operating efficiently, no amount of profit-making incentive can change that, and there is no justification for setting price caps that reward their inefficiency by allowing them to continue to recover historically inefficient expenses.

The *FNPRM* analogizes to earlier price-cap proceedings that allowed caps to be initialized based on a provider's historical costs.[99] But that analogy is inapt here because the Commission's original price-cap rules applied to wireline monopoly local exchange carriers, which operated in different geographic markets under far more varied conditions than VRS

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[96] *Id.* at 8698 ¶ 197.

[97] *Policy and Rules Concerning Rates for Dominant Carriers*, Second Report and Order, 5 FCC Rcd. 6786, 6787 ¶ 2 (1990) ("*1990 Second Report and Order*").

[98] *Id.* at 6786 ¶ 1.

[99] *See FNPRM*, 2017 WL 1167513 at *33 ¶ 103.

providers face. Local exchange carriers' costs depend on factors such as terrain and population density, and companies operating in different regions face entirely different costs. It would have been irrational to set the same price cap for the NYNEX in Rhode Island as for US West in Montana. The Commission specifically noted that its initial price-cap regulations had to take into account unique factors such as "differences in the markets involved."[100] In contrast, the VRS market is, by design, a national market, and always has been. All VRS providers compete simultaneously in the same market under the same conditions. Since all VRS providers compete with one another nationwide, cost variations between providers are far more likely to be due to inefficiency than to legitimate factors beyond a provider's control.[101]

The Commission employed a much better model for transitioning competing carriers' rates to the same levels in the intercarrrier compensation portions of the 2011 *Universal Service and Intercarrier Compensation Transformation Order*.[102] In that order, the Commission transitioned all carriers—including both incumbent LECs and CLECs—to terminating intercarrier compensation based on bill-and-keep. Small, rural CLECs that benchmarked their access rates to NECA rates rather than to the large price-cap ILEC were permitted a longer transition to bill-and-keep, but were still required to transition to the same bill-and-keep endpoint.[103] By analogy here, the Commission could phase VRS providers down to the same ultimate price-cap level, but in the end, subject all providers to the same compensation rate.

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[100] *1990 Second Report and Order*, 5 FCC Rcd. at 6787 ¶ 4.

[101] *See* Section III.A.2, *infra*.

[102] *See Connect America Fund*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17,663, 17,676-77 ¶¶ 34-35 (2011).

[103] *See id.* at 17,934 ¶ 801, Figure 9.

2. The Commission Should Set an Industrywide Productivity Factor, Which Should Reflect the Fact That VRS Is Labor Intensive, and Thus Not Likely to Experience the Same Productivity Gains As Capital-Intensive Businesses.

Just as the Commission should not allow providers' historical costs to factor into VRS price caps, it should not set a productivity factor on a provider-by-provider basis, as one question in para. 103 of the *FNPRM* inquires.[104] That would improperly discourage providers that are currently inefficient from becoming more efficient. Even in the original price-cap proceedings, the Commission set an industrywide productivity factor based on industrywide historical productivity data derived from several Bureau-led studies.[105] It did this despite noting the challenge in "establishing a reasonable figure for the LECs, who vary substantially in size and geography."[106] Ultimately, the Commission noted that there was "no credible evidence that the productivity of the [Regional Bell Operating Companies] and the [GTE Operating Companies] has varied so substantially that separate offsets are necessary."[107] Likewise, there is no evidence that VRS providers' productivity varies substantially enough (absent small-provider inefficiencies that the Commission should not subsidize) to justify company-specific productivity factors.

Individualized productivity factors defeat the purpose of a price-cap regime. Productivity factors are intended to ensure that in industries that are historically more productive than the economy as a whole rates continue to *decline* relative to inflation,[108] so that ratepayers continue

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[104] *See FNPRM*, 2017 WL 1167513 at *33 ¶ 103.

[105] *See 1990 Second Report and Order*, 5 FCC Rcd. at 6798 ¶ 96 *et seq.*

[106] *Id.* at 6796 ¶ 77.

[107] *Id.* at 6799 ¶ 102.

[108] *See id.* at 6796 ¶ 75.

to share in productivity gains through cheaper service.[109] Setting productivity factors on a per-carrier basis will remove the industrywide incentive to continue driving costs down relative to inflation, and will ultimately result in unnecessary burdens on the TRS Fund. In order to ensure price caps function properly and drive industrywide costs down, the Commission must set a productivity factor based on industrywide efficiencies.

As the Commission considers what productivity factors to adopt, it must keep in mind that VRS is labor intensive, not capital intensive, and that to increase output, VRS providers must increase the amount of labor used—especially as they reach the limit on interpreter efficiency, as discussed in Section II.A.1, above. It is by no means clear that VRS will significantly increase productivity faster than the economy as a whole. In the past, the Commission applied a productivity factor of 0.5 percent with no inflation factor. This may be too large of a productivity adjustment. In the Commission's recently adopted order on Business Data Services, it set a productivity factor of 2 percent in a highly mechanized industry, which is likely to see greater productivity growth than labor-intensive VRS.[110] This means that, if inflation is 3 percent, BDS price caps (where they continue to exist) will increase by 1 percent. Consistent with this approach, which has been a part of the ILEC price-cap regime since its inception, a price cap for VRS therefore should contain both an inflation factor and a productivity factor, with a productivity factor no higher than 2 percent.

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[109] *See id.*

[110] *FCC Advances Competition and Investment in the Business Data Services Market*, at 2, FCC (Apr. 20, 2017), *available at* https://apps.fcc.gov/edocs_public/attachmatch/DOC-344487A1.pdf.

III. THE COMMISSION SHOULD ADOPT A MARKET-BASED APPROACH TO VRS RATEMAKING.

As the discussion in Section II, above, demonstrates, if the Commission moves forward to set VRS rate levels through regulatory determination, it faces a welter of judgments to make, each of which is prone to error. If the Commission sets rates too high, it will overly burden telecommunications consumers that pay for services on which their carriers are assessed for TRS Fund contributions; if the Commission sets rates too low, it risks running afoul of the ADA's statutory mandate. There is a different approach with greater regulatory humility: the Commission should define—as outlined in Section I, above—the outcomes that it must achieve to implement the ADA's mandates as articulated in Section 225. It should then use market mechanisms to determine the appropriate rate levels that achieve those statutory objectives.

Notably, no market mechanism to determine VRS rates will yield tiered rates. Any market mechanism to establish rate levels will result in a unitary rate because, for example, no rational market participant would pay fifty percent more to have Provider B supply a minute of service as compared to Provider A. Indeed, the irrationality of a tiered rate structure is a reason to move to a market-based system. After explaining the flaws with tiered rates, Sorenson will present two market-based approaches to setting VRS rates, either of which is superior to the cost-based approach proposed in the *FNPRM*.

