



November 14, 2012

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

Gregory Hlibok
Chief, Disability Rights Office
Bureau of Consumer and Governmental Affairs
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *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

Dear Ms. Dortch and Mr. Hlibok:

Sorenson Communications, Inc. ("Sorenson") files the attached comments in response to the Public Notice released by the Consumer and Governmental Affairs Bureau in the dockets captioned above on October 15, 2012

Sorenson's comments contain Confidential Information protected pursuant to the *Protective Order* issued on March 14, 2012, and Highly Confidential Information protected pursuant to the *Second Protective Order* issued on May 31, 2012.¹ Sorenson is therefore filing under seal pursuant to the procedures identified in the Protective Orders. As required by paragraph 12 of the *Second Protective Order* and paragraph 4 of the *Protective Order*, we submit: (a) one copy of the comments containing Highly Confidential Information and Confidential Information to the Secretary's Office along with this cover letter; (b) two copies of the presentation in redacted form to the Secretary's Office along with this cover letter; and (c)

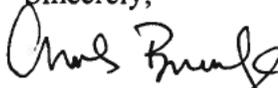
¹ See *Structure & Practices of the Video Relay Serv. Program*, Protective Order, DA 12-402 (rel. March 14, 2012); *Structure & Practices of the Video Relay Serv. Program*, Second Protective Order, DA 12-858 (rel. May 31, 2012).

Marlene H. Dortch
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two copies of the presentation containing Highly Confidential Information and Confidential Information to Gregory Hlibok along with this cover letter. We will also file a copy of the redacted version via ECFS. As required by paragraph 3 of the *Second Protective Order*, we have received written approval from Commission staff for the Highly Confidential designations in the filing.

Sincerely,



Charles Breckinridge
Counsel to Sorenson Communications, Inc.

Enclosures

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

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, INC.

Michael D. Maddix
 Director of Government and
 Regulatory Affairs
 SORENSON COMMUNICATIONS, INC.
 4192 South Riverboat Road
 Salt Lake City, UT 84123

John T. Nakahata
 Christopher J. Wright
 Charles D. Breckinridge
 Timothy J. Simeone
 WILTSHIRE & GRANNIS LLP
 1200 Eighteenth Street, N.W.
 Washington, D.C. 20036
 T: (202) 730-1300
 jnakahata@wiltshiregrannis.com

Counsel to Sorenson Communications, Inc.

November 14, 2012

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I. Introduction and Executive Summary.

Imagine a world in which deaf, hard-of-hearing, and speech-disabled individuals would be able to use Video Relay Service (“VRS”) only on government-selected devices, via a government-imposed VRS application providing no advanced features beyond video mail and address book dialing, and with a two-minute wait for an interpreter—if one were available at all—because the government-mandated operating margins were so small that no commercial entity would be willing to provide VRS. Such a world should be unthinkable—but apparently it is not. The Public Notice (“PN”)¹ seeks comment on three proposals that would create exactly such a world, ending any hope of functional equivalence for the deaf, hard-of-hearing, and speech-impaired individuals who rely on VRS, and abandoning any pretense of implementing the Americans with Disabilities Act (“ADA”). The PN’s proposals would, moreover, achieve this counterproductive result at great cost to the Telecommunications Relay Service (“TRS”) Fund (“TRS Fund” or “the Fund”).

These proposals would destroy the United States’ world-leading VRS services—which have literally revolutionized the lives of tens of thousands of deaf, hard-of-hearing, and speech-disabled individuals—and turn a vibrant, deaf-centric sector into a service and innovation desert. Sorenson Communications, Inc. (“Sorenson”) vigorously opposes each of the PN’s proposals, which would mark a drastic step backward in the type and quality of American Sign Language (“ASL”)-based relay services for the deaf, hard-of-hearing, and speech-disabled.

¹ See *Additional Comment Sought on Structure and Practices of the Video Relay Service (VRS) Program and on Proposed VRS Compensation Rates*, Public Notice, DA 12-1644, CG Docket Nos. 10-51, 03-123 (rel. Oct. 15, 2012) (“PN”).

The PN represents a dramatic departure from the analysis presented in the Commission’s Further Notice of Proposed Rulemaking (“FNPRM”),² and an apparent disregard for both economic and technical realities. The third section of the PN is the most direct: it proposes VRS compensation rates at levels at which no VRS provider could provide service. The report by Rolka Loube Saltzer Associates (“RLSA”), the TRS Fund Administrator, proposes to set rates based on just a subset of VRS providers’ actual, documented costs, with a miniscule margin calculated on an even smaller subset of capital costs, using a discredited rate-of-return methodology, originally created (but largely abandoned since) for capital intensive industries, such as telephone and electricity rather than labor intensive industries such as VRS. Because the RLSA report proposes rates based on just an arbitrary subset of actual costs, these are rates for a hypothetical firm that does not remotely resemble any VRS provider in existence today.

All VRS providers have supplied confidential cost information to the Commission, and none supports a conclusion that VRS service could be provided at the compensation levels proposed in the PN and RLSA report—either for the first year or for subsequent years. The rate formula used by RLSA to determine the end-of-transition rate levels generates a pre-tax margin of approximately two percent of “allowable” costs—with that margin shrinking further over time—meaning that all other costs (beyond the arbitrary subset included in RLSA’s calculations) and any profit would have to be shoehorned into that two percent (and less in future years), which is an abject impossibility. Moreover, if a VRS provider reduced operating costs to try to increase that margin, the result would be a further decline in compensation rates the following year, because of the perverse incentives baked into the antiquated cost-of-service ratemaking that

² See *Structure and Practices of the Video Relay Service Program, Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Further Notice of Proposed Rulemaking, FCC 11-184, 26 FCC Rcd. 17,367 (2011) (“2011 VRS Reform FNPRM”).

the proposal reflects. Put plainly, the rate recommendation on which the PN seeks comment supplies no commercially viable basis for providing VRS.

At the same time, however, the PN does not even attempt to address the principal structural problem of waste, fraud, and abuse identified by the FNPRM. That problem, as the FNPRM itself set forth, stems from the fact that per-minute compensation fails to align VRS with costs. Specifically, because many VRS costs do not scale on a per minute basis, there is a structural incentive for minute-pumping schemes. The rates proposed in the PN would thus not only destroy VRS entirely, but would do so without even attempting to address the root of the core issues of waste, fraud, and abuse identified in the FNPRM.

Not content with one bullet to the heart of VRS, the PN fires two more. First, the Bureau seeks comment on a proposal from CSDVRS, LLC (“ZVRS”) to have the Commission mandate the creation and use of a single VRS access software application *instead* of supporting the development of interoperability standards that would allow different types of VRS hardware and software to communicate seamlessly, regardless of who develops or supports it. The approach on which the PN seeks comment is wholly unrealistic: there is no single operating system that operates on all devices capable of supporting VRS. The Commission (or its chosen application developer) would have to create and maintain many versions of this VRS access software—but upon release of the next “hot” wireless device with a new operating system, deaf consumers would be still unable to access VRS on that device until the government were to decide that demand was sufficient to justify yet another version of the standardized endpoint software for the new device. Moreover, consumers would be forced to abandon the videophones that they overwhelmingly have chosen to access VRS today in favor of equipment that will likely be more costly and less suited to the needs of deaf, hard-of-hearing, and speech-disabled individuals.

The second section of the PN then seeks comment on another proposal by ZVRS that would have the FCC convert the iTRS Database into a government-sanctioned single communications provider responsible for 1) directing all calls from a VRS endpoint (including VRS and point-to-point calls); 2) collecting usage data for all deaf, hard-of-hearing, and speech-disabled individuals; and 3) providing vertical features such as video mail and address book, but apparently no others. Under this approach to call handling, VRS innovation and features would be limited to those changes introduced in connection with the government-sanctioned platform, service reliability would be dependent on a single point of failure, and deaf, hard-of-hearing, and speech-disabled individuals would face the prospect of having all their usage data stored in this single data warehouse—an inviting target for hackers and data thieves. Nor does this proposal offer greater ability to detect fraud and abuse: a single communications provider will not be in a better position to detect usage by ineligible persons or minute-pumping schemes than today, and any issues of use by ineligible persons can be addressed by tightening the eligibility requirements, including abolishing “guest” registration for VRS (a step the FCC has already taken with respect to IP Relay). Moreover, RLSA already receives a detailed record every month for each billed and abandoned VRS call, and RLSA’s auditors have access to records for every call that reaches VRS providers’ hold servers, whether or not the provider sought compensation for the call. The creation of a single communications provider therefore will not add to RLSA’s capability to audit VRS provider submissions for improper billing.

The core promise and statutory mandate of the ADA is TRS service for deaf, hard-of-hearing, and speech-disabled users that is functionally equivalent to that enjoyed by hearing individuals. Hearing people do not have to wait two minutes for a dial tone; need not depend on government approval for new software that works with the latest smartphones and tablets; and do

not rely on a centralized, government-sponsored communications provider as their sole source for connectivity, call routing, and tracking calls. But that would be the result of adopting the proposals in the PN. Each of these proposals poses an existential threat to the VRS services upon which deaf, hard-of-hearing, and speech disabled Americans have come to rely, and the Commission should therefore reject them completely.

Sorenson's comments are divided into three core sections. Section II addresses RLSA's rate proposal, explaining that it is based on methodology reflecting four foundational flaws. In this section, Sorenson also reinforces the importance of eliminating rate tiers and debunks unsupported assertions from other providers about the need for tiers to address supposed economies of scale. Next, in Section III, Sorenson explains that the PN's proposal to impose a single software endpoint by regulatory fiat would constitute an enormously regressive step for consumers, as it would eliminate features and incentives to innovate—while also adding dramatically to the financial burdens on the TRS Fund. Finally, in Section IV, Sorenson responds to the proposal to entrust the iTRS Database Administrator with a laundry list of networking functions and feature support. Like the proposal to mandate the use of a single software endpoint, the networking disaggregation proposal would mark a fundamentally counterproductive turn toward central planning and away from the innovative, feature-rich, and efficient services that exist in the competitive market—while doing nothing to address problems of waste, fraud, and abuse identified in the FNPRM.

II. RLSA's Proposed Rates Would Eliminate Functional Equivalence and Destroy the World-Class VRS that Has Transformed Consumers' Lives.

A. RLSA's Rate Methodology is Flawed in Four Core Respects that Render It Economically Infeasible in the Real World.

Although RLSA has submitted proposed rates, they must be discarded. Four profound fallacies render RLSA's rate proposal a dangerous fantasy that would destroy the economic basis for any for-profit entity to provide VRS services. A rate methodology cannot be rational if it does not create a business model under which an entity could reasonably be expected to provide service; as the D.C. Circuit has made clear, economic feasibility is a part of the arbitrary and capricious standard.³ In light of the four foundational failings discussed below, the FCC could not possibly carry its burden to explain how the resulting rate would be a product of reasoned decisionmaking; it simply cannot justify why it would choose this methodology or how it creates a viable financial model for the provision of any VRS service by any entity. As discussed in Section II.F.1, below, a rational, economically viable rate would be one that mimicked the expected results of a competitive bid.

First, the RLSA proposal relies on a cost-of-service or rate-of-return approach to ratemaking, which has been discredited for years,⁴ including on the record in this proceeding and by the FCC in virtually every other context. In his attached Declaration, Professor Michael Katz,

³ See *Nuvio Corp. v. FCC*, 473 F.3d 302, 303 (D.C. Cir. 2006) (technical and economic feasibility are “inquiries made necessary by the bar against arbitrary and capricious decision-making”); see also *Alliance for Cannabis Therapeutics v. Drug Enforcement Admin.*, 930 F.2d 936, 940 (D.C. Cir. 1991) (“Impossible requirements imposed by an agency are perforce unreasonable”).

⁴ See, e.g., Comments of Sorenson Communications, Inc., at 37-39, CG Docket Nos. 10-51, 03-123 (filed Mar. 9, 2012) (“Sorenson FNPRM Comments”); Reply Comments of Sorenson Communications, Inc., at 39-41, CG Docket Nos. 10-51, 03-123 (filed Mar. 30, 2012) (“Sorenson FNPRM Reply Comments”); *An Economic Analysis of VRS Policy Reform*, Declaration of Michael L. Katz, Sorenson FNRPM Comments at Attachment A ¶¶ 56-63 (“Katz FNPRM Declaration”).

the Commission's former chief economist, puts the fundamental point here succinctly: "A cost-based compensation system, such as the one underlying the RLSA proposal, stifles innovation and promotes inefficiency."⁵ The Commission accordingly abandoned rate-of-return regulation for large incumbent local telephone companies more than 20 years ago, and it essentially ended its rate-of-return regulation of small telephone companies in the *Universal Service/Intercarrier Compensation Transformation Order* adopted in November 2011.⁶ The PN does not even suggest any reasoned basis for perpetuating the use of this discredited system for VRS. Nor does the PN respond to the criticisms of cost-of-service ratemaking that are already on the record. But reasoned decisionmaking *requires* such an explanation—and that is particularly so because, as discussed below, the proposal at issue is a poster child for illustrating the flaws that result when regulators base rates on costs of service.

Second, as Sorenson and others have explained repeatedly,⁷ RLSA continues to rely on an artificially limited set of costs when calculating the rate proposal, rather than considering all

⁵ Michael L. Katz, *Response to Additional Comments Sought on VRS Policy Reform*, ¶ 54 (Nov. 14, 2012) (copy attached as Attachment A) ("Katz PN Declaration").

⁶ See, e.g., *Policy and Rules Concerning Rates for Dominant Carriers*, Second Report and Order, FCC 90-314, 5 FCC Rcd. 6786 (1990); *Connect America Fund, A National Broadband Plan for Our Future, Establishing Just and Reasonable Rates for Local Exchange Carriers, High-Cost Universal Service Support, Developing a Unified Intercarrier Compensation Regime, Federal-State Joint Board on Universal Service, Lifeline and LinkUp, Universal Service Reform— Mobility Fund*, Report and Order and Further Notice of Proposed Rulemaking, FCC 11-161, 26 FCC Rcd. 17,663 (2011) ("*USF/ICC Transformation Order*"). Although the FCC never formally stated that it was ending rate-of-return regulation for small telephone companies, as of July 1, 2012, the interstate terminating access rates and revenues are no longer determined by rate-of-return regulation, but instead are based on formulas no longer tied to current costs or revenue requirements.

⁷ See Sorenson FNPRM Comments at 34; Letter from Christopher Wright, Counsel, Sorenson Communications, Inc., to Marlene Dortch, Secretary, Federal Communications Commission, Attachment at 7, CG Docket Nos. 10-51, 03-123 (filed Sept. 17, 2012) ("Sorenson Sept. 17 Letter"); Comments of Convo Communications, LLC, at 9-10, CG Docket No. 10-51 (filed Aug. 16, 2010).

of a VRS provider's costs. There are many sizeable costs—real and non-discretionary costs—that are excluded, ranging from actual taxes paid, to research and development, to actual (not merely “allowed”) costs of capital. RLSA's proposal is thus based on hypothetical costs, and not on the real world in which deaf and hard-of-hearing customers actually use VRS and VRS providers actually provide service. The PN compounds this problem by proposing to limit further the universe of costs that “count” when determining rates—suggesting that it may also exclude marketing and outreach costs⁸—which would further divorce rates from the realities of providing functionally equivalent VRS service. In sum, as Professor Katz explains, while the Commission clearly *should* base “compensation rates . . . on incentive-regulation principles,” if it “nonetheless takes a rate-of-return regulation approach to rate setting” it must “treat marketing, outreach, and research and development costs as qualifying costs.”⁹

The excluded costs are not trivial. Independent outside auditors have confirmed that Sorenson has actual annual costs of approximately ****BEGIN HIGHLY CONFIDENTIAL**** ****END HIGHLY CONFIDENTIAL**** that are not considered “allowable” by the Commission—and that are therefore arbitrarily excluded from RLSA's calculations. These include, *inter alia*, engineering costs, unreportable depreciation costs for expensive equipment without which most consumers could not use VRS services, costs to acquire ten-digit numbers, actual financing costs, and income taxes. The PN asks whether some of these costs ought to be added to the list of allowable costs. Of course they should if the Commission persists in using a cost-of-service approach. But the fact that they have not been considered allowable thus far underscores why the Commission should get out of the business of trying to set cost-of-service-based rates.

⁸ See PN at 8.

⁹ Katz PN Declaration ¶ 57.

In particular, the Commission’s persistent failure to treat the costs of providing videophones and similar equipment as “allowable” reinforces that it should not employ cost-of-service ratemaking for VRS. America’s deaf population, on average, is considerably poorer and less educated than the general population.¹⁰ At the same time, however, videophones are much more expensive than standard telephones and more comparable to smartphones. An ordinary voice telephone for a hearing person can be purchased for less than \$10. An off-the-shelf videophone such as Cisco’s E20 IP Videophone—now steeply discounted because it has been abruptly discontinued,¹¹ with no replacement announced—costs over \$800¹²; a current generation iPad with a front facing camera starts at \$500 and goes up considerably from there.¹³ Because of the high cost of VRS-capable equipment, VRS might well have died in the cradle if Sorenson had not started providing videophones without charge to VRS users a decade ago, despite the Commission’s hostility to the practice.¹⁴ As a practical matter, the majority of deaf consumers simply would have not been able to afford the equipment to use VRS. And while the

¹⁰ See Erika Steinmetz, U.S. Census Bureau, “Current Population Reports” in *Americans with Disabilities: 2002, Household Economic Studies*, available at www.census.gov/prod/2006pubs/p70-107.pdf (last accessed Nov. 12, 2012).

¹¹ See Cisco IP Video Phone E20, at <http://www.cisco.com/en/US/products/ps11329/index.html> (last accessed Nov. 12, 2012).

¹² See, e.g., Video Conferencing Supply, Cisco E20 IP Video Phone CTS-E20-K9, at <http://www.videoconferencingsupply.com/Cisco-CTS-E20-K9-p/CTS-E20-K9.htm> (last accessed Nov. 12, 2012).

¹³ See Apple Store, iPad, at http://store.apple.com/us/buy/home/shop_ipad/family/ipad (last accessed Nov. 12, 2012).

¹⁴ Of course, if off-the-shelf equipment were “lower cost or more attractive to users, then VRS providers [would] have the incentive and ability to offer that equipment to VRS users in order to obtain a competitive advantage.” Katz PN Declaration ¶ 20. But off-the-shelf equipment is decidedly *not* more attractive to VRS users, as illustrated by the fact that Sorenson’s competitors encourage VRS users to employ *Sorenson’s* videophones on other VRS systems rather than offering less desirable off-the-shelf equipment to those users. See, e.g., <http://www.purple.us/videophone> (Purple Communications’ “videophone” page on its website is about using *Sorenson’s* VP-200 with Purple Communications’ service.).

TRS Fund might accordingly be smaller, tens of thousands of deaf persons would not have experienced the life-altering advantages provided by VRS, in furtherance of the ADA's goals.

In the FNPRM, the Commission recognized the need to change course by concluding that the costs of providing videophones are actual costs of providing VRS that should be taken into account in setting rates.¹⁵ The Commission should not back away from that conclusion, as the PN now contemplates. The appropriate analogy for functional equivalence here is wireless service, where phones are relatively expensive and providers routinely subsidize the cost of that equipment. Accordingly, if the Commission does decide to pursue a cost-of-service approach to rate setting (which it certainly should not), it cannot rationally ignore these costs because they are necessary for consumers to obtain functionally equivalent access to VRS.

Pretending that VRS providers' real-world costs do not exist cannot make them go away—it only results in a rate unmoored from reality. It bears particular emphasis that, in the real world, no one provides VRS at a lower cost per minute than Sorenson—even when Sorenson's debt costs, discussed below, are taken into account. Yet due to the flawed methodology at work, RLSA has proposed a rate that is far below the costs that Sorenson (and every other competitor) actually incur.

Third, there is no justification in the record (or anywhere else) for limiting the return to booked capital costs in a low-capital, labor-intensive industry like VRS. That is like saying that the only return an office temp agency may legitimately earn is on its investments in desks and office computers, rather than in its workers. It is simply not possible to run any kind of service-oriented business—one that relies on human beings (video interpreters), not equipment or other capital investment, as the core of the product—on the model underlying RLSA's proposal. The

¹⁵ See *2011 VRS Reform FNPRM*, 26 FCC Rcd. at 17,393 ¶ 51.

absurdity of RLSA's figures is illustrated by its calculation of six cents per minute as the appropriate return on investment for 2012.¹⁶ Six cents per minute represents a pre-tax profit of barely more than ****BEGIN HIGHLY CONFIDENTIAL**** ****END HIGHLY CONFIDENTIAL**** percent on Sorenson's actual costs as documented in the recent audit—or less than two percent on RLSA's average of the subset of “reportable” costs of all VRS providers.

Moreover, while the six cents per minute of pre-tax “profit” contemplated by RLSA's proposal purportedly includes an “allowance for taxes,”¹⁷ the *actual* taxes that Sorenson pays are ****BEGIN HIGHLY CONFIDENTIAL**** ****END HIGHLY CONFIDENTIAL**** *than this entire six-cents-per-minute margin*. As Sorenson has set forth in its detailed financial submissions to the Commission, in the real world—as opposed to the thoroughly imaginary world of RLSA's proposals—it pays approximately ****BEGIN HIGHLY CONFIDENTIAL**** ****END HIGHLY CONFIDENTIAL**** cents per minute in taxes.¹⁸ In other words, the total “return” that RLSA envisions in its parallel-universe ratemaking proposal would fall well short of covering the real-world taxes that VRS providers must pay (real-world taxes that are not even entirely “allowable”), to say nothing of the other real-world costs that VRS providers bear but that are ignored by RLSA's approach.

¹⁶ See PN at 8-9. Because RLSA's figures for 2010 and 2011 are nine cents and eight cents, the current rolling three-year average return on investment would likely be seven or eight cents rather than six cents. But because the return is trending down, it appears the return on investment might go even lower than six cents in the near future. In any event, seven or eight cents per minute is a grossly inadequate return.

¹⁷ *Id.* at 9.

¹⁸ See Letter from John Nakahata, Counsel, Sorenson Communications, Inc., to Marlene Dortch, Secretary, Federal Communications Commission, at Attachment, CG Docket Nos. 10-51, 03-123 (filed July 11, 2012) (“Sorenson July 11 Letter”).

Fourth, the rate of return on book capital investment—11.25 percent—that RLSA applies is completely arbitrary and indefensible. As Sorenson explained at length in its FNPRM comments, this rate was inexplicably imported from a wholly dissimilar context and inserted without any justification in the VRS ratemaking process.¹⁹ More specifically, the 11.25-percent figure was calculated from data relating to capital-intensive monopoly telephone companies (companies with major infrastructure investments) in the 1980s and the first seven months of 1990. But VRS is not a monopoly industry—any VRS provider can lose any customer to another provider at any time—nor is it dependent on substantial investments in infrastructure or other capital equipment. As a result, data relating to monopoly telephone service from more than 20 years ago clearly has no bearing on the appropriate rate of return for VRS providers. The Commission might as well have plucked the number out of thin air.

The root problem here is the Commission’s 2004 statements to the effect that VRS providers should earn almost no profit.²⁰ At that time the Commission envisioned VRS as a service to be provided by large telephone companies essentially at incremental cost, as an adjunct to their general telecommunications operations. As Professor Katz puts it in his attached Declaration, the Commission “assume[d] that carriers [providing voice telephone service] are required to—and will—provide VRS services even if they are unable to make any profit on them.”²¹ But the Commission’s 2004 vision and the hostility to profit underlying it drove *every* telecommunications carrier from the VRS market; all “carriers providing voice telephone service

¹⁹ See Sorenson FNPRM Comments at 41-45.

²⁰ See *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Order, FCC No. 04-137, 19 FCC Rcd. 12,475, 12,542-45 ¶¶ 177-82 (2004).

²¹ Katz PN Declaration ¶ 62.

have ceased providing VRS services.”²² And that same hostility now prevents the remaining standalone VRS providers from obtaining capital from the public equity markets.

As a result, the Commission “should... revisit the premises underlying its 2004 Order.”²³ VRS has succeeded since 2004 only because the FCC has not actually set rates that reflect the letter of its 2004 statements—and, significantly, shifted to a *de facto* price-cap methodology in 2007. Reversion to the letter of the Commission’s 2004 Order would limit deaf Americans to second-class service rather than functional equivalence. The Commission should repudiate its 2004 statements limiting profit to an 11.25 percent return on booked capital investment—which, again, is a nonsensical approach in a labor-intensive industry and which provides no margin on expenses, including interpreter labor. A return that is so limited is simply insufficient to run any business and undermines long-term planning and investment. For the same reason, the Commission should affirmatively undertake price-cap rate-setting designed to permit viable, functionally equivalent VRS service and to provide the stability necessary to foster capital investment and spur innovation. The ongoing fits-and-starts approach to VRS ratemaking—particularly when coupled with potentially devastating proposals like the three contained in the PN—has the predictable effect of freezing the capital markets for VRS providers.

B. Cost Data Already in the Record Confirms that RLSA’s Proposed Rates are Economically Infeasible.

Cost data already in the record confirms that RLSA’s proposed final, post-transition rate of \$3.40 per minute is economically unfeasible, as is its proposed 11-percent first-year drop in the Tier 3 rate (from \$5.07 per minute to \$4.51 per minute).²⁴ Of the three largest VRS

²² *Id.*

²³ *Id.* ¶ 65.

²⁴ This proposed 11-percent cut in the Tier 3 rate follows on the heels of the 18-percent reduction in the Tier 3 rate in 2010.

providers, all of whom have filed confidential cost data with the Commission, none has total costs per minute that even approach \$3.40 per minute or RLSA's first year proposal of \$4.51 per minute.²⁵ Indeed, ZVRS has already told the Commission that it "would fail" under RLSA's rates.²⁶

Sorenson's costs certainly do not demonstrate that it could provide service at \$3.40 per minute. For 2011, Sorenson's average cost per minute was ****BEGIN HIGHLY CONFIDENTIAL**** ****END HIGHLY CONFIDENTIAL****, without any profit margin. Although this included ****BEGIN HIGHLY CONFIDENTIAL**** ****END HIGHLY CONFIDENTIAL**** in financing costs, those costs are real costs and cannot simply be disregarded. And even setting aside these financing costs, a \$3.40 rate would provide Sorenson with no margin at all to cover any capital costs or profit.

Nor is it plausible that Sorenson's financing costs could simply and neatly be eliminated through bankruptcy without substantial service disruption and loss of innovation. Were Sorenson to enter bankruptcy, it would have to ensure that its highly skilled VRS workforce would remain, rather than shifting to other non-VRS community interpreting opportunities. This is not a fanciful concern, as Sorenson has seen its workforce decline since its 2010 layoffs even as it has sought to maintain interpreter levels. A large scale loss of interpreters would threaten the viability of the bankrupt estate; however, at \$3.40 per minute, Sorenson would not have any resources to pay

²⁵ See Sorenson July 11 Letter; Letter from John Goodman, Chief Legal Officer, Purple Communications, Inc., to Marlene Dortch and Gregory Hlibok, Federal Communications Commission, CG Docket Nos. 10-51, 03-123 (filed Sept. 18, 2012) ("Purple Sept. 18 Letter"); Letter from Jeff Rosen, General Counsel, CSDVRS, LLC, to Marlene Dortch and Gregory Hlibok, Federal Communications Commission, CG Docket Nos. 10-51, 03-123 (filed July 24, 2012) ("ZVRS July 24 Letter").

²⁶ See Letter, Jeff Rosen, General Counsel, CSDVRS, LLC, to Marlene Dortch, Federal Communications Commission, CG Docket Nos. 10-51, 03-123 (filed Oct. 25, 2012) ("ZVRS Oct. 25 Letter").

retention incentives or to take other measures to maintain its highly skilled workforce. A bankruptcy thus raises the specter of a substantial degradation of VRS service.

Were Sorenson to be placed into bankruptcy by its inability to pay its financing costs, customer service, outreach to unserved users and innovation in new endpoints, including software applications for off-the-shelf equipment such as mobile phones and tablets, is also likely to be curtailed. A trustee or creditor's committee focused on near-term maximization of cash flow would rationally cut these areas. Each would harm the VRS consumer as well as the longer term prospects for the business. The idea that Sorenson's capital costs could be eliminated through bankruptcy without significant service disruption is fantasy.

Nor do the claims of Purple Communications ("Purple") that it could provide service at \$4.27 per minute (if it handled over 2 million minutes per month) and ZVRS that it could operate at \$4.50 per minute (if it handled over 5 million minutes per month) support RLSA's rate proposals.²⁷ First, neither of these rates even approaches RLSA's proposal for a post-transition rate of \$3.40. Second, even if the Commission credits these claims—which are wholly unsubstantiated, lack sufficient back-up to ascertain their derivation, and are not confirmed by any economic expert—neither claims to be able to reach these cost thresholds immediately, as opposed to at some undisclosed future date. Third, as discussed in detail in Section II.D, *infra*, neither of these claims provides sufficient supporting documentation to elevate their claims above rank speculation.

²⁷ See Letter from Kelby Brick, Vice President, Purple Communications, Inc., to Marlene Dortch, Secretary, Federal Communications Commission, Attachment at 3, CG Docket Nos. 10-51, 03-123 (filed Apr. 19, 2012) ("Purple Apr. 19 Letter"); Letter from Jeff Rosen, General Counsel, CSDVRS, LLC, to Marlene Dortch, Secretary, Federal Communications Commission, at Attachment 1 at 8, CG Docket Nos. 10-51, 03-123 (filed July 10, 2012) ("ZVRS July 10 Letter").

There is simply no basis in the record upon which the Commission could conclude that either RLSA's initial rate or its rate that it would reach after a three year transition are remotely economically feasible. Instead, the likelihood is that these rates will destroy VRS service.

C. RLSA's Rate Methodology Will not Address Fraud and Abuse.

The FNPRM correctly recognized that the current per-minute approach to VRS compensation is prone to waste, fraud, and abuse.²⁸ The Commission explained that “a tiered, per-minute compensation model may not be the most appropriate for VRS because it does not align compensation with costs.”²⁹ Because many of the costs of providing VRS do not “scale on a per minute basis,”³⁰ there is a “structural incentive to increase the number of VRS minutes billed to the Fund (leading to fraud).”³¹ The structural incentive to engage in minute-pumping fraud is easy to understand: to the extent that the per minute rate contains costs—such as general overhead, outreach, or customer service—that do not increase in the same proportion with the number of minutes, once the provider has billed a sufficient number of minutes to cover those costs, the portion of the rate attributable to those costs becomes a profit margin that increases total profits with every additional minute. Reflecting this structural vulnerability, providers have concocted a variety of minute-pumping schemes over the short history of VRS—ranging from outright fraud, to “softer” strategies like encouraging commercial call centers to employ deaf call-takers using a particular provider's VRS service. This is no different than with respect to

²⁸ See *2011 VRS Reform FNPRM*, 26 FCC Rcd. at 17,396 ¶ 59.

²⁹ *Id.* at 17,394 ¶ 54.

³⁰ *Id.* at 17,395 ¶ 56.

³¹ *Id.* at 17, 394 ¶ 54.

access stimulation schemes that the Commission has addressed through its intercarrier compensation orders.³²

RLSA's rate proposals do nothing at all to address this structural problem—simply lowering the per-minute rate does not change the incentive to engage in illicit minute-pumping activities in order to increase profit. In fact, to the extent that the PN's rate proposals would render all provision of VRS uneconomic, those proposals may actually heighten the motivation for cash-strapped providers to engage in fraud and abuse simply in order to survive. Accordingly, as Sorenson discussed in its comments and reply—and as the FNPRM itself appeared to recognize³³—what is really needed is not draconian cuts to VRS compensation *rates*, but rather a “compensation mechanism [that] would better align the compensation methodology with the providers' cost structure.”³⁴ In its comments, Sorenson agreed with the Commission's proposed per-user rate structure and also urged it to adopt simple rules to bar providers from disfavoring high-volume subscribers.³⁵ Alternatively, Sorenson recognized in its reply comments that a “hybrid” approach to compensation—combining per-minute compensation for usage-sensitive costs with per-user compensation for fixed costs—also merits serious consideration.³⁶ Curiously, the PN does not even seek further comment on the “hybrid” approach to compensation, which would have addressed the structural incentive for minute-pumping fraud, provided a way to continue to permit dial-around use, and addressed consumer concerns with

³² See *USF/ICC Transformation Order*, 26 FCC Rcd. at 17,874-90 ¶¶ 656-701.