A. The Proposed Justifications for Tiers Are Irrational and Unsupported by Data or Economic Analysis.

The Commission has repeatedly recognized that the current tiered VRS rate structure is inefficient and should be eliminated. As early as 2011, for example, the Commission concluded that "the tiered rate structure supports an unnecessarily inefficient market structure, and apparently provides insufficient incentive for VRS providers to achieve minimal efficient

scale."[111] In 2013, the Commission again indicated that tiers do not make sense as an economic matter, stating in no uncertain terms that "[n]o party has presented a valid reason why the TRS Fund should support indefinitely VRS operations that are substantially less efficient."[112] Yet the Commission at that time nonetheless decided to retain tiered rates until June of 2017, finding that it was "worth tolerating some degree of additional inefficiency in the short term" to preserve competition from smaller providers.[113]

Today, it remains true that no party has offered any valid justification for preserving tiers in the long run. Tiers have now been in place for a full decade, since 2007—indeed, they have existed for far longer *since* the Commission concluded that they should be abolished than they did before. And none of the reasons offered by the Commission for preserving this inefficient and anachronistic rate structure holds water. Since tiers exist, a transition from the current tiered rates to the ultimate unitary rates—whether set by the FCC or by a market mechanism—may be necessary. But tiers cannot be justified beyond this limited transitional purpose.

1. The Emergent Tier Serves No Valid Public Policy Purpose, and Should Be Eliminated.

The "Emergent" rate should end now. It is simply an unjustified subsidy for two providers that have not been able to attract users, even though they have been in business since 2008 (Global) and 2009 (Convo). At the recent Interstate TRS Advisory Committee meeting, in response to questions about whether the tiered rate proposal created an abrupt and negative

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[111] *Structure and Practices of the Video Relay Service Program and Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17,367, 17,418 ¶ 141 (2011) ("*2011 FNPRM*").

[112] *VRS Reform Order*, 28 FCC Rcd. at 8622-23, 8698-99 ¶¶ 5, 197-99.

[113] *Id.* at 8699 ¶ 200

revenue impact on Emergent providers that grew beyond 500,000 minutes per month, Convo's General Counsel stated that Convo would not grow beyond the Emergent tier during the four years of the proposed rate plan. In that circumstance, it is clear that the Emergent rate is not incubating an eight-year-old business, but simply subsidizing it.

ASL/Global has at times argued that the Emergent tier is necessary to support its Spanish VRS.[114] Sorenson agrees that Spanish VRS is more costly to provide and should be treated differently than English VRS. The solution, however, is not to create an Emergent tier to support one but not all providers of Spanish-to-ASL VRS, but to treat Spanish VRS as a permitted form of skills-based routing, with a higher compensation rate.[115] The same would be true of specialty VRS for deaf-blind consumers.

2. Neither the Commission nor Any VRS Provider Has Demonstrated That Non-Emergent Tiers Serve a Valid Economic Purpose.

As noted above, the Commission found in both 2011 and 2013 that tiers do not make economic sense because the TRS Fund should not "support indefinitely VRS operations that are substantially less efficient."[116] That is plainly true—on a basic level, of course, tiers mean that the TRS Fund has to pay less efficient VRS providers more on average per minute than more efficient providers. This contravenes the ADA's mandate that VRS be made available "in the most efficient manner." As the Commission recognized back in 2011, it also undermines incentives for VRS providers to reach minimal efficient scale regardless of the specific levels set

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[114] Comments of ASL Services Holdings, LLC at 48, CG Docket Nos. 10-51 and 03-123 (filed Aug. 19, 2013).

[115] *See* Joint Proposal of All Six VRS Providers for Improving Functional Equivalence and Stabilizing Rates at 5-6, CG Docket Nos. 03-123 and 10-51 (filed Mar. 30, 2015).

[116] *VRS Reform Order*, 28 FCC Rcd. at 8698 ¶ 198.

for different tiers of service.[117] But perhaps most important in the current context, neither the Commission nor any VRS provider has offered *any* economic justification for the particular tiered rates that the Commission now proposes to adopt.

In 2013, the Commission's justification for keeping tiers through at least 2017 was that "eliminating tiers immediately could force out some of the smallest remaining providers, unnecessarily constraining the service choices available to VRS consumers during the period prior to the implementation of structural reforms."[118] But the Commission determined the number of minutes that would be covered by each tier without addressing the record evidence regarding economies of scale in the provision of VRS. Specifically, in the proceedings that led to the 2013 *VRS Reform Order*, Sorenson submitted four expert declarations[119] from economist Professor Michael Katz explaining that, contrary to the claims of other providers, economies of scale in the provision of VRS are very limited.[120] Through rigorous and unrebutted data analysis, Professor Katz showed that any economies of scale relating to "queuing efficiencies"—

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[117] *See 2011 FNPRM*, 26 FCC Rcd. at 17,418 ¶ 141. A tiered rate structure also provides perverse incentives for smaller providers to "gold-plate" their services rather than scale up to more efficient operations. For example, other providers currently operate interpreting centers in high-cost areas, and offer unreasonably high interpreter wages and weekly bonuses that drive up costs to the TRS Fund. *See* Letter from John T. Nakahata, Counsel for Sorenson Communications, LLC, to Marlene H. Dortch, Secretary, FCC, at 4, CG Docket Nos. 10-51 and 03-123 (filed Mar. 2, 2017).

[118] *VRS Reform Order*, 28 FCC Rcd. at 8699 ¶ 200.

[119] *See* March 9 Katz Declaration; Reply Comments Regarding VRS Policy Reform: Declaration of Michael L. Katz, attached as Appendix A to Reply Comments of Sorenson Communications, Inc., CG Docket Nos. 10-51 and 03-123 (filed Mar. 30, 2012) ("March 30 Katz Declaration"); Response to Additional Request for Comments on VRS Policy: Declaration of Michael L. Katz, appended as Attachment A to Comments of Sorenson Communications, Inc., CG Docket Nos. 10-51 and 03-123 (filed Nov. 14, 2012); Reply Comments on VRS Policy: Declaration of Michael L. Katz, appended as Attachment A to Reply Comments of Sorenson Communications, Inc., CG Docket Nos. 10-51 and 03-123 (filed Nov. 29, 2012). These declarations are part of this ongoing ratemaking docket.

[120] *See* March 9 Katz Declaration ¶¶ 25-55.

that is, efficiencies flowing from serving a larger number of customers with a pool of interpreters—are "largely exhausted by the time a VRS provider's traffic volume reaches 250,000 minutes per month,"[121] and "are just one percent once providers reach the scale achieved by Purple and ZVRS" at the time.[122] The higher-cost providers merely provided unsubstantiated "estimates" of their alleged costs of providing service that they claimed to support their arguments for a tiered rate structure. That is, their entire argument, then and now, is that they are smaller than Sorenson and have higher per-minute costs than Sorenson, which they claim shows that there must be economies of scale even that though do not demonstrate how they work.[123]

This same history is now repeating itself. In a January 31, 2017 letter, VRS providers Purple, Convo, ZVRS, and Global proposed an updated multi-tier rate structure that would continue to pay providers different rates for incremental minutes of VRS traffic entirely without regard to prices that a competitive market would generate. As in 2013, the other providers' 2017 proposal is "economics free," based primarily on unsubstantiated claims that their "current cost structure[s]" result in higher costs than Sorenson on account of economies of scale.[124] And once again, the other providers' rate proposal makes no attempt to even engage with Professor Katz's economic analysis of economies of scale in the VRS industry. Instead, the providers baldly assert that "the majority of economies of scale are actually achieved when a provider reaches

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[121] *Id.* ¶ 28. Professor Katz found that "a provider operating at 250,000 minutes per month can achieve 95.4 percent of maximal feasible VRS efficiency." *Id.* ¶ 35.

[122] *Id.* Of course, with their recent merger, Purple and Z together are far larger than either was in 2012, now accounting for approximately twenty percent of VRS market share.

[123] *See, e.g.*, Economies of Scale, attached to Letter from Jeff Rosen, General Counsel, CSDVRS, LLC, to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 10-51 and 03-123 (filed July 10, 2012); *CSDVRS, LLC Confidential Filing*, CG Dockets 10-51 and 03-123 (filed July 24, 2012); Report of Steven E. Turner, attached as Addendum A to Comments of Purple Communications, Inc., CG Docket Nos. 10-51 and 03-123 (filed Nov. 14, 2012).

[124] Small Providers' VRS Rate Proposal at 8.

approximately 2.5 million monthly minutes."[125] The providers do not support this assertion with any serious economic analysis. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted][127] *****END HIGHLY CONFIDENTIAL*****

Moreover, the threshold of 2.5 million that the providers suggest is *10 times the level* that Professor Katz's unrebutted testimony established as the point where economies of scale are nearly entirely exhausted in the provision of VRS. Moreover, the other providers' proposed 2.5-million-minute cut-off for the first two tiers of compensation would conveniently compensate the combined Purple/Z entity for *all* of its minutes at a rate *more than 50 percent higher* than the proposed Tier III rate, which would of course represent the majority of *Sorenson's* minutes.

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[125] *Id.* at 10.

[126] *Purple Highly Confidential Filing* at 2, CG Dockets 10-51 & 03-123 (filed Feb. 15, 2017).

[127] *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** *See* Small Providers' VRS Rate Proposal at 9 n.28.

Unfortunately, the *FNPRM* does not question the providers' lack of data or analysis. Instead, the Commission—likewise without any analysis—states that "we agree with the Joint VRS Providers that economies of scale continue to increase significantly for VRS providers with more than 1,000,000 monthly minutes."[128] The *FNPRM* "propose[s] to draw the line between Tiers II and III at 2,500,000 monthly minutes" because it is "[i]n line with the suggestion of the Joint VRS Providers." Again, however, there is not a scintilla of evidence either in this record or in the record from the 2013 proceedings indicating "significant[]" economies of scale up to 2,500,000 monthly minutes.

But the self-serving nature of the other providers' proposal and its lack of any basis in fact is evident. First, in 2013 those providers argued that economies of scale were achieved at 1,000,000 minutes per month—a line that, conveniently, meant that they rarely would be compensated at the Tier III level. Now that Purple and ZVRS are merging, they have discovered that the line is 2,500,000 per month—two and one-half times their prior estimate. Conveniently, a merged Purple and ZVRS will not exceed that amount unless they grow substantially. The other providers do not even acknowledge their change of position, much less explain how something changed to move the line between Tier II and Tier III by such a large amount.

Second, public data show that the principal cost difference between Sorenson and Purple and ZVRS involves the per-minute cost of interpreters, corporate overhead and administrative expenses, and marketing costs. But a company like Sorenson that provides more minutes of service must hire more interpreters to do so and, as stated above, there has been no serious attempt to rebut Professor Katz's conclusion that economies of scale relating to interpreters become minor at relatively low levels. Nor is it is not clear why overhead and marketing costs

[128] *FNPRM*, 2017 WL 1167513 at *30 ¶ 91.

should not be lower for a smaller company. Again, the other providers offer no explanation—they do not even acknowledge the issue.

Third, confidential data underscore that there is no merit to the other providers' argument that Purple and ZVRS suffer from economies of scale. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** Again, this contradiction has not been noted, much less explained.

In short, the flaws in the tiered-rate system support the conclusion that the Commission should switch to a market-based approach. Until the Commission does so or adopts a sustainable Tier III rate, tiered rates will continue to be necessary.

3. The Reasons the Commission Advances for Maintaining Tiers Do Not Withstand Scrutiny

Six years after concluding that tiers should be eliminated, the Commission now maintains that it is necessary to preserve tiers for four *more* years because the "reforms the Commission envisioned in 2013 have been slow to arrive.[129] "Specifically," the *FNPRM* states, "the neutral VRS communications platform has not been implemented, and the new interoperability standards were only recently incorporated into the Commission's rules."[130] But neither the failure of the so-called neutral platform nor purported interoperability concerns provide any justification for maintaining a tiered rate structure.

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[129] *FNPRM*, 2017 WL 1167513 at *29 ¶ 87 (footnote omitted).

[130] *Id.* at *29 ¶ 87 n.224.

a. The Neutral Platform

The *FNPRM* is, of course, correct that the neutral platform "has not been implemented."[131] But this is not a situation where a reform has merely been "slow to arrive,"[132] such that an additional four years of transitional tier-based rates could potentially help to address the problem. Rather, as the *FNPRM* itself acknowledges, there is a "general lack of industry interest in the neutral video communications services platform" and the Commission has accordingly now "propose[d] to repeal the provisions of our rules relating to it."[133] Of course, as Sorenson has maintained from the time that a neutral VRS communications platform was first proposed, such an approach was not likely to succeed because it left VRS providers no way to distinguish their offerings through improved features, and was therefore inconsistent with the interests of both VRS providers and end users.[134] The important point now, however, is that nothing about the failure of the neutral platform justifies perpetuating the irrational tier structure—as a logical matter, tiers simply cannot function as a transition to a "reform" that both the Commission and other providers have rejected and no longer intend to pursue.

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[131] *Id.*

[132] *Id.* at *29 ¶ 87.

[133] *Id.* at *33 ¶ 104; *see also* Letter from Sean Belanger, CEO, CSDVRS, LLC to Marlene H. Dortch, Secretary, FCC, at 2, CG Docket Nos. 10-51 and 03-123 (filed Nov. 25, 2014); Convo (@convorelay), Twitter (Apr. 9, 2014, 12:43 PM), *available at* https://twitter.com/convorelay/status/45398148994054933 ("Convo, Sorenson, ZVRS, and Purple will not use Neutral Platform . . . ."); Purple Communications, *Purple's Perspective on Neutral Platform*, DSTIDBITS (May 2014), *available at* http://dstidbit.blogspot.com/2104/05purples-perspective-on-neutral-platform.html (all sources indicating providers do not intend to use neutral platform).

[134] *See* Comments of Sorenson Communications, Inc. and CaptionCall LLC at 4, CG Docket Nos. 10-51 and 03-123 (filed Aug. 19, 2013); Reply Comments of Sorenson Communications, Inc. and CaptionCall LLC at 18-19, CG Docket Nos. 10-51 and 03-123 (filed Sept. 18, 2013).

b. Interoperability

The *FNPRM* also suggests that tiers may continue to be necessary due to the alleged "slow onset of structural reforms" in connection with interoperability.[135] This is not, of course, the first time that the Commission has relied on this justification. In 2013, the Commission claimed that it was necessary to preserve tiers—notwithstanding their inefficiency—in part due to alleged "technical barriers to interoperability and portability."[136] Tiers would, the Commission found, provide a window for the "full development of competition."[137] But concerns about interoperability were a slim reed to lean on even in 2013. By that time, the Commission's "dial-around" rules already ensured that—as consumer groups specifically told the Commission—"VRS users can make and receive calls through any VRS provider."[138] Even by 2013, then, interoperability was only an issue for *point-to-point* calls—non-VRS calls in which one phone connects directly to another phone over the Internet and for which providers receive no compensation.[139]

As the attached Declaration of Grant A. Beckmann shows, interoperability problems have been resolved, except with respect to some of ASL/Global's endpoints. Sorenson's videophones and mobile endpoints are interoperable with all of the videophones and endpoints provided by

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[135] *FNPRM*, 2017 WL 1167513 at *30 ¶ 92.