³³ See *2011 VRS Reform FNPRM*, 26 FCC Rcd. at 17,396 ¶ 59.

³⁴ *Id.*

³⁵ See Sorenson FNPRM Comments at 46-49.

³⁶ See Sorenson FNPRM Reply Comments at 41-45.

respect to incentives to discriminate against high-volume users.³⁷ The PN’s failure to do so “entirely fail[s] to consider an important aspect of the problem.”³⁸

Regardless of the *best* way to reform VRS compensation, however, one thing is absolutely clear: The PN’s rate proposals would not only destroy VRS entirely, but would do so without even attempting to address the core structural issue of waste, fraud, and abuse identified in the FNPRM. Any order adopting RLSA’s rate proposals in whole or in part would need to offer a rational explanation for why the Commission failed even to attempt to address the underlying economic causes of the problem of waste, fraud, and abuse highlighted by the FNPRM.

D. As the FCC Itself Has Already Concluded, Sound Economic Policymaking Requires the Elimination of Rate Tiers.

RLSA’s recommendation appears to contemplate the elimination of tiered rates over a three-year period, at which point the unitary rate would be approximately \$3.40 per minute.³⁹ The PN, however, asks whether the Commission should “retain, modify, or eliminate” the tiered rate structure, without any recognition of the NPRM’s strong conclusion that “the tiered rate

³⁷ This omission of any mention of a hybrid rate structure is all the more illogical because a hybrid rate structure appears to accompany the CSDVRS proposal for an enhanced VRS user database, on which the PN also seeks comment. *See* ZVRS July 10 Letter at Attachment 2; Letter from Jeff Rosen, Counsel, CSDVRS, LLC, to Marlene Dortch, Secretary, Federal Communications Commission, at 2-3, CG Docket Nos. 10-51, 03-123 (filed Aug. 27, 2012) .

³⁸ *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

³⁹ *See* Supplemental Filing of the Telecommunications Relay Services Administrator Regarding Reasonable Rates for VRS Service, at 5, CG Docket Nos. 10-51, 03-123 (filed Oct. 15, 2012). RLSA’s actual proposal is for a rate of \$3.396/minute, based on an average of 2010 and 2011 reported costs and 2012 projected reportable costs.

structure supports an unnecessarily inefficient market structure, and apparently provides insufficient incentive for VRS providers to achieve minimal [sic] efficient scale.”⁴⁰

The record demonstrates that it would be irrational for the Commission to retain tiered rates. In particular, Sorenson provided expert declarations from Professor Katz at the comment and reply comment stages, demonstrating that tiers serve no valid economic purpose, but instead reward “firms that have been less successful at offering services that VRS users find attractive.”⁴¹ The other VRS providers have offered no expert testimony to rebut either the Commission’s conclusion in the NPRM or Professor Katz’s analysis. Accordingly, there is no basis on which the Commission may reasonably depart from its proposal to abandon tiers.

Purple Communications and ZVRS have submitted financial figures not supported by any expert declaration purporting to show that Sorenson’s costs are lower than its competitors’ costs because Sorenson provides more minutes of service.⁴² As an initial matter, even if their numbers were accurate for higher volumes of service—and as explained below, they are not—they would not support the use of tiers. Rational buyers do not choose to pay more because a seller is smaller or less efficient, and the Commission is essentially a buyer of VRS. The Commission has never explained why it makes sense for it to pay a smaller provider more for providing an incremental minute of service to a customer than it would pay Sorenson to provide the same minute of service to the same customer. As the FNPRM pointed out, compensating all minutes at the Tier 3 rate of

⁴⁰ Compare PN at 9 with 2011 VRS Reform FNPRM, 26 FCC Rcd. at 17,419 ¶ 141; see also 2011 VRS Reform FNPRM, 26 FCC Rcd. at 17,374 ¶ 8 n. 30 (rate tiers should be eliminated because they reduce “the efficiency of the Fund by providing ongoing support for numerous high-cost, subscale providers”).

⁴¹ Katz FNPRM Declaration at ¶ 15.

⁴² See Purple Sept. 18 Letter, Attachment at 7; ZVRS July 24 Letter, Attachment at Tab 2.

\$5.07 would reduce the size of the Fund by approximately 5 percent—or over \$24 million per year.⁴³

It may be that the Commission is implicitly drawing an analogy to wireline telephone service, where small companies serving only rural areas typically receive more compensation than large companies serving urban areas. But that is because the cost of serving sparsely populated areas necessarily exceeds the cost of serving densely populated areas, not simply because the rural companies are small. Unlike local exchange carriers, VRS providers essentially offer service to the same population—all deaf, hard-of-hearing, and speech-disabled Americans—across all geographies. There is therefore no comparable justification for paying more per unit of service (whether per minute or per user) to one VRS provider than another.

Moreover, the purported cost numbers provided by Purple and ZVRS to justify their claims of scale economies are not remotely reliable—indeed, so far as appears on the record, many of those figures are completely made up. For example, ZVRS submitted a power point deck entitled “Economies of Scale” that concluded that the cost of providing service ranges from \$11.29 per minute at 50,000 minutes per month to \$4.51 at 5,000,000 minutes per month.⁴⁴ ZVRS does not explain or support these figures in the deck or the one-page ex parte letter accompanying it, however, and they are not endorsed by any expert economist. Nor does the confidential data that ZVRS submitted purporting to back-up its public claims shed any further light on the derivation of its numbers.⁴⁵ It appears that ZVRS extrapolates from its current costs and assumes that some of its costs other than interpreter costs would remain the same if its minutes of service were to increase, while other costs would rise somewhat. But ZVRS does not

⁴³ See *2011 VRS Reform FNPRM*, 26 FCC Rcd. at 17,382-83 ¶ 24.

⁴⁴ See ZVRS July 10 Letter, Attachment 1 at 8.

⁴⁵ See ZVRS July 24 Letter.

explain which costs “stay flat as minutes increase” and which costs are “[p]artially fixed” and presumably increase to some unexplained extent as the number of minutes of service increases.⁴⁶

One thing is certain—most of the numbers on ZVRS’s charts are not based on actual experience since ZVRS has never come close to providing five million minutes of service per month. In the absence of any explanation of the assumptions underlying ZVRS’s projections—such as an explanation of which costs stay entirely flat as minutes increase, which increase somewhat or on some other basis (such as the number of users) and by how much, and the rationale for the projected increase—they provide no basis on which to set rates.

In addition, ZVRS’s most detailed projection is so obviously inaccurate as to cast grave doubt on its other projections. Specifically, ZVRS’s detailed public projection singles out “phone cost” and shows it decreasing from 51 cents per minute to 11 cents per minutes as minutes of service hypothetically increase from 50,000 to 5,000,000.⁴⁷ But if the undefined phrase “phone cost” relates to the cost of providing equipment, this dramatic 80 percent decrease is utterly implausible on its face. There is no evidence anywhere in the record—and ZVRS certainly has not provided any—suggesting that a VRS provider serving the fixed and relatively small market of deaf and hard-of-hearing consumers could possibly reach the scale necessary to generate volume discounts of this magnitude. While there may be some reduction in cost as the provider procures devices in greater quantify, any decrease in the per-minute cost of equipment would be incremental and not plausibly in the neighborhood of an 80 percent reduction.

In an ex parte filing on July 10, 2012, ZVRS proposed a Tier 1 rate of \$6.02, a Tier 2 rate of \$5.86, and a Tier 3 rate of \$4.56.⁴⁸ These proposals are brazenly self-serving, even if credit is

⁴⁶ See ZVRS July 10 Letter, Attachment 1 at 3.

⁴⁷ See *id.*, Attachment 1 at 6.

⁴⁸ See *id.*, Attachment 2 at 13.

given to ZVRS's unsubstantiated projections. With respect to providers of 50,000 minutes of service per month, ZVRS estimates their costs at \$11.29 per minute but proposes to pay them just \$6.02. In other words, ZVRS estimates that Tier 1 providers (*i.e.*, those that do not provide any Tier 2 or Tier 3 minutes) face costs that are approximately 36 percent higher than Tier 2 providers' costs, but it proposes a Tier 1 rate that is only about two percent higher than the Tier 2 rate. While it proposes a notably small spread between Tier 1 and Tier 2 despite data suggesting a material difference in providers' costs between the tiers, it also proposes a widening gap between Tier 2 and Tier 3 (growing from \$1.16 today to \$1.30 under ZVRS's proposal) even though it offers no substantiated information on the costs faced by providers who handle millions of minutes per month.

ZVRS made another confidential filing on July 24, 2012, arguing that it needs a rate above the \$5.14 unitary rate proposed by Sorenson in order to continue providing service at its current level of quality.⁴⁹ That confidential filing literally does nothing, however, to bolster ZVRS's proposal for a Tier 3 rate of \$4.56. To the contrary, it provides no reliable data at all pertaining to the \$4.56 rate and instead shows only that reducing rates below \$5.14 would cause widespread harm for providers of any size. ZVRS's argument that *it* needs a rate above \$5.14 thus actually supports Sorenson's argument that the rate should not be reduced substantially below \$5.14 at this time for *any* provider. Moreover, in ZVRS's view, tiers apparently should be a permanent feature despite the drawbacks articulated in the record.

Purple has proposed a tiered rate structure that would remain in effect for three to five years under which providers would receive \$5.92 per minute for their first one million minutes

⁴⁹ See ZVRS July 24 Letter, Attachment at Tab 2.

each month, \$4.94 per minute for their next million, and \$4.27 for every additional minute.⁵⁰

Purple has stated that “Sorenson is 7x larger” than Purple,⁵¹ and it therefore argues that Purple should be paid \$5.92 for most or all of its minutes of service and Sorenson should receive just \$4.27 for most of its minutes of service. Thus, by expanding the size of the first two tiers so that they apply to a provider’s first two million minutes of service (rather than just 500,000, as in the existing tiers), Purple proposed a difference of \$1.65 between the rate it will receive for most minutes of service and the rate Sorenson will receive, compared to the current gap of \$1.16—and thus is even more self-serving than ZVRS’s proposal.

In support of its proposed Tier 3 rate of \$4.27, Purple merely stated that “Purple believes if it were operating at a minute volume greater than 2 million per month, it could operate profitably under this proposed waterfall rate plan even with the tier 3 rate being set at \$4.27 per minute.”⁵² Like ZVRS, however, Purple provided literally no analysis or empirical data in support of that claim; it was nothing more than a statement of what “Purple believes.” And there is little prospect of Purple’s beliefs being put to the test because, if Purple provides one-seventh of the number minutes that Sorenson provides, Purple is far below two million minutes per month.⁵³

⁵⁰ See Purple Apr. 19 Letter, Attachment at 3.

⁵¹ Purple Sept. 18 Letter, Attachment at 4.

⁵² Reply Comments of Purple Communications, Inc., at 10-11, CG Docket Nos. 10-51, 03-123 (filed Mar. 30, 2012) (“Purple FNPRM Reply Comments”).

⁵³ According to RLSA, total VRS minutes have been averaging around 9 million minutes-of-use (“MOU”) per month. See Rolka Loube Saltzer Associates, Interstate TRS Fund Performance Status Report, February 2012, available at <http://www.r-l-s-a.com/TRS/reports/2012-02TRSStatus.pdf> (last accessed Nov. 13, 2012). Thus, even if the only two providers were Purple and Sorenson, with a 1:7 ratio, Purple’s total minute volume could not exceed 1.2 million MOU per month.

Purple made an ex parte filing on September 18, 2012, that purports to provide support for its proposed \$4.27 Tier 3 rate.⁵⁴ But it fails to do so. The first column of its confidential chart shows Purple’s current costs of providing service. But the other columns on that one-page chart, like ZVRS’s submissions, do not present real numbers. Instead, they merely estimate what Purple supposes its costs would be if it provided more minutes of service. Like ZVRS, Purple provides no explanation of the basis for its projections, and no economist endorses the numbers or explains how they were derived. Rather, Purple’s chart provides categories of “semi-fixed costs,” “operating costs,” and “depreciation” costs that are largely unexplained and raise more questions than they answer. In light of these fundamental shortcomings, the FCC could not reasonably rely on these filings to continue the use of tiers or to establish a Tier 3 rate along the lines Purple suggests. Simply put, these filings are not “evidence” on the record—they are mere unsupported speculation.

The best actual *evidence* in the record relating to tiers comes in the form of declarations prepared by Professor Katz during the comment cycle. In addition to showing that tiers serve no valid purpose, Professor Katz demonstrated through rigorous and unrebutted data analysis that any economies of scale relating to “queuing efficiencies”—that is, efficiencies flowing from serving a larger number of customers with a pool of interpreters—are relatively small, “largely exhausted by the time a VRS provider’s traffic volume reaches 250,000 minutes per month,” and “just one percent once providers reach the scale achieved by Purple and ZVRS.”⁵⁵ Purple and ZVRS have not disputed Professor Katz’s economic analysis—which was submitted on March 9, 2012—with a declaration from another expert. Instead, as described above, they have simply

⁵⁴ See Purple Apr. 19 Letter, Attachment at 3.

⁵⁵ Katz FNPRM Declaration ¶¶ 28, 35.

provided some back-of-the-envelope calculations based on unexplained assumptions that are at best doubtful on their face.

In short, the record provides no basis for the Commission to depart from its proposal to abolish the tiered rate system. Purple appears to recognize that fact by its concession that a “unitary” rate is warranted after a three-to-five year phase-in.⁵⁶ (Purple does not say what that unitary rate should be, however.) Sorenson concurs that, to provide for transition, tiers should be eliminated gradually over such a period. But the Commission should not, as both ZVRS and Purple proposed, start that process by exacerbating rather than narrowing the disparity in rates among the tiers. Instead, the rational approach would be to lower Tier 1 and 2 rates until they reach the Tier 3 rate.⁵⁷

In no case, however, should the Commission eliminate tiers by moving to a unitary rate of \$3.40, as RLSA contemplates. As explained below, such a rate would destroy VRS. Accordingly, as also explained below, the Commission should move the Tier 1 and Tier 2 rates down to \$5.14 over a period of years and adopt a price cap to govern future rates.

E. The Commission Cannot Make the Substantial Cuts Proposed by RLSA at this Time Without Violating Its Statutory Obligations.

As Sorenson has previously pointed out, Section 225—passed in 1990 as part of the ADA—contains four fundamental requirements relevant here. Specifically, the Commission must ensure that deaf, hard-of-hearing, and speech-disabled individuals enjoy (1) nationwide “availab[ility] ... to the extent possible”; (2) of “functionally equivalent” relay services; (3) that are made available “in the most efficient manner”; (4) pursuant to FCC rules that do not

⁵⁶ See Purple Sept. 18 Letter, Attachment at 3.

⁵⁷ See Sorenson Sept. 17 Letter, Attachment at 6; Letter from Christopher Wright, Counsel to Sorenson, to Marlene Dortch, Secretary, Federal Communications Commission, Attachment 2 at 6, CG Docket Nos. 10-51, 03-123 (filed July 25, 2012); Sorenson FNPRM Comments at 25-26.

discourage the ongoing “development of improved technology” for the delivery of such services.⁵⁸ In addition, the Commission must also ensure that “users of [VRS] pay rates no greater than the rates paid for functionally equivalent voice communication services.”⁵⁹ In regulating VRS, the Commission’s discretion is constrained by its duty to advance these explicit statutory directives.

1. Functional Equivalence.

Adopting a unitary rate substantially lower than \$5.14 at this time, particularly if implemented in a short period of time, will make it impossible for the Commission to honor its statutory obligations. Most fundamentally, the deep rate cuts proposed in the PN would prevent deaf Americans from receiving the functionally equivalent communications services to which they are entitled under the ADA.⁶⁰

The FCC’s rate cut in 2010—billed as an “interim” rate—illustrates the harm that the current proposal would have on functional equivalence. In that process, the Commission slashed the Tier 3 rate by 18 percent—to just \$5.07 per minute—which resulted in a blended rate for Sorenson over all three tiers of \$5.14. As a result of that cut, Sorenson terminated approximately ****BEGIN CONFIDENTIAL**** ****END CONFIDENTIAL**** employees. It forced its interpreters to work harder than interpreters had ever worked before, and yet Sorenson’s average speed-of-answer nearly doubled. ****BEGIN HIGHLY CONFIDENTIAL****

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⁵⁸ See 47 U.S.C. § 225(b)(1) (availability and efficiency requirements), (a)(3) (functional equivalence requirement), and (d)(2) (technology requirement).