[136] *VRS Reform Order*, 28 FCC Rcd. at 8699 ¶ 200.

[137] *Id.*

[138] Comments to Further Notice of Proposed Rulemaking of the Consumer Groups at 41, CG Docket Nos. 10-51 and 03-123 (filed Mar. 9 2012); *see also* March 30 Katz Declaration ¶ 29.

[139] *See Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; E911 Requirements for IP-Enabled Services Providers*, Second Report and Order and Order on Reconsideration, 24 FCC Rcd. 791, 820-821 ¶ 65 (2008).

Purple, ZVRS, and Convo.[140] This achievement was the result of biweekly calls among the providers' engineers and regular meetings to test interoperability. ASL/Global has participated in about half of these calls and meetings and some interoperability problems remain for its endpoints as a result.[141]

Moreover, interoperability was far along by September 2012, when all of the three leading providers' videophones were interoperable. The intervening years have seen the development of many mobile endpoints, sometimes accompanied by interoperability problems that were generally resolved quickly.[142] The implementation of SIP—which has been delayed by the Commission's decision that it needed to modify rules to permit server-based routing—should make it easier still to resolve issues that arise in the future.[143]

In short, alleged interoperability problems provide no basis for four more years of tiered rates. But again, tiered rates are necessary until the Tier III rate is set at a sustainable level or—better still—the Commission adopts a market-based approach.

4. The Courts Have Accepted the Commission's Justification of Tiers Only As an Interim or Transitional Mechanism.

Although Sorenson has previously challenged the Commission's use of tiered rates in the courts of appeals and the courts accepted tiered rates, they did so only as a *temporary, interim measure* pending a more general "reexamination of VRS compensation and rates."[144] No court

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[140] *See* Declaration of Grant A. Beckmann, Chief Technology Officer, Sorenson, LLC, at 1 ¶ 4 (attached as Exhibit 2) ("Beckmann Decl.").

[141] *Id.* at 1 ¶¶ 3-4.

[142] *Id.* at 1-2 ¶¶ 6-7.

[143] *Id.* at 2 ¶ 9.

[144] *Sorenson Commc'ns, Inc.*, 659 F.3d at 1040-50.

has ever suggested that it would be acceptable to continue a tiered rate structure for more than a decade, as the Commission now contemplates.

In 2010, the Commission adopted "an interim, one-year VRS rate plan to be in effect while it considered reforming VRS compensation."[145] Sorenson challenged the tiered rate structure, arguing that its "costs are lower because it is more efficient than other VRS providers," not "because economies of scale allow it to operate at lower costs."[146] The Tenth Circuit's 2011 decision did not directly address the question of economies of scale, but found that "there [was] sufficient evidence in the record to support the FCC's determination that tiered rates continue to be workable and reliable *during the [one-year] interim period*."[147] The court did not, however, cite any specific record evidence that it thought justified the rate disparities—rather, it appeared to find that little evidence was necessary to support a rate that would only be in place for one year.

Sorenson again challenged "the tiered-rate structure [as] arbitrary and capricious" in the wake of the Commission's 2013 *VRS Reform Order*.[148] Sorenson pointed out—as it does here—that "having tiered rates is inherently contrary to the Commission's stated position that they are inefficient and should be eliminated."[149] The court found, however, that:

> The decision to retain the tiers while transitioning to a competitive-bidding scheme is not inconsistent with the Commission's stated position. The agency made clear in the 2013 [VRS Reform Order] that it still plans to eliminate the per-minute rate methodology and that its critique of tiered rates guided its planning for the interim . . . . It raised the cut-offs between the tiers immediately and will

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[145] *Id.* at 1040.

[146] *Id.* at 1049.

[147] *Id.* (emphasis added).

[148] *Sorenson Commc'ns, Inc.*, 765 F.3d at 51.

[149] *Id.* (quoting *VRS Reform Order* finding at para. 198 that the TRS Fund should not "support indefinitely VRS operations that are substantially less efficient").

> reduce over time the gap between the highest and lowest tiered rates, which adjustments increase the incentive to achieve the minimum efficient scale, consistent with the concerns it expressed in the 2011 Notice.[150]

In short, the D.C. Circuit found that the Commission's tiered rates were permissible so long as they were (1) "interim" rates; and (2) following a path of reductions "over time" in the "gap between the highest and the lowest tiered rates . . . to increase the incentive to achieve the minimum efficient scale."[151]

Neither of these things is true with respect to the cost-based proposals in para. 94 of the *FNPRM*. The one-year "interim" rate that the Commission adopted in 2010 lasted for three years, until it was supplanted by the 2013 "interim rates" that were to last until 2017. The Commission now proposes four *more* years of tiered rates lasting from 2017 through 2021. That is eleven years of "interim" rates without actually sunsetting them. Moreover, the D.C. Circuit approved tiered rates as a transition to a competitive bidding scheme, but the tiered proposal in the *FNPRM* contains no such transition.

Nor are the rates proposed in the *FNPRM* following a path of reductions "between the highest and lowest tiered rates." To the contrary, exactly the opposite is taking place. As Attachment A shows, the percentage difference between the lowest and highest tier was 7 percent in 2010, the final year of the rate plan adopted in 2007; 19 percent in 2013, the final year of the rate plan adopted in 2010; and 14 percent now, the final year of the rate plan adopted in 2013. The differences between the Tier I and Tier III rate in the proposals set forth in paragraph 94 range from 25 percent to 30 percent; thus, the percentage difference between Tier I and Tier III in the various proposals is higher than all of the previous differences—and three to four times

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[150] *Id.* (emphasis added) (citations omitted).

[151] *Id.*

greater than the 7 percent difference is effect in 2010. The comparisons between Tier III rates and the Emergent rates—now the highest tier rates—are even more extreme, ranging from 34 percent to 41 percent. Thus, rather than "reduc[ing] over time the gap between the highest and lowest tiered rates," as the D.C. Circuit expected, every cost-based proposal under consideration would increase the gaps to unprecedented levels.[152]

Against this backdrop, it is clear that the previous court decisions have no bearing on whether the *FNPRM*'s proposed tiered rate structure is sufficiently rational to survive judicial review. The new rate tiers are neither "interim" nor "transition[al]" in any meaningful sense,[153] and they certainly are not reducing the gap between the highest and lowest rates so as to provide incentive for smaller providers to increase their scale.

B. The Commission Should Adopt a Market-Based Rate Methodolgy That Is Consistent with the Statute.

The Commission and other regulators have almost universally moved away from rate determinations based on regulators' scrutiny of cost reports in order to provide incentives for regulated providers to be more efficient.[154] Markets are much more efficient and effective of determining the true level of cost-based rates, without the potential for error that regulators introduce. Indeed, the economic downsides of regulator-determined ratemaking based on cost reports are evident in VRS. For the last ten years, the Commission has subsidized inefficient,

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[152] *See* Attachment A.

[153] *Sorenson Commc'ns, Inc.*, 659 F.3d at 1046.

[154] *See, e.g.*, *Access Charge Reform; Price Cap Performance Review for Local Exchange Carriers; Transport Rate Structure and Pricing; End User Common Line Charges*, First Report and Order, 12 FCC Rcd. 15,982, 16,093 ¶¶ 260, 289 (1997) (endorsing a market-based approach to interstate access rates over cost-based regulation); Greg Goelzhauser, Comment, *Price Squeeze in a Deregulated Electric Power Industry*, 32 FLA. ST. U. L. REV. 225, 225-26, 245-49 (2004) (discussing transition from cost-based rates to market-based rates in energy industry).

high-cost providers. In the meantime, these providers have not reduced their costs. Rather, some of them continue to operate interpreting centers in high-cost areas and offer higher interpreter wages and weekly bonuses. While Sorenson has no quarrel with paying Video Interpreters more, it is arbitrary and capricious to provide some providers with a higher incremental rate for added minutes, which funds those higher wages, while throttling the incremental rate to other providers so that they cannot pay a comparable amount to another interpreter to handle the same conversation minute. A market-based mechanism for setting VRS rates would discourage this kind of profligacy.

Indeed, this type of concern compelled the Commission to commit to adopting a market-determined approach in its 2013 NPRM. The Commission identified four problems with regulator-determined rate setting based on cost reports:

- because VRS is provided at no charge to users, users do not pressure VRS providers to lower their prices, which would force providers to lower costs;
- there have been questions regarding which costs are appropriate;
- the VRS compensation rate has "fluctuated significantly" as new evidence has emerged;[155] and
- the lack of retail prices has resulted in abuse, such as providers "artificially generating minutes of use in order to collect more TRS Fund revenues."[156]

The Commission concluded that "these reasons . . . support the need to replace cost-of-service ratemaking with more market-based approaches" and "propose[d] to transition to a new ratemaking approach that makes use of competitively established pricing, *i.e.*, contract prices set through a competitive bidding process, where feasible."[157]

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[155] *VRS Reform Order*, 28 FCC Rcd. at 8706-07 ¶ 217.

[156] *Id.*

[157] *Id.*

There is no good reason for the Commission to abandon or delay its commitment to adopting a market-based mechanism. The concerns identified by the Commission still exist, and a market-based approach remains the best solution to these issues. Further, as discussed above, the D.C. Circuit gave special deference to the *VRS Reform Order because* of the Commission's commitment to move to a market-based approach. The court reasoned that since the Commission "plan[ned] to eliminate the per-minute rate methodology" and "its critique of tiered rates guided its planning for the interim," "the decision to retain the tiers while transitioning to a competitive-bidding scheme [was] not inconsistent with the Commission's stated position."[158] Thus, the D.C. Circuit made clear that it expected the Commission to abandon tiered rates as a permanent solution to VRS ratemaking and adopt a market-based approach.

1. The FCC Should Conduct a Reverse Auction to Set VRS Rates.[159]

The Commission should adopt a reverse auction such as the one discussed in the Commission's 2017 *FNPRM* and described in Sorenson's March 7, 2017, and March 14, 2017,

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[158] *Sorenson Commc'ns, Inc.,* 765 F.3d at 51.

[159] The Commission has correctly abandoned the auction methodology that it proposed in its 2013 NPRM. *See FNPRM*, 2017 WL 1167513 at *33 ¶ 104; *see also VRS Reform Order*, 28 FCC Rcd. at 8618. Under that methodology, the Commission would have auctioned a "selected set of telephone numbers representing a sufficient number of minutes of use," which could "be used to establish a market rate for all minutes of use of VRS CA service." *VRS Reform Order*, 28 FCC Rcd. at 8708 ¶ 224. This proposal would have limited consumer choice for two main reasons. First, if the auction granted the right to provide minutes of use inbound to particular destinations, such as the Social Security Administration or a wireless carrier, consumers would be unable to choose their own VRS provider when calling those numbers. *Id.* at 8708-09 ¶ 227. Second, the auction may have resulted in a market rate that was too low to sustain multiple VRS providers, an issue that the Commission recognized. *See id.* at 8710 ¶ 235 ("If we are willing to select only one winner, are any of the suppliers other than the largest incumbent able to serve all the demand? How is competitive behavior affected by the fact that the winning bids will be used as a benchmark for setting prices for non-participants?").

ex parte letters.[160] Sorenson believes that this proposal can both accommodate consumer choice by promoting competition and encourage greater efficiencies. Under this approach, rather than auctioning the right to provide a specified number of minutes of use, the Commission would auction the right to continue to receive compensation from the TRS Fund.

The Commission has used reverse auctions in other settings as an alternative to cost-of-service determinations. For example, the Commission used reverse auctions to distribute support for Mobility Fund Phase I, Tribal Mobility Fund Phase I, and the Rural Broadband Experiments.[161] More recently, the Commission adopted auctions as the means to distribute support in the Connect America Fund ("CAF") Phase II and for Mobility Fund Phase II.[162] In these cases, the Commission used auctions as its method to determine the appropriate level of universal service support for particular areas "to maximize the impact of finite universal service resources and . . . enable it to identify those providers that will make most effective use of" scarce funds.[163]

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[160] *See FNPRM*, 2017 WL 1167513 at *34 ¶ 105; Attachment A to Letter from John Nakahata, Counsel to Sorenson, to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 03-123 and 10-51 (filed Mar. 7, 2017); Letter from John Nakahata, Counsel to Sorenson, to Marlene H. Dortch, Secretary, FCC, at 4-9, CG Docket Nos. 03-123 and 10-51 (filed Mar. 14, 2017).

[161] *See, e.g.*, *Connect America Fund; ETC Annual Reports and Certifications; Rural Broadband Experiments*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd. 5949 (2016).

[162] *See Connect America Fund; ETC Annual Reports and Certifications*, Report and Order and Order on Reconsideration, 32 FCC Rcd. 1624, 2017 WL 823596 (rel. Mar. 2, 2017); *Connect America Fund; Universal Service Reform – Mobility Fund*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd. 2152, 2017 WL 931155 (rel. Mar. 7, 2017) ("*Mobility Fund Phase II Order*").

[163] *See, e.g.*, *Connect America Fund*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17,663, 17,732 ¶ 179 (2011); *Mobility Fund Phase II Order*, 2017 WL 931155 at *5 ¶ 17.

In the context of VRS, preserving competitive choice for consumers while also moving to efficient rates creates some tension,[164] but Sorenson believes this proposal could both promote competition and encourage greater efficiencies. VRS consumers strongly desire a choice of VRS providers.[165] A reverse auction based on the successful design of auctions used in energy markets to set rates for more than one generator of electrical capacity is a useful model for VRS. This proposal expressly contemplates that it would yield more than one winning bidder, permitting the Commission to continue to ensure that consumers may choose from among multiple providers of VRS. At the same time, the reverse auction would set VRS rates for a multiyear period of at least five years or longer, providing long-term rate and investment stability for bidders, including potential entrants. That stability should foster lower bids. A multiyear award period would also obviate the need to conduct annual rate determinations or to collect detailed cost data. At the end of the initial, multiyear period, the Commission should shift to a price-cap mechanism initialized using the auction-determined rate.

a. The Commission Should Look to Auctions in the Energy Sector as a Model for a VRS Reverse Auction.