⁵⁹ 47 U.S.C. § 225(d)(1)(D).

⁶⁰ See Sorenson FNRPM Comments at 34-36; Sorenson FNPRM Reply Comments at 35-37.

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Outside independent auditors have confirmed that all of Sorenson's costs of providing service are real, even if they are not considered "allowable." There is no fat to cut—certainly not to the level of an immediate flash-cut to \$4.51 per minute with future cuts to reach \$3.40 per minute. Sorenson's actual total VRS costs as of December 31, 2011—again, costs documented by outside auditors—were approximately ****BEGIN HIGHLY CONFIDENTIAL**** ****END HIGHLY CONFIDENTIAL**** per minute, leaving a margin of less than ****BEGIN HIGHLY CONFIDENTIAL**** ****END HIGHLY CONFIDENTIAL**** percent even under current rates to address factors such as potential increases in health insurance costs or wages to retain an eroding workforce.⁶¹ A rate decrease to \$4.51 in 2013—much less a decrease to \$3.40 in 2015—would likely drive Sorenson into default and have a cataclysmic impact on VRS service quality.

Only two other VRS providers—ZVRS and Purple—provide any substantial amount of service, and they have filed documents showing that they are in a worse position from a cost perspective than Sorenson. Not only will they be unable to provide "functionally equivalent" service if the rate is lowered to \$5.14, but they are unsure whether they can even stay in business.⁶² In short, the record contains *no* evidence—as opposed to unsubstantiated speculation—that *any* VRS provider anywhere can provide service at less than \$5.14.

Of course, as discussed above, Purple and ZVRS did propose that the Commission should structure rate tiers so as to compensate Sorenson (but not Purple or ZVRS) primarily at \$4.23 and \$4.56 per minute, depending on the tier.⁶³ But, again, Purple and ZVRS offered *no* evidentiary

⁶¹ See Sorenson July 11 Letter, Attachment at 11.

⁶² See Purple Sept. 18 Letter; ZVRS Oct. 25 Letter.

⁶³ See ZVRS July 10 Letter, Attachment 2 at 13; Purple April 19 Letter, Attachment at 3.

basis for their low-ball proposals for Sorenson's compensation. Accordingly, these competitors' rate proposals regarding what *they* should receive under Tier 1 and Tier 2—proposals to which they would actually be subject—are a far more reliable guide to what they consider an adequate compensation rate that will not harm VRS users. Of course, Purple and ZVRS are both adamant that *they* cannot survive at the \$5.14 rate to which Sorenson is now subject, and they thus fervently resist Sorenson's proposal that all providers should be compensated at that rate. One point warrants emphasis here. If Purple and ZVRS were arguing for a unitary rate of \$4.56 next year, the Commission might reasonably conclude that \$4.56 is a reasonable rate. But that is not their argument. ZVRS apparently wants tiers (applicable to it) with rates above \$5.14 in perpetuity. And while Purple concedes that tiers ought to be phased out, it favors a rate scheme under which it will receive at least \$5.92 for the bulk of its minutes for the foreseeable future. Accordingly, the Commission cannot reasonably point to the Tier 3 rate proposals of ZVRS and Purple and claim that VRS providers can actually provide service at those rates.

If it cuts rates below \$5.14, the Commission must explain how such a rate cut is consistent with its statutory duty to ensure functionally equivalent VRS service.⁶⁴ But there is no basis in the record or elsewhere to conclude that a rate cut would not result in substantially increased wait times or other severe degradations in the quality of service provided. Sorenson is the most efficient provider of VRS, and it was forced to fire employees and increase wait times in 2010; any further rate cut necessarily will have additional negative effects on service. Given the dramatic scale of the PN's proposed cuts, those negative effects will also be dramatic.

As a matter of law, that is unacceptable. The Commission recognizes that the time in which a VRS user reaches an interpreter is analogous to the time in which a telephone user

⁶⁴ See 47 U.S.C. § 225.

obtains a dial tone.⁶⁵ Telephone users would not tolerate a system under which they were forced to endure lengthy waits just to obtain a dial tone, yet a further rate cut substantially below the blended \$5.14-per-minute Sorenson currently receives would be certain to have such effects at the very least. The real-world impact for VRS users would be devastating, and certainly not functionally equivalent, as the Commission itself has questioned whether even a 20 or 30 second delay for certain TRS calls meets the functional equivalence requirement.⁶⁶

In Sorenson's appeal challenging the FCC's 2010 rate cut before the Tenth Circuit, the court rejected the claim that the rate cut violated the functional equivalence standard because Sorenson did not challenge the "mandatory minimums for VRS service" and did "not claim that it would be unable to satisfy the mandatory 80/120 speed-of-answer requirement under the interim rates."⁶⁷ Accordingly, Sorenson wants to make clear that it does not believe that the 80/120 standard is a remotely plausible proxy for functional equivalence. Hearing telephone users obtain a dial tone almost immediately and would not tolerate service from a provider that approached, and sometimes exceeded, two minutes before providing a dial tone. In that connection, it bears emphasis that VRS includes hearing-to-deaf calls, and it is doubtful that hearing persons would stay on the line to wait to reach a deaf party if a call took more than a few seconds to reach an interpreter, even if deaf users were resigned to such delays. For all other TRS calls, the Commission's speed-of-answer rule is 85/10—that is, 85 percent of calls must be

⁶⁵ See *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Declaratory Ruling, DA 05-140, 20 FCC Rcd. 1466, 1469 ¶8 (2005).

⁶⁶ See *Telecommunications Relay Services and the American with Disabilities Act of 1990*, Second Further Notice of Proposed Rulemaking, FCC 01-89, 16 FCC Rcd 5803, 5807 ¶ 8 (2001).

⁶⁷ *Sorenson Commc'ns, Inc. v. FCC*, 659 F.3d 1035, 1043 (10th Cir. 2011) ("*Sorenson v. FCC*").

answered within ten seconds. That standard is certainly closer to functional equivalence than the 80/120 standard that applies to VRS. Under the statute, the Commission lacks authority to choose not to ensure functionally equivalent VRS because it does not want to fund it.

Moreover, it is not clear that the technical speed-of-answer standard is useful or even necessary. The Commission is required to establish a rate that ensures *functionally equivalent service*, not minimally-acceptable service. Furthermore, the standard now seems unnecessary since three VRS providers serve a substantial number of users, and competitive pressure already ensures that those providers exceed the existing standard by a wide margin. Rather than focus on amending the 80/120 rule, the Commission should recognize that multiple providers are offering minimally-acceptable service, but VRS users are nevertheless subject to substantially longer wait times than hearing telephone users. In that circumstance, a rate cut that would move service *further* from functional equivalence is impermissible.

In sum, as a matter of law, the Commission may not cut Sorenson's effective rate without violating its statutory duty to ensure functionally equivalent service.

2. "Availab[ility] . . . to the Extent Possible."

Section 225 requires the Commission to ensure that deaf, hard-of-hearing, and speech-disabled individuals enjoy universal service, just as hearing individuals do—*i.e.*, to ensure nationwide VRS "availab[ility] . . . to the extent possible."⁶⁸ This mandate is particularly powerful because the ADA is "a remedial statute . . . and must be broadly construed to effectuate its purposes."⁶⁹ But, of course, VRS today is *not* available to all those who would benefit from the service. Accordingly, as a practical matter, achieving the straightforward statutory goal of

⁶⁸ See 47 U.S.C. § 225(b)(1).

⁶⁹ *Disabled in Action of Pennsylvania v. Southeastern Pennsylvania Transportation Authority*, 539 F.3d 199, 208-09 (3rd Cir. 2008).

“availab[ility] . . . to the extent possible” requires *more* outreach and training to extend service to deaf and hard-of-hearing individuals who do not yet benefit from VRS and to bring them into the economic mainstream. Yet RLSA’s proposed rates would completely eliminate the ability of Sorenson—or any other provider—to extend VRS to still-unserved deaf populations, in addition to undermining functional equivalence.

The Commission has previously argued that “availab[ility] . . . to the extent possible” does *not* mean what it says, but rather that the statute impliedly gives the FCC the ability to dilute the availability mandate by “balancing” the interests of VRS users against those of contributors to the TRS Fund—even though the statute itself says nothing about balancing. We recognize that the Tenth Circuit appeared sympathetic to this argument in its VRS decision, stating that “[t]he FCC has discretion to balance the objectives of § 225 when they conflict.”⁷⁰ Significantly, however, the Tenth Circuit failed to identify any conflicting provisions within Section 225, and in fact the statute contains no such conflict. To the contrary, Section 225 *differs* from other parts of the ADA on account of the *absence* of limiting language. For example, the ADA’s employment discrimination provisions require an employer to make only “reasonable accommodations” and not accommodations that would impose an “undue hardship” on the employer.⁷¹ There is no limitation in Section 225 that is comparable to these limitations, which have been construed to mean that “an accommodation is reasonable only if costs are not *clearly disproportionate* to the benefits it will produce.”⁷² At the least, therefore, any implicit balancing authority in Section 225 must be no less favorable to the rights of disabled persons than the

⁷⁰ *Sorenson v. FCC*, 659 F.3d at 1045.

⁷¹ *See* 42 U.S.C. § 12.112(b)(5)(A).

⁷² *Borkowski v. Valley Cent. School Dist.*, 63 F.3d 131, 138 (2d Cir. 1995) (emphasis added) citing *Vande Zande v. Wisconsin Department of Administration*, 44 F.3d 538, 542-43 (7th Cir. 1995).

“clearly disproportionate” standard that has been used to give meaning to the limiting language in the employment section of the ADA.

It also is noteworthy that Section 225 is *more* demanding than Section 254, the general universal service provision. Section 254(b)(1) states that the universal service rules should ensure that telephone service is “affordable,” but Section 254(b)(7) gives the FCC broad discretion to adopt universal service principles that advance the “public interest.” The FCC reasonably interprets these provisions to give it room to balance the benefit of subsidies to consumers against the burden on contributors to the Universal Service Fund. But, again, the plain language of Section 225 contains no such balancing authority. Moreover, as noted above, Section 225, unlike Section 254, was adopted as part of the ADA, a remedial statute designed to end discrimination against disabled Americans—hence the absence of limiting language.

In short, Section 225 obliges the FCC to ensure the availability of functionally equivalent service without limiting it, for example, to services that do not impose an “undue burden” on contributors to the Fund. Nothing else in Section 225 conflicts with that clear obligation. Moreover, the Tenth Circuit’s reliance on two cases involving Section 254 was misplaced—as we have explained, Section 254 is written differently than Section 225, and was not part of the ADA’s revolutionary remedial effort.⁷³ Accordingly, if the Commission claims authority to balance away the right of deaf and hard-of-hearing people to functionally equivalent communications service that is “available . . . to the extent possible,” it needs to specify the source and scope of that alleged balancing authority.

⁷³ See *Vande Zande*, 44 F.3d at 542-43.

We recognize that the Tenth Circuit also stated that “it is folly to suggest that § 225 requires VRS to operate at any cost or entitles VRS providers to unlimited compensation.”⁷⁴ But that is not our argument here. Although Sorenson does not think the current compensation rate is sufficient to provide service that is both “available . . . to the extent possible” and truly functionally equivalent, Sorenson has not argued that the rate it receives must be increased. Rather, if the Commission orders a further rate cut it must explain why the current TRS contribution rate harms contributors to such an extent that a rate cut is required, notwithstanding its effect on VRS users.

The Tenth Circuit ultimately relied heavily on the interim nature of the 2010 decision in upholding the rate cut; it held expressly that interim decisions are entitled to an extra measure of deference,⁷⁵ and it referred to the “interim” nature of the decision 25 times in its opinion. In this proceeding, which will set permanent rather than interim rates, the Commission’s decision will not be entitled to an extra measure of deference. In any event, there is nothing in the record that suggests that the interests of contributors to the Fund outweigh the interests of VRS users. Not a single contributor to the Fund has made the case for a further rate cut in the record of this proceeding.

3. “In the Most Efficient Manner.”

Section 225(b)(1) requires the Commission to ensure that VRS is provided “in the most efficient manner” and the Commission has interpreted that phrase to mean that it should adopt “reasonable compensation rates that do not overcompensate entities that provide TRS.” Providers simply are not overcompensated, however, if rates are set at levels that enable them to provide equipment to their customers and borrow money in the capital markets. It follows that

⁷⁴ *Sorenson v. FCC*, 659 F.3d at 1044.

⁷⁵ *See id.* at 1046 & n.6.

the “in the most efficient manner” requirement provides no basis for refusing to consider actual costs of providing VRS—such as the need to provide equipment, pay actual taxes, and borrow money to grow and improve.

If the Commission were to now take its prior statements seriously and establish rates on the basis of a list of allowable costs that does not include equipment costs, interest expenses, and other real-world costs such as actual taxes paid, it would not be regulating VRS “in the most efficient manner.” It would instead be operating in a hypothetical universe where deaf Americans can afford costly videophones and companies can operate without borrowing money, earning a profit, or paying taxes. The Commission’s vision of this hypothetical universe already has driven all the telecommunications carriers out of the market, and implementing that vision threatens to cripple the remaining providers.

However, it would violate the “in the most efficient manner” requirement for the Commission to continue to use tiered rates because it is plainly less efficient to pay one provider more than another to provide a minute service. Indeed, the Commission is wasting approximately \$24 million annually by paying other providers \$6.23 or \$6.24 to provide a minute of service that Sorenson would be able to provide for \$5.14.

4. The Technology Requirement.

As noted above, Section 225 also requires the FCC to regulate so as not to discourage the deployment of “improved technology.” Although technology issues are discussed in detail in Sections III and IV of these comments, it bears note here that this provision further reinforces Sorenson’s position that the Commission cannot reasonably reduce rates substantially below \$5.14 at this time. Congress clearly indicated that it expects the FCC not only to ensure the most

efficient provision of communications services for the deaf given *today's* technologies, but also to regulate so as not to discourage *tomorrow's* technologies.

As noted above, videophones—and, increasingly, software applications—designed for the deaf are expensive, comparable to the costs of mobile smartphones. The PN's proposed rates—which, of course, reflect the FCC's long-standing but irrational position that the costs of providing videophones and training deaf individuals to use them are not considered in setting VRS rates—plainly undermines the development and provision of more advanced VRS hardware and software. In short, the suggestion that videophone-related costs are not “allowable” for purposes of setting providers' compensation discourages the development of new technology, contrary to Section 225(d)(3).

5. “Rates no Greater than the Rates Paid for Functionally Equivalent Voice Communication Services.”

A final statutory requirement that bears emphasis here is Section 225(d)(1)(D)'s mandate that VRS users may be required to “pay rates no greater than the rates paid for functionally equivalent voice communication services.” As discussed above, there is simply no way that VRS providers can provide remotely functionally equivalent service at the rates proposed in the PN. It follows that VRS providers must either exit the industry or seek additional revenues to fund VRS elsewhere.

As a practical matter, of course, “elsewhere” necessarily means VRS users, who already bear the substantial burden of paying for the broadband Internet access that VRS requires. But if the Commission reduces rates to \$3.40 per minute and—as confirmed by outside auditors—Sorenson's actual total VRS costs are approximately ****BEGIN HIGHLY CONFIDENTIAL**** ****END HIGHLY CONFIDENTIAL**** per minute, Sorenson would have no choice but to turn to end users to make up the difference if VRS is to continue to exist. Other VRS providers

would, of course, require even larger per-minute contributions by VRS users to continue to provide service.

Under the statute, however, it is simply not permissible for the Commission to impose this kind of burden on VRS users. Hearing users do not pay anything close to this amount per minute for services that are “functionally equivalent” (and, indeed, superior) to VRS. Moreover, end user charges would increase the *inefficiency* of the provision of VRS service, also in violation of the statute. In particular, end user charges would obviously result in additional charges for billing and collection, as well as write-offs for uncollectible bills. As a legal matter, it would be both statutorily impermissible and arbitrary and capricious for the Commission to fail to consider the unintended (but obvious) effects on end users of dramatically underfunding VRS.