The energy sector provides a useful model for how auctions could be used to set industrywide VRS rates. The Federal Energy and Regulatory Commission ("FERC") allows electricity-grid regulators to use auctions to set rates for future electricity supply, known as "capacity." A recent Supreme Court decision describes how a regulator may run a capacity auction.[166] First, the regulator "predicts electricity demand three years ahead of time, and assigns

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[164] *See FNPRM*, 2017 WL 1167513 at *28 ¶ 86.

[165] *See, e.g.*, Letter from Tamar E. Finn and Danielle Burt, Counsel to TDI, to Marlene H. Dortch, Secretary, FCC, at 1, CG Docket Nos. 03-123 and 10-51 (filed Apr. 28, 2016); Consumer Groups' Policy Statement at 2.

[166] *See Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288 (2016).

a share of that demand to each participating [electricity provider]."[167] Next, electricity providers bid on the capacity assigned to them, and the regulator "accepts bids, beginning with the lowest proposed rate, until it has purchased enough capacity to satisfy projected demand."[168] No matter what they originally bid, the accepted providers receive the market-clearing, *i.e.*, highest accepted, rate needed to procure the desired capacity.[169] In these auctions, some electricity providers choose to be "price takers" and bid $0, with the intent to accept the resulting market-clearing rate.

To illustrate, suppose a regulator determines that in three years, the demand for capacity will be 100 kilowatts. Five providers make the following bids:

- A is a price taker and bids $0 for the 40 kilowatts assigned to it by the regulator.
- B bids $100 per kilowatt for 30 kilowatts. Combined with A's offer, 70 percent of the needed units are now covered.
- C bids $110 per kilowatt for 30 kilowatts. Combined with A's and B's offers, 100 percent of the needed units are covered.
- D bids $120 per kilowatt for 10 kilowatts
- E bids $130 per kilowatt for 10 kilowatts.[170]

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[167] *Id.* at 1293.

[168] *Id.*

[169] *See id.*

[170] *See id.* at 1293 n.1 (explains the process used by one RTO) ("For example, if four power plants bid to sell capacity at, respectively, $10/unit, $20/unit, $30/unit, and $40/unit, and the first three plants provide enough capacity to satisfy projected demand, PJM will purchase capacity only from those three plants, each of which will receive $30/unit, the clearing price.").

In this example, A, B, and C together would cover the demanded capacity. Thus, D and E would be excluded, and A, B, and C would all receive a rate of $110 per kilowatt—the highest proposed rate of the accepted bidders.

b. A Reverse Auction to Establish VRS Rates

A similar auction plan could be developed for VRS. VRS providers would not bid for the right to provide any specified number of minutes, but instead would bid for the right to obtain compensation from the Fund. As in electricity auctions, winning bidders would be paid at the market-clearing price, and losing bidders would not be compensated at all. Such an approach would ensure competitive bidding.

Sorenson believes that a choice of two or three providers would resemble the choice available to hearing consumers and would ensure adequate consumer choice. For the auction to be competitive, there must be more bidders than winning providers. Right now, there are currently four providers, counting ZVRS and Purple as one provider. There is also a prospective new entrant, VTCSecure. Five bidders would ensure competitive bidding under a proposed system that resulted in two or three winners.

To illustrate how an auction with five bidders and three winners would work, suppose that for the length of the multiyear period subject to bid:

- A is a price taker.
- B bids $2.90.
- C bids $3.30
- D bids $3.60.
- E bids $3.70.

Applying the energy-sector-based approach, the market-based VRS rate would be $3.30, the amount bid by the third-highest bidder. As with energy auctions, all providers permitted in the market (whether incumbent providers or new entrants)—in this example, A, B, and C—would receive that rate. After the auction, the Fund would not compensate E and F, the high-priced bidders. The market-based VRS rate would apply for the multiyear period. At the end of that period, the Commission would use the rate determined in the auction to initiate a price-cap mechanism.

This approach differs from capacity auctions by taking into account an important difference between the electricity market and the VRS market: kilowatts are fungible, while VRS is not. That is, consumers are indifferent to whether A or B generates their electricity whereas they may have a preference as to who delivers VRS. Indeed, VRS providers offer different services at varying qualities, and consumers may prefer one VRS provider to another. Moreover, consumer choice is beneficial because it encourages VRS providers to invest in and improve their services. So unlike a capacity auction, a VRS auction should not allocate minutes to providers without regard for consumer preference.[171]

In addition, for a VRS reverse auction to successfully account for the concerns of ratepayers, the largest provider must be a price taker. As a practical matter, given the current structure of VRS supply, it is unlikely that the other VRS providers could increase their capacity to provide VRS quickly enough to cover the largest provider's market share. This, however, would not be expected to mute the capability of the auction to yield reduced VRS rates because a large incumbent has a strong disincentive against bidding at levels that will significantly reduce

[171] *See VRS Reform Order*, 28 FCC Rcd. at 8699 ¶ 200 n.525 (recognizing value of consumer choice in VRS market).

revenues and because, as the proposed auction is structured, as other providers bid aggressively, the rate the largest provider would receive also would fall.

Finally, the Commission should set a floor to prevent recklessly low bids, and/or a ceiling to protect ratepayers. Although very low bids may seem attractive at first, such bids could harm consumers in the long run if the resulting compensation levels were set so low that it drove all VRS providers (including the bidder) out the market. Any floor and/or ceiling would need to be set with sufficient room for the market to test assumed levels, while still safeguarding both VRS consumers, who need a viable and innovative service, and ratepayers.

c. The Benefits of a VRS Auction

In addition to promoting consumer choice and establishing a more competitive rate, a VRS auction would yield other benefits.

First, because the auction would be used to initialize a long-term price cap, an auction would be less regulatory than the current scheme. A price-cap regime would ensure that rates remain competitive for many years without the need for the Commission to intervene.

Second, an auction would set competitive rates that are not based on calculations of VRS providers' allowable costs, but use the wisdom of the market to assess the appropriate match between the outcomes in terms of charges to deaf consumers specified by the Commission in advance and the costs of providing services that achieve those outcomes. As the Commission acknowledged in 2013, "[r]atemaking based on calculations of allowable costs is inherently a contentious, complicated, and imprecise process."[172] And, as the Commission has also acknowledged, regulators making judgments about appropriate rate levels can get it wrong at least as often as they get it right. As Commissioner Pai recently explained, "regulators will

[172] *Id.* at 8706-07 ¶ 217.

always struggle to set the 'right' price"—and if they set the wrong price, the result is "poisonous to consumer welfare."[173] By contrast, in an auction, providers' bids will inherently capture the appropriate costs to achieve the specified outcomes, since providers will not submit bids that are insufficient to cover their expenses. An auction both compensates providers for appropriate costs and avoids the messy process of using regulatory determinations of appropriate costs and returns to set rates.

Third, as discussed above, there are very limited economies of scale in VRS. Thus, an auction will not be unfair for that reason.

Fourth, the auction will encourage providers to become more efficient. The auction will result in a single market-based rate at which three VRS providers are reimbursed. Because each provider will receive the same rate, the provider with lower costs will earn a higher profit than less efficient providers. Thus, each provider has an incentive to become more efficient.

2. Alternatively, the Commission Should Adopt a Deregulatory Approach Where TRS Is Offered Through Private Contracts.

If the Commission decides not to adopt an auction or a price cap, it should enact a third market-based option, which is founded in the language of Section 225 and reliant upon private contracts rather than a TRS Fund. Under this approach, the Commission would replace the TRS Fund with a system under which telecommunications carriers would provide service themselves or by contracting with TRS providers.

This system would offer significant benefits over the other alternatives under

[173] *See* Chairman Pai BDS Statement at 1 ("Price regulation—that is, the government setting the rates, terms, and conditions for special access services—is seductive. Who can possibly resist the promise of forcing prices lower *right now*? But in reality, price regulation threatens competition and investment. That's because regulators will always struggle to set the 'right' price.").

consideration. First, having private carriers rather than regulators employ VRS providers will almost certainly result in more efficient service. Carriers have every incentive not to overpay for service and competition will set prices at the market level. And there would be no need for regulations governing contributions to the Fund and compensation from it.

Second, this approach would allow the Commission to streamline and simplify its rules, much of which are in place to prevent waste, fraud, and abuse from an FCC-mandated fund, and to require interstate telecommunications carriers and VoIP providers to contribute to such a fund. Although there would still be a need for mandatory minimum standards governing the quality of service (which are relatively uncontroversial), there would no longer be any need for the Commission to periodically establish a contribution factor or conduct ratemaking proceedings. And, furthermore, there would be no need for a Fund Administrator or any of the outside consultants the Commission has hired over the last few years to develop end-user equipment or network services. Thus, this approach would allow the Commission to return to its traditional job of being a regulator rather than a fund administrator.

Privatization is well within the Commission's authority under Section 225. Section 225 itself does not mention a TRS Fund. Instead, the statute directs that "[e]ach common carrier providing telephone voice transmission services shall" provide TRS "throughout the area in which it offers services," and allows carriers to provide service directly or "through designees, through a competitively selected vendor, or in concert with other carriers."[174] Accordingly, Section 225 envisioned contracts between telecommunications carriers and TRS providers as a means of meeting the statute's requirements. While Section 225 does state that the Commission's regulations on jurisdictional separations "shall generally provide that costs caused

[174] 47 U.S.C. § 225(c).

by interstate telecommunications relay services shall be recovered from all subscribers for every interstate service," this separations rule also does not mandate creation of the Fund.[175]

When Section 225 was first implemented, some carriers proposed the use of a system that did not rely on a fund, but others argued for a "shared funding" approach that would rely on a TRS Fund. The carriers arguing for a TRS Fund argued that it was needed because they had limited incentives to provide quality service because the statute prohibits them from charging TRS rates that are higher than rates for functionally equivalent voice service.[176] The Commission opted for the shared fund approach in 1993.[177]

Whatever the merits of that approach in 1993, service requirements are more robustly developed since they were in 1993, and there has been nearly twenty-five years of experience with TRS—and nearly two decades with VRS. Moreover, there is relatively little dispute about the speed-of-answer and other requirements ensuring quality service. Therefore, it would now be possible to ensure that deaf and hard-of-hearing Americans continue to have access to functionally equivalent services without the need for an FCC-mandated fund. The Commission could simply require carriers to provide the various forms of TRS that are currently supported by the Fund, and rely on the service quality requirements to ensure quality service.

Privatization is also consistent with the other relevant statutory provisions. The *FNPRM* specifically asks whether eliminating the fund is consistent with 47 U.S.C. § 620, which establishes the deaf-blind equipment program. But Section 620 merely requires the Commission

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[175] *Id.* § 225(d)(3)(B).

[176] *See id.* § 225(d)(1)(D).

[177] *See Telecommunications Relay Services for Individuals with Speech and Hearing Disabilities; the Americans with Disabilities Act of 1990*, Order on Reconsideration, Second Report and Order, and Further Notice of Proposed Rulemaking, 8 FCC Rcd. 1802, 1806 ¶ 21 (1993).

to make approved deaf-blind equipment programs "eligible for relay service support."[178] The statute caps the amount of support that may come from the "interstate relay fund,"[179] but it nowhere says that the Commission must support the program through the TRS Fund. In any case, even if the Commission had to use the TRS Fund to provide equipment to deaf-blind persons under 47 U.S.C. § 620, that would not mean that it has to use it for other services.

Finally, as suggested in the *FNPRM*, this approach would work only if the Commission makes VRS and IP CTS "mandatory" relay services. It is long past time for the Commission to make these services mandatory. The Commission last addressed this issue in 2000, when it declined to "require VR[S] at this time, as the service remains in its technological infancy." The Commission concluded that it was "premature" to require VRS because at that time, there were "unresolved issues of compatibility" that sometimes prevented relay centers from communicating with the equipment used by callers and because the Commission was concerned that mandating VRS "at this early stage in its technological development could stymie experimentation with different technologies." But these concerns no longer justify continuing to make VRS optional. VRS is now a mature technology, and the "unresolved issues of compatibility" no longer prevent relay centers from communicating with callers. Moreover, at this point, it is clear that VRS is the most functionally equivalent service for deaf Americans, and IP CTS is the most functionally equivalent service for hard-of-hearing Americans. So they should be "mandatory" services.

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[178] 47 U.S.C. § 620(a).

[179] 47 U.S.C. § 620(c).

IV. THE COMMISSION SHOULD AMEND ITS RULES AS IT PROPOSES TO PERMIT SERVER-BASED ROUTING.

Sorenson fully supports the Commission's proposal to amend its rules expressly to permit server-based routing. As Sorenson and the other VRS providers have noted previously,[180] server-based routing has, for several years, been essential not only to the SIP Profile, but also to providing VRS behind corporate firewalls. Failure to permit server-based routing would substantially hinder the provision of VRS in institutional environments.

V. THE COMMISSION SHOULD ENSURE CONTINUED FUNDING FROM THE TRS FUND FOR RESEARCH AND DEVELOPMENT.

The Commission should also continue to support generic research and development. However, it must also recognize that most research and development occurs in the private sector, and thus should also be an "allowable cost" for providers regardless of whether it is necessary to meet mandatory minimum standards. Consistent with the statutory directive to "not discourage or impair the development of improved technology,"[181] all research-and-development costs should be allowable.[182]

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[180] *See* Letter from VRS Providers to Marlene H. Dortch, Secretary, FCC, at 1, CG Dockets No. 03-123 and 10-51 (filed Jan. 8, 2015); Letter from VRS Providers to Marlene H. Dortch, Secretary, FCC, at 4, CG Docket Nos. 03-123 and 10-51 (filed May 19, 2016).

[181] 47 U.S.C. § 225(d)(2).

[182] *See* Section II.A.3.ii., *supra*.

CONCLUSION

Accordingly, the Commission should adopt a market-based rate; should not, in any event, adopt a Tier III rate below $4.19; should permit server-based routing; and should ensure continued funding from the TRS Fund for research and development.