In sum, if the Commission substantially cuts the Tier 3 rate at this time, it must, at a minimum: (1) acknowledge that the rate cut will move VRS away from functional equivalence rather than toward the statutory requirement; (2) explain the source of its authority to cut rates despite that predictable adverse effect; (3) set forth the standard it believes applies to its balancing authority—and as explained above, in our view if there is such a standard it must be more favorable to the needs of VRS users than the “clearly disproportionate” standard used under the employment provisions of the ADA; (4) explain why the harm to contributors to the Fund of maintaining something close to \$5.14 as the effective per-minute rate is so substantial that it justifies a rate cut and the resulting harm to VRS users; and (5) explain how providers will be able to continue to provide VRS without imposing statutorily excessive charges on end users. The Commission cannot clear these hurdles.

F. The Commission Should Adopt A Price-Cap Rate Initialized at the Lower of \$5.14 Per Minute or the Amount that Would Result from an Auction with At Least Two Winners.

As discussed above, RLSA's proposed rates are economically infeasible, with levels that would destroy the ability of any VRS provider to provide service without levying end user charges that would render the service no longer functionally equivalent. The Commission thus needs to reject RLSA's recommended rates, as well as the outdated rate-of-return methodology on which those recommendations are based, and replace them with rates that reflect what a competitive market would yield for the range of services and equipment that is actually being provided and that remains necessary to fulfill the mandates of the ADA.

In most areas of FCC regulation—and, indeed, government regulation in general—it is common ground among all stakeholders that a fundamental goal of regulation should be to “replicate” the “efficiency incentives found in competitive markets.”⁷⁶ This was, for example, the reason why the Commission “in the early 1990s . . . began moving away from traditional rate-of-return regulation of the interstate switched and special access rates” in the wireline world and toward “a form of incentive regulation, known as price caps.”⁷⁷ Here, too, the Commission should reject rate-of-return regulation—especially rate-of-return regulation based on a subset of VRS providers' actual costs and utilizing a return component unsuited to a labor intensive industry—and adopt price caps initialized to mimic the results of a two-winner auction, thereby replicating some of the benefits of competition.

⁷⁶ See, e.g., *Connect America Fund, A National Broadband Plan for Our Future, Establishing Just and Reasonable Rates for Local Exchange Carriers, High-Cost Universal Service Support, Developing an Unified Inter-carrier Compensation Regime, Federal-State Joint Board on Universal Service, Lifeline and LinkUp*, Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, FCC 11-13, 26 FCC Rcd. 4554, 4572 ¶ 49 (2011).

⁷⁷ *Id.* at 4572-73 ¶ 49.

1. The Most Economically Rational and Viable Way to Initialize Price Caps Would be Via an Auction.

There is no serious disagreement in the record about the desirability of a price-cap system for VRS. The extreme fluctuation in rates over the past decade has plagued providers, making it extremely difficult to plan for the long term and attract investment. It is ironic that the “interim” rates adopted in June 2010 have now been in effect nearly as long as any of the “permanent” rates set by the Commission. Frankly, the long-term instability of rates—which has been at its worst during periods of increased reliance on costs of service in rate setting—reflect badly on the Commission’s administration of the VRS program. Rates have changed so frequently, and rate cuts have been threatened so persistently, that long-term planning is nearly impossible and investment is impeded. Indeed, with the recent exit of AT&T and Sprint from the VRS market, *all* telecommunications carriers have now decided to stop providing VRS. The Commission must adopt a reasonable, long-term rate plan with stable rates sufficient to permit VRS providers to obtain the investment necessary to continue to provide improved service to VRS users.

In determining the level at which to initialize the rate before moving to a price-cap system, the most economically rational approach would be for the Commission to use a reverse auction (as opposed to using a cost-of-service approach to calculate the initial rate). Professor Katz addressed the virtues of setting the rate in this manner, which most closely mimics how rates would be set in an unregulated market.⁷⁸ As Professor Katz explains, if the Commission were to desire to maintain “N” competitors in the VRS market, the “market rate” should be set equal to the cost of the “N+1” lowest-cost potential service provider.⁷⁹ Assuming that the

⁷⁸ See Katz FNPRM Declaration ¶¶ 68-70.

⁷⁹ See *id.*

Commission would like at least two VRS providers, then rates would properly be initialized based on the costs of the third-lowest-cost provider.

Setting rates based on the levels that could be anticipated to result if the Commission held a two-winner competitive reverse auction provides a much more rational and reasonable methodology for setting rates than a rate-of-return calculation based on a subset of providers' costs with a highly constrained margin. Rather than determining the amount of costs that are "allowed" and a margin that is "appropriate," the Commission would leave it to providers to manage their operations to generate returns—just as any company in an unsubsidized, competitive market would do—taking the price as a given (*i.e.*, with no ability to determine the price). Capital markets would be able to anticipate revenues.

The cost data on the record indicates that the costs of the third-lowest-cost provider are not likely to be substantially below \$5.14 per minute, even if all providers achieve substantial scale. At present scale, Sorenson is clearly the industry's lowest-cost provider, with costs only slightly below \$5.14 per minute.⁸⁰ Purple and ZVRS claim that, given sufficient volume, they could provide service at \$4.27 and \$4.50 per minute, respectively.⁸¹ Even if one accepts their claims as true—and, as discussed above, there is substantial reason to doubt their validity⁸²—and assumes that they reach the scale they claim necessary to achieve those low cost levels, a \$5.14 rate would still be only slightly above the costs of the third-lowest-cost provider. Thus, \$5.14 per minute is likely to be near the very low end of the range of results that would be anticipated from a two-winner competitive bid.

⁸⁰ See Sorenson July 11 Letter, Attachment at 10.

⁸¹ See Purple FNRPM Reply Comments at 9; ZVRS July 10 Letter, Attachment 1 at 8.

⁸² See Section II.B.

Because the Commission seems committed to avoiding a rate increase at all costs, Sorenson believes that it would be reasonable to set rates at the lower of the anticipated results of a two-winner competitive bid or at \$5.14. This may result in an initial rate slightly below \$5.14, but it would protect the TRS Fund against rate increases, which are not necessary to ensure that consumers can continue to receive functionally equivalent VRS service. But if the Commission rejects Sorenson's proposal to use the lower number of the anticipated result of the two-winner reverse auction or \$5.14 as the initial rate, it needs to provide a rational explanation for why the use of a cost-of-service approach is superior. As we have stated, the Commission has all but abandoned the use of rate-of-return regulation in other areas, has embraced the use of auctions, and has provided convincing explanations identifying the flaws of rate-of-return regulation and the virtues of auctions.⁸³ Accordingly, it would not suffice for the Commission to say that it was rejecting the use of an auction (even though it would provide the rate most comparable to the rate that would exist in a fully competitive market) and choosing to use a cost-of-service approach (despite its documented flaws) simply because the cost-of-service approach resulted in a lower rate.

Of course, after a period of time under a stable rate regime, further rate reductions might be possible. As explained previously and further discussed below, Sorenson's debt costs are in line with those of many other communications companies.⁸⁴ Sorenson would be able to reduce its debt costs over time, but only if the Commission were to implement a price-cap regime and maintain it for a period of years without regularly threatening draconian rate cuts. (On the other hand, the cost of borrowing money will only increase—likely to prohibitive levels—if the

⁸³ See Comments of Sorenson Communications, Inc., CG Docket Nos. 10-51, 03-123 (filed May 16, 2011).

⁸⁴ See Sorenson July 11 Ex Parte, at Attachment 1.

Commission continually threatens to slash rates and periodically does so.) In short, implementation of a stable rate regime could lead to cost reductions that would permit reasonable rate reductions.

2. Sorenson’s Prior Financing Costs Provide no Justification for Penalizing Sorenson and Every Other Provider by Initializing Rates at a Level that Would Destroy VRS.

Sorenson recognizes that the dividends paid to its private investors and Sorenson’s indebtedness are of concern to the Commission. As an initial matter, even though the Commission stated in 2004 that practically no profit is permissible in VRS,⁸⁵ the Commission has never actually set rates on that basis. Moreover, the Tenth Circuit explicitly held in its 2009 decision that VRS providers are free to spend the money received from the Fund as they see fit.⁸⁶ In other words, there is no basis to suggest that Sorenson violated any rule by issuing dividends or borrowing money. Furthermore, the dividends do not represent an excessive rate of return. The ongoing interest costs arguably associated with the dividend payments represent a margin of only ****BEGIN HIGHLY CONFIDENTIAL**** ****END HIGHLY CONFIDENTIAL**** percent over all other costs, which is hardly an extraordinary profit. Especially in light of the risk of providing VRS as the compensation rate fluctuated wildly and the risk Sorenson took in developing and distributing videophones, the amount of those dividends is by no means unreasonable. ****BEGIN HIGHLY CONFIDENTIAL****

****BEGIN HIGHLY CONFIDENTIAL****

****END HIGHLY CONFIDENTIAL**** In addition, Sorenson has filed information

⁸⁵ See *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, FCC 04-137, 19 FCC Rcd. 12,475, 12,541-45 ¶¶ 177-182 (2004).

⁸⁶ See *Sorenson Communications, Inc. v. FCC*, 567 F.3d 1215, 1222 (10th Cir. 2009).

showing that its debt obligations are comparable to that of many communications companies. As a practical matter, it is appropriate to recognize that debt is typically less expensive than equity, and it is therefore reasonable for a company to use debt as a way to lower costs. In fact, debt financing has allowed Sorenson to keep its “allowable” costs as low as they have been. Sorenson recognizes, however, that the risk associated with debt can also require some level of equity investment.

Against this backdrop, the Commission’s apparent concern with Sorenson’s *past* dividends provides no basis for a *future* rate cut. Accordingly, if the Commission orders a further rate cut based even in part on Sorenson’s financing costs, it must explain why that approach represents rational decisionmaking on the existing record rather than a punitive measure that has nothing to do with a reasonable approach to setting rates.

Purple has suggested that Sorenson’s debt would justify the Commission forcing Sorenson into bankruptcy, which (Purple contends) would permit Sorenson to lower its debt obligations without disrupting service.⁸⁷ This is a fantasy. As we have explained before and again above, the largest VRS provider cannot go through bankruptcy proceedings without subjecting customers to severe service degradations.⁸⁸ Sorenson—which, again, is the lowest-cost VRS provider by a wide margin—simply has no fat to cut in its operations. And it is unrealistic to expect other providers to be able to pick up the slack. First, even in aggregate, the other providers lack the video interpreter capacity to handle a large migration of traffic from Sorenson. Moreover, another round of terminations at Sorenson would be likely to send interpreters away from VRS altogether rather than to another VRS provider. In addition, if tiers

⁸⁷ See Letter, John Goodman, Chief Legal Officer, Purple Communications, Inc., to Marlene Dortch, Secretary, Federal Communications Commission, Attachment 1 at 7, CG Docket Nos. 03-123 & 10-51 (filed May 7, 2012).

⁸⁸ See Sorenson July 11 Letter, Attachment at 2; Section II.B.

have not yet been phased out, moving customers from Sorenson to other providers that are still in Tiers 1 and 2 would have the perverse effect of raising the cost to the Fund.

Moreover, if Sorenson's investors were wiped out and its debt holders saw their interests cut sharply, one clear effect would be to freeze any future investment or lending in support of services for the deaf and hard-of-hearing by any provider, as the vulnerability of such investment to political risks will be acutely apparent. So if the Commission cuts rates on the theory that bankruptcy is an acceptable outcome, it must acknowledge its reliance on that theory and explain how it will be able to ensure that deaf and hard-of-hearing Americans obtain functionally equivalent communications services after it forces the largest and most efficient provider of VRS into bankruptcy. That is not possible.

G. The Commission's Specific Rate Questions Reveal that RLSA's Proposal Is Fundamentally Misguided.

For the reasons stated above, the five specific questions asked by the Commission on pages 7-9 of the PN are misguided. Nevertheless, for the sake of clarity, Sorenson responds to them as follows, briefly summarizing many of the points already discussed in detail above.

- 1. Should the following cost categories, which RLSA has included in its calculation of the proposed rates, be allowable as part of the cost basis for rates: marketing (calculated by RLSA as \$0.0504 (2010), \$0.0441 (2011), and 0.0466 (2012) per minute); outreach (calculated by RLSA as \$0.2741 (2010), \$0.2606 (2011), and 0.2594 (2012) per minute); and research and development (calculated by RLSA as \$0.0486 (2010), \$0.0542 (2011), and \$0.0523 (2012) per minute)?*

As detailed above, the Commission should "allow" the specific costs listed in the first question, relating to marketing, outreach, and research and development if it uses a cost-of-service approach. But that list is woefully incomplete and, more fundamentally, the Commission should get out of the business of cost-of-service ratemaking as it has done in virtually every other context. Instead, the Commission should initialize rates at the third-lowest provider's actual total costs (assuming that the Commission wants at least two competing VRS providers), or it should

initialize rates at the current blended average of \$5.14 compensation.

2. *Should the Commission continue to limit the kinds and amount of capital costs that are allowed to be recovered? Thus, RLSA's proposed rate would allow an 11.25% return on invested capital, an element which has long been used as the basis for calculating TRS rates, as well as other common carrier rates, and which previously has been found to address adequately the recovery of interest and principal payments on debt, income taxes, and profits. RLSA calculates the weighted-average-per-minute return on investment, with allowance for taxes, to be \$0.0949 per minute in 2010, \$0.0778 per minute in 2011, and \$0.0594 per minute (projected) in 2012. We invite commenters to refresh the record on the appropriate treatment of capital costs, rate of return, and related issues. Parties that advocate a particular alternative for treatment of capital costs should specify the type of investment on which they believe providers should be authorized to recover a return, the percentage return that they believe is appropriate in light of current market conditions, an estimate of the dollar amount that their proposed capital cost element would add to proposed VRS rates, and the specific reasons why investment and return should be so defined for purposes of Fund-compensated VRS.*

Because there is absolutely no basis in the record or reality for using the same method for calculating reasonable returns in a labor-intensive industry like VRS as in a capital-intensive industry like wireline telecommunications, let alone a method adopted for that industry in the 1980s, an 11.25-percent rate of return on capital investment makes no sense for VRS, as explained above. The fact that, even under the Commission's flawed calculations, such a methodology produces an estimated return of only six cents per minute in 2012—barely more than ****BEGIN HIGHLY CONFIDENTIAL**** ****END HIGHLY CONFIDENTIAL**** percent of Sorenson's actual costs of providing service—shows that it is not nearly adequate to provide functionally equivalent service for deaf or a reasonable profit. Again, the fact that all telecommunications companies have exited the VRS business is an indicator that the approach is not reasonable.

3. *Should the Commission retain, modify, or eliminate the current tiered VRS rate structure?*

As the Commission itself, Sorenson, and Professor Katz⁸⁹ have explained at length, there

⁸⁹ See Katz PN Declaration ¶ 66.

is no principled reason to preserve tiers, and no one has presented any actual data or expert analysis to the contrary. Accordingly, the record gives the Commission no choice but to eliminate them.

4. *Should there be a phase-in of the new VRS compensation rate or rates? How long should such a phase-in period last and how should rates be set during such an initial period? For example, should the Commission establish a three-year phase-in period, as RLSA suggests, with equal yearly adjustments to reach the new rate?*

Sorenson believes that a phase-down of Tiers 1 and 2 rates to existing Tier 3 rates should take three to five years. Any quicker phase-in to unify all rates is likely to harm VRS providers other than Sorenson. To the extent that the Commission seeks to establish new rates substantially below the \$5.14 level, it should only do so over an extended period, such as five to seven years, and it should not establish rates below the level that would be anticipated to result from a two-winner competitive bid. A faster timetable would predictably devastate all VRS providers, with predictable effects on VRS users.

5. *How long should the new rate remain in effect? In the 2007 TRS Rate Methodology Order the Commission determined that VRS and IP Relay compensation rates should be set for a three-year period, subject to certain adjustments. In the 2010 TRS Rate Order, the Commission again adopted a three-year rate for IP Relay, but it adopted a one-year interim rate for VRS. That interim VRS rate, however, was extended in 2011 and 2012. Should the new VRS rate likewise be instituted for a three-year period, or a different period?*⁹⁰

Finally, once reached for all tiers, the \$5.14 unitary rate should remain in effect for at least three-to-five years, with annual adjustments thereafter using the normal price cap factors. As Professor Katz explains, “the shorter the review period, the closer” even an otherwise well-designed price-cap regime is “to a cost-based regime with the associated short-comings of discouraging innovation and generating uncertainty that increases providers’ costs of capital.”⁹¹

⁹⁰ PN at 9-10 (citations omitted).

⁹¹ Katz PN Declaration ¶ 69.