Respectfully submitted,

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April 24, 2017

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ATTACHMENT A

Year	Tier 1 Rate	Tier 2 Rate	Tier 3 Rate	$ difference Tier2-Tier3	% difference Tier2-Tier3	$ difference Tier1-Tier3	% Difference Tier1-Tier3
2010	$ 6.70	$ 6.44	$ 6.24	$ 0.20	3%	$ 0.46	7%
2013	$ 6.24	$ 6.23	$ 5.07	$ 1.16	19%	$ 1.17	19%
2017	$ 4.06	$ 4.06	$ 3.49	$ 0.57	14%	$ 0.57	14%

FNPRM Proposals	Emergent Tier Rate	Tier 1 Rate	Tier 2 Rate	Tier 3 Rate	$ difference Emergent-Tier3	% difference Emergent-Tier3	$ difference Tier2-Tier3	% difference Tier2-Tier3	$ difference Tier1-Tier3	% Difference Tier1-Tier3
High	$ 5.29	$ 4.82	$ 4.35	$ 3.49	$ 1.80	34%	$ 0.86	20%	$ 1.33	28%
Low	$ 4.82	$ 4.06	$ 3.49	$ 2.83	$ 1.99	41%	$ 0.66	19%	$ 1.23	30%
Low # 1	$ 4.06	$ 3.74	$ 3.08	$ 2.63	$ 1.43	35%	$ 0.45	15%	$ 1.11	30%
Low # 2*	$ 4.06	$ 3.49	$ 3.08	$ 2.63	$ 1.43	35%	$ 0.45	15%	$ 0.86	25%

*Four different final rates for Tier 1 are set forth in ¶ 94, but only three rates are set out for the other tiers. This chart compares each of the two lowest Tier 1 rates with the other rates.

ATTACHMENT B

Index of Adjusted EBITDA Margin Data

Firm Name	FY16 Adjusted EBITDA Margin reported by Bloomberg[183]
Accenture PLC A	15.9%
Booz Allen Hamilton	9.4%
CACI International, Inc.	9.2%
CDW Corp.	7.7%
Cognizant	19.8%
Conduent Inc.	10.7%
Convergys Corp	12.7%
CSRA Inc.	11.5%
EPAM Systems Inc.	13.6%
Genpact Ltd	16.2%
Iron Mountain	31.5%
Leidos Holdings	9.1%
Mantech International	7.6%
Maximus Inc	14.7%
Neustar	41.8%
NIC Inc	26.6%
Science Applications International Corp	7.3%
Sykes Enterprise	11.2%
Syntel Inc	28.7%
Teletech Holdings	12%
Unweighted Average	**15.9%**

[183] Bloomberg L.P., Company margins retrieved April 17, 2017 from Bloomberg database.

Exhibit 1

Redacted In Entirety

Exhibit 2

DECLARATION OF GRANT A. BECKMANN

I, Grant A. Beckmann, do hereby, under penalty of perjury, declare and state as follows:

1. My name is Grant A. Beckmann. I am the CTO, Security, Compliance, for Sorenson Communications, Inc., which is based in Salt Lake City. I have held this position since 2016. I have also served as Vice President of Engineering at Sorenson from 2010 through 2016. I received BS degree from Brigham Young University, Provo, Utah.

2. The purpose of this declaration is to support Sorenson's comments in the ongoing ratemaking proceeding for video relay service ("VRS"). One issue in this proceeding involves the extent to which the videophones and other endpoints used by different VRS providers are interoperable. Interoperability relates to whether deaf individuals are able to communicate with each other "point-to-point" when they are using different provider endpoints, and whether they are able to "dial-around" to a different providers VRS service. For example, if Sorenson's ntouchVP 2 videophone can be used to make point-to-point calls to a Z-70 videophone, and vice versa, then the ntouchVP 2 and the Z-70 videophones are interoperable. VRS providers receive no compensation for completing point-to-point calls, which do not require an interpreter.

3. I have personally managed Sorenson's efforts to make its videophones interoperable since 2010. For the last 3 years, Sorenson, ZVRS, Purple, Convo, and GlobalVRS have engaged in biweekly meetings to discuss and address interoperability issues. The providers have called these meetings to the Commission's attention in multiple ex parte filings. *See, e.g.*, Letter from VRS Providers to M. Dortch (filed Oct. 31, 2016); Letter from VRS Providers to M. Dortch (filed May 19, 2016); Letter from Provider Representatives to M. Dortch (filed Nov. 20, 2015); Letter from VRS Providers to M. Dortch (filed June 26, 2015); Letter from VRS Providers to M. Dortch (filed Jan. 8, 2015); Letter from J. Nakahata to M. Dortch (filed Feb. 28, 2014), CG Docket Nos 10-51 & 13-24.

4. The major VRS providers—Sorenson, ZVRS, Convo, and Purple— have worked together to solve all H323 (ITU protocols to provide audio-visual communication sessions on any packet network) interoperability issues involving their endpoints. With respect to videophones, tests conducted by Sorenson show that all Sorenson's embedded, desktop, and mobile videophones are currently interoperable using H323 with every endpoint used by ZVRS, Purple, and Convo users. Global has been unavailable to conduct testing.

6. As early as September 28, 2012, Sorenson's two videophones then in use—the VP-200 and the ntouchVP—were interoperable with Purple's P3 and ZVRS's Z4, Z-4 Mobile (Mirial) and Z-20 (E-20) devices. There were interoperability issues with respect to other endpoints at that time. But Sorenson's VP-200 and ntouchVP were used for 90% of Sorenson's VRS calls to Purple and ZVRS users in 2012.

7. From 2012 to the present, VRS providers developed and offered additional endpoints almost every year. If any of those new endpoints presented interoperability problems, those problems were quickly resolved through inter-provider cooperation. Accordingly, interoperability improved somewhat each year from 2012-2017, leading to interoperability between Sorenson's endpoints and endpoints provided by ZVRS, Purple, and Convo as described above.

8. It bears note that VRS users prefer fixed videophones with large screens for good reason. American Sign Language involves quick and complex hand motions along with facial gestures and body movements that convey meaning. Therefore, a high-resolution device with a large screen that allows viewers to see each other's hands and a large part of each other's bodies is far superior to a low-resolution device or videophones with small screens. Sorenson's ntouchVP-2 provides 1080p resolution and Sorenson generally provides 24-inch monitors to users who need them. Of course, a smaller mobile device is very useful when a traditional videophone is not available, but there are sound reasons for users to favor videophones with large monitors at home and at work.

9. The deployment of SIP (IETF session initiation protocol) by all providers will make it easier for providers to maintain a high level of interoperability as new endpoints are developed in the future.

10. Another issue in the ratemaking proceeding involves the cost of the videophones and related equipment that Sorenson provides to users. As CTO, I have personal knowledge of these costs and confirm the accuracy of the numbers in Table 1 of Sorenson's comments and the related text concerning the cost of Sorenson's equipment.

11. As CTO, I have personal knowledge of how Sorenson uses its intellectual property. Sorenson's intellectual property relating to VRS is not used in providing VRI or CaptionCall, and there are no specific plans to do so. Sorenson has a new subsidiary, NewCo, that uses a portion of the source code developed for VRS, but none of the other VRS intellectual property. However, at present NewCo has no revenues.

Executed on April 23, 2017.

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