As a result, only after a three-to-five year period of stability should the Commission revisit rates to see if further cuts could then be imposed consistent with the Commission's duty to ensure the provision of functionally equivalent service.

III. The Commission Should Reject ZVRS's Proposed Central-Planning Mandates for VRS Applications Because They Would Severely Degrade the Consumer Experience, Stifle Innovation, Generate Enormous Implementation Complexities, Impose New Costs on the TRS Fund, and Violate the Commission's Statutory Responsibilities.

The PN seeks comment on ZVRS's proposals designed to prevent Sorenson from reaping the benefits of its investments in innovative, market-leading VRS equipment and applications.⁹²

The Commission should recognize these self-serving proposals for what they are. More importantly, the Commission should also recognize that ZVRS's approach would both: 1) harm deaf, hard-of-hearing, and speech-disabled users; and 2) violate the Commission's statutory responsibilities.

Sorenson has heard and understands consumers' frustrations with the lack of full interoperability—*i.e.*, the ability to seamlessly call point-to-point from one endpoint to another—as well as consumers' desire to be able to switch VRS providers without having manually to re-enter contact information and speed dial lists. But the Commission can address these concerns through industry standard-setting. To be responsive to consumers and the Commission, Sorenson has already been actively participating in renewed efforts along these lines.⁹³ By abjuring standards for a government-mandated single software platform, however, the Commission would

⁹² See PN at 3-4.

⁹³ Sorenson previously proposed equipment standards in 2008 and 2009, but they did not develop further because other providers failed to participate. See Letter from Gil Strobel, Counsel, Sorenson Communications, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, CG Docket No. 03-123, WC Docket No. 05-196 (filed Feb. 13, 2009); see also Sorenson FNPRM Comments at 66.

go far beyond what is necessary to reduce consumer switching barriers and instead destroy the engine for deaf-centric hardware and software innovation.

ZVRS’s primary proposal—the imposition of a unified software-based endpoint that must be used by all providers and all users—would destroy existing incentives to innovate, introduce a hornet’s nest of complexities (related to technological changes, compensation structures, and customer support), and deny consumers the right to use the products of their choice.⁹⁴ It would mark the end of the consumer-friendly, feature-rich VRS experience that has literally transformed the lives of deaf and hard-of-hearing users in recent years. As Professor Katz observes,

“[p]reventing a VRS provider from offering purpose-built products that consumers find highly attractive would clearly benefit VRS providers that do not provide such devices, or whose devices are not preferred by consumers. But this proposal would even more clearly harm deaf and hard-of-hearing consumers by denying them choice and weakening competition.”⁹⁵

Indeed, it is no exaggeration to say that implementing ZVRS’s “leveling down” proposal for VRS equipment and applications would be the equivalent—in the hearing world—of recalling *all* of the sophisticated devices and applications that hearing users now enjoy (cell phones, in-home wireless handsets, desktop work phones, and so on), and requiring everyone to go back to a rotary-dial phone designed and licensed by a single manufacturer.⁹⁶ This is truly central planning at its worst.

⁹⁴ The other ZVRS proposal raised in the PN—disaggregating network functions and certain features from the provision of interpreting—suffers from many of the same failings and is addressed in Section IV of these comments.

⁹⁵ Katz PN Declaration ¶ 3.

⁹⁶ Professor Katz similarly likens ZVRS’s radical “monopoly application” proposal to “ensuring the interoperability of mobile wireless devices by ordering all mobile wireless service providers to sell only smart phones and tablets running a new mobile operating system yet to be developed.” *Id.* ¶ 12.

Setting aside the details of ZVRS's proposals, the Commission should have no doubt that they run directly contrary to the Consumer Groups' unequivocal preferences. As the Commission observed in the FNPRM, the Consumer Groups have called on the FCC "to raise the bar in technological design" and to encourage competition "to give the TRS user population a range of choices in features and services."⁹⁷ The disaggregation proposals that the Bureau is entertaining would directly undermine those core policy interests, leaving consumers with a dumbed-down, feature-poor endpoint.

But ZVRS's proposals would not only be disastrous for consumers; they would be catastrophic for the TRS Fund as well. VRS providers, and Sorenson in particular, have spent many millions of dollars developing sophisticated VRS equipment and software applications designed specifically for the deaf and hard-of-hearing market—Sorenson spent about **BEGIN CONFIDENTIAL** million on developing the first deaf-specific videophone alone. ZVRS's proposal would require huge outlays from the TRS Fund to design and build from scratch a far less sophisticated version of the VRS applications that providers have already developed and already support. But the expense of developing a new, less functional application is only part of the problem; retrofitting any new application to VRS providers' existing back office systems and operations would likewise impose enormous new costs and burdens on the Fund.

Significantly, however, preventing deaf and hard-of-hearing consumers—who, again, greatly value the unique features of Sorenson videophones and applications designed specifically to them—from enjoying Sorenson's innovations would not only be poor policy. On the existing record, it would also be arbitrary and capricious and would violate the Commission's statutory

⁹⁷ See *2011 VRS Reform FNPRM*, 26 FCC Rcd. at 17,378, 81 ¶¶ 14, 21 (citations omitted).

mandate to “ensur[e] that individuals with hearing or speech disabilities have access to telephone services that are ‘functionally equivalent’ to those available to individuals without such disabilities.”⁹⁸

A. The Assumptions Underlying Competitors’ Calls for Counterproductive Rules Governing VRS Equipment and Applications are Simply Wrong.

Before turning to the practical and legal infirmities of ZVRS’s proposed mandates to prevent deaf consumers from using the videophones and applications of their choice, it bears emphasis that the reasons advanced by Sorenson’s competitors for such regulation are ahistorical and incoherent. Purple, for example, has argued that Sorenson “captured its dominant market share through actions later determined by the Commission to be prohibited, including tying arrangements”⁹⁹ and unspecified “unfair practices.”¹⁰⁰ As Sorenson set forth in its reply comments in response to the FNPRM in this proceeding, however, such claims are false, lack any basis in economic analysis and ignore the history of the VRS marketplace.¹⁰¹

⁹⁸ *Telecommunication Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Americans with Disabilities Act of 1990, Second Report and Order, Order on Reconsideration, and Notice of Proposed Rulemaking, FCC 03-112, 18 FCC Rcd. 12,379, Appendix B ¶ 2 (2003).*

⁹⁹ Letter from John Goodman, Chief Legal Office, Purple Communications, Inc., to Marlene Dortch, Secretary, Federal Communications Commission, at 1, CG Docket Nos. 10-51, 03-123 (filed July 13, 2012).

¹⁰⁰ Comments of Purple Communications, Inc., at 7, CG Docket Nos. 10-51, 03-123 (filed Mar. 8, 2012) (“Purple FNPRM Comments”).

¹⁰¹ See Sorenson FNPRM Reply Comments at 9-17.

1. Sorenson Succeeded in the Marketplace Because it Built Better Videophones and Provided Better Service.

When Sorenson entered the market as a service provider, ZVRS's predecessor CSD and Purple's predecessor Hands On Video Relay Services, Inc. (as well as MCI's VRS operations, which became part of Purple) were already established providers of VRS services, and Sorenson had a zero percent market share. Unlike ZVRS and Purple, however, Sorenson focused on developing a videophone specifically tailored to the unique needs of deaf, hard-of-hearing, and speech-disabled users.

Sorenson's first videophone, the Sorenson VP-100[®], reflected an investment of more than ****BEGIN CONFIDENTIAL**** ****END CONFIDENTIAL**** million and was revolutionary when it was released in 2002. Sorenson also hired and trained its own interpreters—bringing a level of quality control to VRS that had not previously existed—and developed an array of enhanced add-on capabilities far beyond the minimum standards identified in the FCC's rules. The combination of unique videophones tailored to deaf, hard-of-hearing, and speech-disabled users, a higher level of interpreting quality, and enhanced features—in other words, a tightly integrated, high quality end-to-end experience—naturally attracted many users to Sorenson VRS. Clearly, however, that was a choice made by consumers; they were not obliged to take Sorenson's equipment or use Sorenson service, and could have opted for VRS offerings from other, more established providers in the marketplace. Much like consumers would later flock to Apple's iPhone over the products of other, longer-standing cell phone manufacturers, consumers *chose* Sorenson's VRS because it simply worked better and was easier to use than all other offerings on the market. Of course, the Commission has never suggested

otherwise, and certainly has never found—contrary to Purple’s repeated but unsubstantiated claims—that Sorenson engaged in unlawful “tying.”¹⁰²

2. The Commission Should Focus on Advancing True Interoperability, and Neither an Off-the-Shelf Mandate Nor a Single VRS Application Will Solve All Interoperability Problems.

In addition to relying on an imagined history of anti-competitive behavior in an attempt to justify heavy-handed intervention in the market for VRS equipment and software, Sorenson’s competitors have suggested that such regulation is necessary to solve interoperability problems in the VRS marketplace. ZVRS, for example, argues that transitioning “to off-the-shelf technology would end the issue of the non-interoperability of VRS provider distributed video technology.”¹⁰³ The PN likewise seems to assume that a single application would solve interoperability problems, asking about such problems only in the context of whether *multiple* applications should be allowed.¹⁰⁴ But such assertions and assumptions are unjustified—while “[i]nteroperability is a worthy objective for VRS,” ZVRS’s “proposal would dramatically limit consumer choice and would go far beyond the standardization required for interoperability.”¹⁰⁵ Moreover, it simply is not the case that mandating the use of off-the-shelf equipment or imposing a single monopoly application on VRS providers will solve all remaining interoperability problems. A comprehensive solution would also require standards for some aspects of providers’ backend operations. The need for standards even in a world with just one endpoint application demonstrates that the approach the FCC suggested in the FNPRM makes much more sense:

¹⁰² See Sorenson FNPRM Reply Comments at 12-13.

¹⁰³ Letter from Jeff Rosen, General Counsel, CSDVRS, to Marlene H. Dortch, Secretary, Federal Communications Commission, at 2, CG Docket Nos. 10-51, 03-123 (filed July 13, 2012).

¹⁰⁴ See PN at 4.

¹⁰⁵ Katz PN Declaration ¶ 12.

develop interoperability standards for the industry under the auspices of an organization like the SIP Forum, and then allow providers to develop innovative, feature-rich and consumer-friendly endpoints that meet all of the standards.

Of course, interoperability is already required by the Commission's rules. The problem, as Sorenson's recent comments emphasized, is that "a lack of standards has made it impossible for any provider fully to meet them, and frustrated the effectiveness of those requirements."¹⁰⁶ Those frustrations remain particularly significant with respect to point-to-point calls—the lack of industry-wide interoperability standards makes it difficult for a deaf user of one provider's point-to-point service to connect directly and seamlessly to a deaf user of another provider's point-to-point service.

Mandating a single VRS application or the use of off-the-shelf equipment will not solve that standards problem. As further discussed below, an industry working group is now working toward SIP-based interoperability standards for VRS under the auspices of the SIP Forum. Significantly, however, SIP-based services are generally designed to work primarily in a 'routed' fashion, where endpoints register with a central component (a "Gatekeeper" in H.323 or a "Registrar" in SIP). This component is generally combined with a call routing component (a "Gateway" in H.323 or a "Proxy" in SIP) which handles all call routing for the endpoint. When a call is placed *within* an organization (or between endpoints registered with the same registrar), the call is handled between the two endpoints and the single proxy. But when a call is to be routed to an external endpoint—meaning that the registrar does not have 'local' knowledge of the endpoint, because the endpoint is not registered with it—the assigned proxy/gateway must necessarily locate the proxy/gateway that *does* have knowledge of the endpoint, and route the

¹⁰⁶ See Sorenson FNPRM Comments at 63.

call on to that proxy/gateway, which can then route to the terminating endpoint. To put the point simply, in a purely SIP environment, on a point-to-point call from one deaf person to another, application endpoints do not always “talk” to each other directly—those endpoints often connect through the components of VRS providers’ communications infrastructure (*e.g.*, proxies, gateways, etc.). (And, of course, *all* deaf-to-hearing “dial-around” calls must be connected through a VRS provider’s facilities.)

Within the VRS community, this call path is referred to as “server-based routing,” and while it would be technically possible for SIP and H.323-based endpoints to connect directly on a peer-to-peer basis, most VRS providers either plan to migrate to server-based routing or have already done so. Indeed, it is Sorenson’s understanding that all ZVRS and Purple calls use some form of server-based routing or gateway, although those companies would of course have more specific information about their network architecture. Therefore, in today’s environment, very few calls between providers (either deaf-to-deaf calls or VRS dial-around) are routed strictly point-to-point, and VRS is moving toward a SIP-based architecture in which *no* calls are routed strictly point-to-point.

As a result, it would make little difference if VRS providers were to all use the same endpoint since they have deployed different backend solutions. Interoperability standards will *still* need to be in place. And since standards will be needed in any case to ensure interoperability, the Commission should support the work already underway in a SIP Forum working group that will result in competing, feature-rich, *interoperable* endpoints. There is simply no need or reason to destroy consumer choice and providers’ incentives to innovate by imposing a unified endpoint on the industry.

In practice, endpoints and servers are usually “matched” by feature set and tested together to provide quality point-to-point and VRS service. For example, Cisco endpoints generally work best with Cisco servers, and Polycom endpoints work best with Polycom servers, since they are specifically designed and tested together to provide a particular feature set. As long as successful calls can be made between the Cisco endpoints and the Polycom endpoints, it doesn’t matter to each call participant that their endpoint has a different set of features than the other. The important point is that they are able to use their chosen endpoint to make successful calls to other people.

Imposing a single soft endpoint by fiat would force each provider to go through the effort and expense of making that endpoint work within their own environment. And it would not resolve the interoperability problems that arise because of the use of different vendor’s equipment, while industry-wide standards would.

3. Sorenson Strongly Supports Developing Interoperability Standards Through a Recognized Industry Association, as well as Standards to Ensure Portability of Consumer-Inputted Data.

In its comments and reply comments on the FNPRM, Sorenson advocated pursuing standards for the VRS industry, with a focus on interoperability, by convening a working group under the auspices of a recognized industry association.¹⁰⁷ In his attached Declaration, Professor Katz similarly argues that “[i]f the Commission’s objective is to enhance interoperability,” then the Commission should “support a process to develop and coordinate on baseline standards.”¹⁰⁸

Sorenson has specifically proposed establishing a working group under the SIP Forum (“the Forum”) with the involvement of Neustar or a similar independent entity through which

¹⁰⁷ See Sorenson FNPRM Comments at 62-75; Sorenson FNRPM Reply Comments at 28-32.

¹⁰⁸ Katz PN Declaration ¶ 14.

VRS providers could coordinate documentation of standards and the required testing and transition schedule.¹⁰⁹ And, significantly, since the filing of comments and reply comments in this proceeding, the SIP Forum has adopted the suggestion to establish a task group to work toward identifying and adopting VRS interoperability standards. Participants in the working group—including representatives from the leading VRS providers and the FCC’s Chief Technology Officer, among others—have been working toward a final charter identifying the “must have” components of the service that require standardization. The most recent version of the near final charter, dated October 31, 2012, sets forth an ambitious set of objectives for the task group, including, for example:

- Develop a comprehensive requirements document that sets forth the common network elements for the relay service.
- Specify the protocols and protocols extensions that must be supported by each element in the relay service system.
- Specify the exact RFC or other existing standards to be used.
- Specify mandatory [standards] to implement video, audio and text codecs [MUST per RFC 2119], recommended optional codecs and which entities must support them.
- Integration with systems for calling by number from national and international number plans . . . , including standards for URI registration.
- Interoperability with systems using other call control protocols.
- Emergency service calling for registered and unregistered User Agents (endpoints), including registration of device address with service provider
- Recommend minimum broadband connectivity requirements.¹¹⁰

¹⁰⁹ See Sorenson FNRPM Comments at 66.

¹¹⁰ SIP Forum Video Relay Service Task Group Charter at 3 (draft Oct. 31, 2012), available at <http://sipforum.org/pipermail/vrs/attachments/20121031/9eef9787/attachment-0002.bin>.

In addition to these interoperability issues, the draft also proposes that the VRS task group address specific portability matters involving customer-inputted data, including the “[i]mport and export of user phonebooks and speed dial lists.”¹¹¹ Of course, as set forth in its reply comments in this proceeding, Sorenson agrees “that it should be a top priority for the VRS industry” to “move forward quickly on the development and implementation of standards and processes necessary to ensure straightforward portability of consumer-inputted data.”¹¹²

Sorenson (along with other VRS providers and stakeholders) has been directly and actively engaged in refining the task force’s charter and in helping to move the project forward. Sorenson looks forward to continuing to work with the Forum, the Commission, the industry, and interested third parties to address these issues critical to the future of VRS. As further discussed below, the work of the SIP Forum has led to far greater interoperability (including opportunities for interoperability testing and certification) for VoIP providers, and the same can and should be accomplished for VRS providers.

Against this backdrop of development of SIP standards for VRS—which will ensure full interoperability under industry-wide standards—it should make no difference to other VRS providers whether Sorenson’s users employ applications and videophones designed and provided by Sorenson. As a practical matter, however, it *does* make a difference to Sorenson’s competitors, because, again, Sorenson’s equipment and its advanced functionalities are simply better for VRS applications than any existing off-the-shelf product. That is a big part of the reason why VRS users overwhelmingly prefer Sorenson to other VRS providers—Sorenson’s equipment and software was specifically designed for the deaf, hard-of-hearing, and speech-disabled communities, and it is easier to use and provides better functionality than the

¹¹¹ *Id.* at 4.

¹¹² Sorenson FNPRM Reply Comments at 32-33.

alternatives. Sorenson's competitors would thus like to transition to off-the-shelf equipment and generic applications to eliminate Sorenson's competitive advantage. Plainly, however, that approach is fundamentally anti-consumer—requiring consumers to use off-the-shelf equipment made for the non-deaf mass-market will not merely render Sorenson's investments in equipment and advanced functionality worthless, but will also eliminate the benefits of those investments for deaf VRS consumers.

B. The PN's Proposals to Eliminate Customer Choice in VRS Equipment and Applications Would be a Giant Step Backwards for Consumers, and an Expensive Implementation Nightmare for the Commission.

As noted above, ZVRS's proposal—now set forth in the PN—for a “single application” for VRS is an astonishingly regressive idea.¹¹³ Again, this approach is analogous to concluding that there are too many innovative devices available for hearing users and, accordingly, the FCC should revert to a system where just one provider makes rotary dial phones for everyone. This makes no sense—the Commission obviously should not mandate that consumers obtain and use VRS in a specific manner that is *not* what consumers *actually* choose. In that regard, it is noteworthy that Sorenson currently offers consumers *choices* that include VRS over Sorenson's innovative videophones and its equally innovative VRS software applications (or both)—but consumers overwhelmingly choose to use Sorenson's deaf-centric videophones rather than its soft endpoints running on off-the-shelf equipment. The PN thus proposes to make for consumers the exact *opposite* of the choice that they actually make every day in obtaining VRS service.

The absurdity of ZVRS's proposals does not end there. Addressing each of the detailed questions presented in the PN in turn demonstrates just how counterproductive those proposals actually are:

¹¹³ See PN at 4.

1. *The Commission proposed to establish standards for iTRS Access Technology, including VRS Access Technology, in the 2011 VRS Reform FNPRM. Would the process for establishing and maintaining standards discussed in the 2011 VRS Reform FNPRM be appropriate for developing an application or establishing standards for an application? Should the application or key components thereof be open source?*

The PN's first question addresses *how* to develop a single VRS application, but that is the wrong place to start. The proper place to begin an inquiry into the possibility of a single VRS application is *whether* doing so would be a good idea. Before addressing the specifics of Question 1, it makes sense to briefly summarize several key reasons why the answer to that logically prior question is a resounding “no.”

First, even if a single application running on off-the-shelf equipment could solve the point-to-point interoperability problem, the cost would be a severe degradation in the quality of VRS service. That is because off-the-shelf equipment simply cannot provide the quality of VRS experience that consumers have come to expect from dedicated VRS videophones. Again, as noted above, consumers choose deaf-centric Sorenson videophones for the vast majority of calls that Sorenson handles. And that is no surprise because those videophones, by definition, are specifically designed for the deaf and hard-of-hearing population. In contrast, off-the-shelf equipment (like iPads, smart TVs, and videophones for video conferencing, for example) were designed for the hearing world and hearing applications, and they prioritize different technical demands. As a notable example, equipment and applications for hearing individuals (and thus equipment designed to run those applications) sacrifice the quality of video to ensure high-quality audio in communications settings. Thus, for example, off-the-shelf equipment is not optimized for high frame rates to capture the highly nuanced motions of ASL—but that kind of crystal-clear transmission is critical for ASL users.

Frame rates, however, are just one example of how off-the-shelf equipment for the hearing mass market does *not* meet the demands of VRS. A functionally equivalent VRS experience also includes:

- Visual ringing, including purpose-designed compatibility with household light flash systems;
- Integrated 911 address provisioning;
- Access to 911 even when the device is not connected to a service;
- Amplified audio;
- Integration with large screens for easier reading of ASL;
- Color and user-interface design for those with the addition of visual impairment;
- Integration with video mail; and
- Integrated support for voice carryover service.

Moreover, purpose-built videophones are always dedicated to providing VRS; off-the-shelf multi-function devices, by contrast, will go into hibernation modes to save power and can shut down applications without notice, which means users miss calls without even realizing that their endpoint application is not running. Equally, manufacturers of off-the-shelf enterprise video products have little economic incentive to meet VRS feature and cost-point requirements because the market for deaf-centric equipment is tiny compared to the mass market for hearing individuals.

Enterprise video conferencing solutions are, moreover, expensive products with short lifespans. For example, Cisco recently announced the end of its E20 video conferencing device with no pending replacement, and this follows an equally short lifespan for Cisco's E150 device. Other vendors, like Creative Labs, have stopped building video conferencing products altogether because they were not commercially viable, and Lifesize and Polycom both have products that are priced at daunting enterprise price points—a particular problem given that equipment expenses have not been considered “allowable” by the Commission.

Multifunction devices, like iPads, share the shortcomings of enterprise videoconferencing solutions in the VRS context, and present others as well. In particular, as the “multifunction” description suggests, those devices are often used for other tasks. In other words, if a deaf or hard-of-hearing user’s son is playing Angry Birds on the iPad, that device may not be available as a practical matter for a VRS call. This problem is far less significant in the context of the dedicated endpoints that many deaf and hard-of-hearing consumers currently employ. Indeed, many VRS users have such a strong preference for dedicated equipment that their living rooms contain two televisions side-by-side—one for VRS, and one for other uses.

Another reason to reject moving to a single, unified application out of hand is that it would need to be based on a “lowest-common-denominator” approach to existing VRS systems. In other words, a single soft endpoint would not work with all providers’ systems unless its functionality were extremely basic, devoid of virtually any feature beyond transmission of video. This would be an enormously regressive approach to VRS applications, and would render the service essentially unrecognizable to those who have come to rely on it.

Finally, and perhaps most importantly, replacing the rich variety of VRS equipment and applications currently available to consumers with a single application will utterly destroy incentives for continued innovation. But developing and implementing interoperability standards—as the FCC proposed in the FNPRM—would preserve those incentives and the enormous benefits they deliver to consumers. Once VRS interoperability standards are in place, it should make no difference what VRS endpoint an end user chooses—all physical videophones and applications will be interoperable, assuming conformity to the standards in place and adequate interoperability testing. This problem is further discussed in connection with Question 2, below.

Turning to the specific sub-questions of Question 1, the process for establishing and maintaining standards discussed in the *2011 VRS Reform FNPRM* certainly would *not* be appropriate for developing a single, standard VRS application. Appendix B of the *2011 VRS Reform FNPRM* suggested that the standardization process should be “undertaken by VRS providers and equipment suppliers under the umbrella of an existing organization open to such members and dedicated to interoperability, in which a Working Group focused on VRS can be established.”¹¹⁴ As discussed above, precisely such a working group is convening under the auspices of the SIP Forum to address interoperability issues in conjunction with industry participants and other interested parties. The SIP Forum has a history of solving difficult interoperability standards problems, including most recently standards for SIP Trunking. This working group on interoperability is the perfect place to document standards and troubleshoot VRS SIP interoperability. The SIP Forum already includes models for interoperability testing through its SIPIT events.

The standards working group is entirely the wrong place to develop software, however. That would be like getting a working group together to develop an application to replace any other highly sophisticated piece of software, say iTunes or Microsoft Word. Developing VRS software requires an enormous depth and breadth of resources—including time—that simply is not available to a working group.

A working group can reliably establish standards for SIP-based communications, which will include SIP infrastructure and endpoints. But “establishing standards for an application” alone would not be time well spent. “Standards for an application” will not ensure interoperability because the application alone is not the problem. Again, the problem also stems

¹¹⁴ *2011 VRS Reform FNPRM*, Appendix B ¶ 21.

from the fact that VRS providers need to implement a set of standards for the *entire communications path* that lies between two applications being used for point-to-point communications.

Finally, the question of whether a single VRS application should be “open source” is a red herring. The real issue is whether there should be a single application to begin with—and there should not. If the Commission were to demand that all VRS consumers employ a single VRS application, however, such an application should be open source. But any flexibility gained by having an open source application would pale in comparison to the enhanced functionalities that consumers would lose if forced to abandon providers’ existing, highly sophisticated VRS applications—not to mention the feature-rich dedicated videophones that consumers overwhelmingly prefer to soft endpoint applications.

2. *Should the Commission mandate use of a single application or allow development of multiple, interoperable applications? Who should be responsible for application development? For example, should the Commission develop, by contract, such an application? How should the developer of the application be compensated?*

Like the first question, the second contains assumptions that are simply wrong. The question assumes that the *Commission* should decide what choices consumers have to access VRS. But, of course, that is incorrect—VRS consumers themselves are best equipped to determine what kinds of equipment and applications provide the best VRS experience. And, as discussed above, consumers overwhelmingly choose Sorenson’s dedicated videophones, because applications on equipment that has not been specifically designed for use by the deaf cannot come close to the experience that consumers have come to expect from Sorenson.

The answers to the first two sub-questions here are thus that VRS providers should be responsible for application (and videophone) development in direct response to consumer preferences, and the Commission should of course permit the development of multiple

applications. As the Commission has acknowledged, it is the offering of VRS products “on a competitive basis” that “encourages innovation,” thereby benefiting consumers.¹¹⁵ Indeed, *only* by permitting competition among VRS providers to supply consumers with the best possible VRS experience will continued strides toward the “functional equivalence” demanded by statute be possible.¹¹⁶

There are a variety of reasons why it would make no sense for the Commission to attempt to “develop, by contract” a standardized VRS application. As a practical matter, the Commission itself does not have the expertise necessary to specify the particular functions and features that deaf and hard-of-hearing users demand in a VRS application, or to troubleshoot and otherwise evaluate the usability and overall quality of any proposed application. And the software developers with the necessary expertise to design, create, and refine VRS applications are, of course, the professionals within the VRS industry who have been working on such applications for years. A third party would simply lack the industry experience necessary to develop a solution that actually serves the needs of deaf and hard-of-hearing users.

Nonetheless, as a practical matter, the developer would *need* to be an industry outsider— notwithstanding that it would be difficult or impossible to find any third party qualified to take on the job of creating a single, unified VRS application. That is because, as part of the development process, VRS providers would need to make critical network and back office information available to the developer so that it could generate a solution that works with their systems. But VRS providers would be enormously resistant to providing such critical

¹¹⁵ *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Second Report and Order and Order on Reconsideration, FCC 08-275, 24 FCC Rcd. 791, 820 ¶ 63 (2008) (“*2008 VRS Report and Order*”).

¹¹⁶ *See infra* at Section III.C.

information to a competitor in the industry, or even giving such information to a third party that might, even inadvertently, share such proprietary information with other VRS providers.

Even assuming that a third party could obtain the information it would require to move forward with development, the end result—as discussed above—will by definition be a stripped-down endpoint that reflects lowest-common-denominator attributes of different VRS providers' systems so as to allow the application to work across all of their platforms. More advanced features could not be supported through all of the disparate back end systems the VRS providers have developed. Even relatively basic features like video mail, for example, could not be implemented in an endpoint that would work on all providers' platforms without sacrificing existing functionality.¹¹⁷

The work of developing even a generic application that would work on all providers' platforms—and all existing and future off-the-shelf platforms—would also be enormously expensive, as the developer would need to understand all of the VRS providers' operations intimately to develop a solution that would work with all of them. That expense would then be further multiplied as providers worked to retrofit their back office operations to enable them to interact meaningfully with the generic application. The overall result would be a hugely expensive development effort (with a major impact on the TRS Fund), all to produce an utterly underwhelming endpoint devoid of features.

The question of how to compensate the developer is an intractable one. There is no good answer because no compensation system will provide what is critically needed: an incentive to

¹¹⁷ See Letter from John Goodman, Chief Legal Officer, Purple Communications, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, Attachment at 3, CG Docket Nos. 03-123 and 10-51 (filed Oct. 4, 2012) (“Technical standards foster a more competitive environment, enhance consumer choice, and give providers ability to reach scale.”).

keep innovating. This is, of course, the fundamental problem with central planning—without competition, no one has any incentive to continue to innovate and improve services, leading to the kinds of well-documented failures that government-run monopolies have experienced around the world.

Unfortunately, this incentive problem is not limited to innovation—applications must also be continually updated to work with new equipment and operating systems, and to continue to function on older equipment even as it becomes outdated. Is the government really going to decide whether to support a new off-the-shelf vendor's operating system, or even one that is newly revised? If Blackberry, Nokia, Apple, Google, or Microsoft brings out a new operating system for new mobile products, will those products remain unavailable to VRS users until the government or its chosen application developer decides to have the VRS application developer produce a compatible version? Apple, for example, has released two new platforms in the last quarter with new and different screen sizes. If the Commission were to mandate a single soft endpoint, would the developer be required to support these new devices (and, if so, how quickly)? Adding Android-based devices to the mix makes the problem even more complicated. There are three different versions of Android that are common in the marketplace, with dozens of popular devices using them—each with their own screen sizes, camera designs, and customization. It is difficult to imagine that a government-administered endpoint development project could match the constant speed of the change in these devices and operating systems.

And how could any compensation scheme provide appropriate incentives for a third-party developer to keep software up to date, let alone to improve it over time? In short, regardless of whether a developer is compensated by a fixed fee, per minute, or with a per-subscriber license fee, the Commission would need to address the reality that the developer's job is never really

complete, but rather the developer must continually update the application as equipment evolves, as the Commission implements new rules that impact endpoint operations, and as standards-setting bodies and working groups issue standards applicable to the endpoint.

The compensation problem is further complicated by the fact that a software developer will also need to provide customer support for the application. Once again, however, it is difficult to see how to provide an incentive for quality customer service—after all, once the developer has released the application and been paid, it really does not matter to that entity whether customers are satisfied or not. Perhaps some kind of per-minute compensation could address this problem, but it would not give the developer any incentive to both develop a bug-free product and also fix errors that inevitably will occur. And there is no doubt that a third-party application will open the door to all sorts of uncertainty and disputes about whether the developer or the VRS provider is responsible for service problems experienced by the end user. Moreover, the duplicative service staffs required by the developer and VRS provider will obviously increase costs to the TRS Fund.

Compensation for the developer also raises thorny questions about the rest of the VRS compensation regime. Considering that equipment costs are not currently “allowable” for purposes of VRS rate-setting, the stand-alone developer’s compensation should not have any impact on VRS providers’ compensation. But that means that the developer’s compensation would be entirely *new and additive* costs for the TRS Fund. If the Commission wished to reduce VRS providers’ compensation to cover the developer’s fee, it would need to articulate a reasonable justification (which seems elusive since these costs are not included in the calculation of VRS providers’ rates anyway)—and it would then need to tackle the thorny problem of entirely recalibrating a VRS compensation rate that has already been in the works for years.

The existing system, of course, avoids all of those issues. Providers have strong competitive incentives to develop state of the art applications and videophones, to improve them regularly, to update them along with upgrades in off-the-shelf equipment, and to provide thorough consumer support for the entire user experience.¹¹⁸ Eliminating the current competitive landscape would destroy innovation and the customer experience. Sorenson suspects that, as a practical matter, it would take years to recreate the current innovative and consumer friendly landscape when, after implementing a proposal of this kind, the FCC realizes the enormity of the harm it creates.

3. *Should providers be able to continue to offer their own internally developed applications? If so, under what conditions? For example, should there be an interoperability testing process? How would such an interoperability testing process be structured?*

Providers should certainly be permitted to continue to offer their own VRS applications. As noted above, the Commission has itself correctly observed that competition among providers to produce the best equipment and software is what spurs innovation and benefits consumers. There is no reason, however, to limit VRS providers to producing only software, as opposed to deaf-centric videophones. Deaf and hard-of-hearing consumers overwhelmingly prefer dedicated videophones to VRS applications running on off-the-shelf equipment, and relegating those consumers to a far lower quality VRS experience makes no sense. Interoperability issues, as discussed above, should instead be addressed through the adoption of appropriate standards.

Sorenson recognizes, however, that while adopting standards will go a long way toward resolving interoperability problems, those standards must also be respected industry-wide.

Sorenson accordingly supports the evolution of today's *ad hoc* provider-to-provider

¹¹⁸ See also Katz PN Declaration ¶ 3 (“CSDVRS’s proposal to create a monopoly-franchise VRS application would deny choice to deaf and hard-of-hearing consumers, stifle innovation, and create a host of administrative problems.”).

interoperability testing into a more formalized process under the auspices of a recognized industry association like the SIP Forum. The FCC should be at the forefront of encouraging an open, consensus-based standards development process, as it was for SIPconnect in the context of VoIP.¹¹⁹ The SIP Forum launched a SIPconnect Compliant Certification Program in 2007,¹²⁰ and in 2012 introduced a new SIP trunking interoperability testing initiative to drive industry-wide adoption of the SIPconnect 1.1 Technical Specification. At a five day event in early December 2012, the University of New Hampshire's independent Interoperability Laboratory will provide a venue where attendees can perform technical interoperability testing among and between products or services that use the SIPconnect 1.1 Technical Specification published by the SIP Forum.¹²¹

Sorenson expects that the SIP Forum working group on VRS standards could similarly provide a process for interoperability testing in the VRS context. Plainly, if the same energy currently devoted to attempting to undermine Sorenson's investments in innovative VRS equipment and applications were put toward actually resolving remaining VRS interoperability issues, those issues would already either be solved or well on their way to resolution.

¹¹⁹ See, e.g., SIP Forum, SIPconnect, at <http://www.sipforum.org/sipconnect> (last accessed Nov. 12, 2012).

¹²⁰ See SIP Forum, SIPconnect 1.0 Complaint Application, at <http://www.sipforum.org/content/view/290/247/> (last accessed Nov. 12, 2012).

¹²¹ See SIP Forum, SIPconnect-IT 2012 Overview, at <http://www.sipforum.org/content/view/400/288/> (last accessed Nov. 12, 2012).

4. *Should the application be fully executable, or a core executable or set of libraries (“core”) that can be customized by interested parties (e.g., using published APIs), or both? If core, what key functions should this core contain such as video encoding, video decoding and session signaling? If core, should there be a certification process before calls placed with the application are compensable? How should that process be structured? Who should be responsible for maintaining and updating applications?*

Once again, this question is based on assumptions with which Sorenson vigorously disagrees. Neither a single, fully executable application nor a single set of “core” libraries customizable by interested parties makes sense. Simply put, both approaches would require providers to discard the enormous investments that they have made in equipment, VRS applications, and back office operations and networks tailored to those provider-specific endpoints. Both approaches would thus impose enormous industry-wide expenses—both for the development of a lowest-common-denominator, plain-vanilla endpoint that can function on every provider’s platform, and for the reconfiguration of many aspects of providers’ operations that would be necessary to enable even the most generic of applications to operate on the providers’ systems. This is, as discussed above, a ridiculously inefficient way to attempt to achieve full interoperability, and it is ultimately certain to fail.

The question of who should be responsible for updating and maintaining a single, unified VRS application—to say nothing of continuing to improve it over time—is, as already discussed above, one of the more critical problems for the PN’s proposals. Replacing competition with central planning is a recipe for disaster not only with respect to innovation, but also in connection with ongoing service (updating and maintenance, as well as customer service) required by the unified application. Whoever develops the application will be best positioned from a technical perspective to update and maintain it (and to provide customer service on it), but that entity will need to be paid to do so. Yet it will be difficult or impossible to design a compensation regime that provides appropriate incentives, and even if such a regime could be

created, it will impose massive, ongoing costs on the TRS Fund merely to support an utterly generic offering, which will presumably become even more anachronistic over time as incentives to innovate remain non-existent. In contrast, in today's competitive environment, providers have competitive incentives to update and maintain their applications, to continue to innovate, and to provide the best customer service for their hardware, software, and services as a whole.

5. *What off-the-shelf hardware and operating system platforms should be supported? Should users be responsible for procuring their own off-the-shelf equipment, or should providers be involved in the acquisition and distribution of end user equipment to VRS users?*

This question is also fundamentally misguided. As discussed above, there is currently no off-the-shelf equipment that can provide the same VRS user experience as videophones designed for use by the deaf and hard-of-hearing that optimize frame rates and video rather than prioritizing audio quality like mass-market equipment for hearing users. Nor is there likely to be any deaf-centric off-the-shelf equipment in the near future—the deaf and hard-of-hearing market is simply too small to attract significant attention from companies that target the hearing mass market. Of course, in the event that the Commission nonetheless *does* mandate the use of inferior off-the-shelf equipment for VRS, it would make no sense to compound that error by dictating to VRS users *which* off-the-shelf equipment they may use.

At the same time, preserving for consumers the choice between inferior off-the-shelf solutions will be costly—the problems discussed above of updating and maintaining a generic application developed by a third party will be complicated by the need to keep the endpoint operable across multiple platforms. These problems, again, involve both forward- and backward-looking compatibility; the application must be continually revised to work on new devices as they are released, but must also be kept functional on older (even outdated) equipment.

At some point, however, even concerted efforts will not keep applications functioning on older equipment. Moreover, as product cycles become shorter and shorter—for example, the time between the release of the iPad 3 and iPad 4 in 2012 was only about seven months—the timeframe for which it is possible to ensure backward compatibility also becomes shorter. As a practical matter, then, a regulatory model where consumers are given a one-time stipend to buy an off-the-shelf device simply will not work. Such devices have an increasingly limited useful lifespan, as technology renders them obsolete faster and faster. VRS consumers will therefore need to receive stipends to replace their off-the-shelf equipment on a regular basis if an application developer is to have any chance of keeping a generic VRS application functional for all VRS users. Once again, this will impose enormous economic burdens on the TRS Fund.

6. *How should consumers be involved in the development, selection, certification and on-going enhancement of either the core or the application?*

This is another insoluble problem for ZVRS's approach as set forth in the PN. Today, consumers have a straightforward and efficient way to express their preferences in VRS applications—they simply choose among the competing products on the market. But there is no remotely equivalent way to capture consumers' input in the absence of market forces. It is no more than unrealistic, wishful thinking to imagine that a third-party application developer with no real experience of the VRS market could gather worthwhile information about VRS consumers' needs and preferences through a focus group, or a survey, or some other non-market-driven approach to consumer involvement.

Again, this problem would be particularly acute for the maintenance and on-going enhancement of an application. In today's market, VRS consumers provide continual feedback to service providers on their preferences and problems with VRS equipment, applications, and service, and VRS providers are extremely motivated by competition to address that feedback.

Asking how to replicate that sensitivity to customer needs and desires in a market with only a single, unified VRS application developed by a third party is tantamount to asking how to get nimble, top-quality service from a government-run monopoly—simply put, it cannot be done.

7. *How would users obtain support for issues relating to the application or its use on their equipment (e.g., network firewall issues, troubleshooting problems)?*

This issue was briefly addressed above in connection with Question 2, but it bears reemphasis that this is an enormous problems with ZVRS's proposal that will lead to a severe degradation in the quality of VRS service, widespread consumer dissatisfaction, and higher costs for the TRS Fund.

To begin, as noted above, consumers simply will not know who to call for help in a VRS world that divides equipment and application developers from service providers. Moreover, to the extent that a consumer does seek customer service from an application developer, the developer will have little incentive to resolve problems. The likely result is that the developer will push the consumer back to the VRS provider for all problems, even those with the application itself.

As a general matter, customers will likely call the VRS provider in the first instance whenever there is a problem, because that is the entity with whom the consumer has a relationship. The VRS provider will then need to devote time and resources to determining that the problem in many cases is actually with the application. Even then, however, there is likely to be finger pointing back and forth between the VRS provider and the application developer as to which entity can actually resolve the problem, how it can be resolved, how quickly, and so on. The end result will be worse service for the consumer and duplicative costs for the TRS Fund because both entities (VRS provider and application developer) will need to support separate customer service staffs to resolve (too slowly) a single customer's problems.

Moreover, the introduction of a single, standardized application will introduce serious new support problems in connection with integrating that endpoint with all providers' backend systems. These problems are likely to be particularly significant with respect to firewalls. It is impossible to predict exactly where or why firewall problems will occur, but they will be legion in this kind of cross-ecosystem effort, because providers do not take a uniform approach to firewall traversal protocols. Firewall problems are, moreover, particularly difficult to troubleshoot and pinpoint, sometimes requiring visits to the premises by highly trained technicians versed in the complexities of firewall problems. And it is not clear whom the customer should even call to diagnose a firewall problem in the context of disaggregated applications and VRS providers—firewall problems are not clearly either a VRS provider issue or an endpoint issue, but rather result from integration issues between the two. Again, the end result is likely to be poor customer service and high expenses, as compared to today's system in which providers control their own ecosystems from front to back and have clear incentives to solve all problems quickly and seamlessly. ZVRS's proposal would again be a leap backwards.

8. *What other approaches might be considered to select an application or applications for use in the VRS system? For example, should the Commission host a competition among existing VRS access applications and/or commercial standards-based off-the-shelf video conferencing applications? What would be the benefits and drawbacks of these or other alternate approaches?*

The bottom line here is simple—the current competitive environment for the development of VRS applications is vastly superior to a central planning regime. As discussed above, the existing competitive environment takes direct account of consumer preferences, encourages innovation, provides incentives for efficiency, and leads to high quality operations and customer service. A VRS market in which a government-sanctioned monopolist develops a single, lowest-common-denominator application does none of those things.

With respect to the possibility of a competition among existing applications, Sorenson is confident that its VRS applications would prevail in any well-designed competition. After all, consumers overwhelmingly prefer Sorenson's VRS service to those of its competitors. But this approach would engender a host of new problems. In particular, Sorenson has, of course, made massive investments into its equipment and applications—and it is unclear how it could or would be compensated appropriately if other industry participants were to begin using its applications. What is clear, however, is that the government could not simply expropriate Sorenson's investments without just compensation. Moreover, no matter what method is used to select a single VRS application, eliminating competition in favor of a government-sanctioned monopoly application would, of course, destroy any incentive for further innovation and improvement of the application.

9. *How would a transition to a VRS system that relies exclusively on a common application be accomplished, and over what period of time?*

It is extremely unclear how such a transition could be accomplished—but what is clear is that the transition would be devastating for VRS users, for the TRS Fund, and for the VRS industry. First, as noted above, VRS users today overwhelmingly choose Sorenson's deaf-centric videophones to make VRS calls. Taking that choice away from those users and telling them that they need to employ an inferior method of obtaining VRS will confuse, anger, and alienate enormous numbers of VRS users, no matter how it is done. That said, however, if at least some users of Sorenson's videophones would continue to have a relationship with Sorenson after this transition, the Commission must make it extremely clear to them that it is the *Commission and not Sorenson* that is depriving them of the ability to use the equipment that they count on. Of course, no matter how the Commission chooses to break this shocking news to VRS users, many will blame their VRS provider for the Commission's decision, and the relationship that providers

have with those users will be destroyed. Dealing with furious complaints from customers will require enormous resources.

Any attempt at such a transition would also have a devastating effect on Sorenson's field staff, which is overwhelmingly where Sorenson's deaf and hard-of-hearing employees work. While the largest block of Sorenson's employees is video interpreters, those interpreters must by definition be hearing individuals. The people who currently handle equipment installation and repairs for Sorenson, however, are primarily deaf and hard-of-hearing. But if Sorenson were to no longer have any role in developing and installing endpoints, as envisioned by the PN, Sorenson would have no need for many of its deaf and hard-of-hearing employees.

As discussed above, Sorenson would also need to devote enormous resources to reconfiguring its back office operations (queuing, billing, routing, data collection, and so on) so that they would work with a single lowest-common-denominator endpoint. Without knowing more about the hypothetical endpoint it is impossible to quantify these costs, but there is no question that they would place substantial burdens on the TRS Fund.

10. *What changes to the Commission's rules would be necessary to adopt this proposal or one of the alternatives described above?*

This question is difficult to answer in the abstract, without knowing the precise contours of the proposal's single-application regime. But it is clear that a transition to such a regime would require wholesale recalibration of the Commission's VRS rules to distinguish between the obligations of the application developer (and, presumably, servicer) on the one hand, and those of the VRS service providers, on the other hand. There would need to be a clear regulatory delineation of obligations—as well as liabilities for compliance lapses—for parties in different positions in the chain. Moreover, the Commission would need to articulate this delineation of responsibilities with great clarity—which would present challenges of its own—so that any

prospective developer could understand precisely what the final product would be required to do. To the extent the Commission were to use a competitive bidding process (or something similar) when selecting a developer, this clear delineation of responsibilities would need to be completely settled in advance of putting the project out for bid.

As an example, 911 provisioning rules would have to be completely reimaged. Currently, different VRS providers provision data to PSAPs in a variety of different ways—and they each work with dedicated 911 access providers. A regime with a single, unified VRS application might involve moving to a single 911 access provider—or it might involve reconfiguring existing provisioning between VRS providers and multiple 911 providers to function with the new application. In either event, the existing regime could not survive and the rules would need to be revamped from top to bottom to ensure a workable replacement.

C. Mandating the Use of Off-the-Shelf Equipment, Imposing a Single VRS Application, or Otherwise Preventing Consumers from Using the VRS Equipment and Software of Their Choice Would Violate the Commission’s Statutory Mandates.

While the PN raises the prospect of radical intervention in the VRS equipment market, it does not attempt to advance any rational policy reason for such heavy-handed regulation. It bears emphasis, however, that the kinds of market intervention proposed in the PN are not merely poor policy—adopting unjustifiable equipment, application, and networking mandates would also violate both the Commission’s duty to engage in reasoned decision-making, and its statutory obligation to ensure functional equivalence of VRS to the extent possible.¹²²

1. Restricting Consumers’ Choice of VRS Equipment Would be Arbitrary and Capricious on the Existing Record.

The courts of appeals must, of course, set aside FCC actions that are “arbitrary,

¹²² While Sorenson discusses the networking disaggregation proposal in Section IV, below, the statutory infirmities analyzed here apply to the proposal as well.

capricious, an abuse of discretion, or otherwise not in accordance with law.”¹²³ All new VRS rules, including those governing equipment and applications, must therefore reflect “reasoned decisionmaking.”¹²⁴ Commission action falls short of that hurdle if it “offer[s] an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it [cannot] be ascribed to a difference in view or the product of agency expertise.”¹²⁵ ZVRS’s proposal to prevent consumers from using the VRS equipment and applications of their choice would fail this bedrock test.

Although the Commission has not yet endorsed or attempted to justify these proposals at all, Sorenson’s competitors have suggested that preventing consumers from selecting the VRS equipment and applications of their choice would somehow *help* them—but the opposite is obviously true. This would be like trying to help consumers by banning the iPod (another tightly integrated product) in favor of a non-proprietary MP3 format player. As discussed above, when Sorenson entered a VRS market already populated with numerous established competitors, consumers were drawn to its service by the quality and ease of use of its videophones designed specifically for the deaf and hard-of-hearing. Consumers in great numbers chose those phones—and continue to choose those phones—because they provide users a better VRS experience than other equipment on the market. Today’s Sorenson videophones, for example, offer Sorenson’s unique “LightRing”® system that can flash different patterns for stored contacts—a uniquely useful feature that is obviously absent from off-the-shelf equipment not designed for the deaf. Relegating deaf users to such mass-market equipment and a generic VRS application will

¹²³ 5 U.S.C. § 706(2)(a).

¹²⁴ *See, e.g., Allentown Mack Sales & Serv. v. NLRB*, 522 U.S. 359, 374 (1998).

¹²⁵ *State Farm Mut. Auto Ins. Co.*, 463 U.S. at 43.

deprive them of this sort of unique, deaf-specific feature and accordingly degrade their experience.

As also discussed above, moving strictly to a generic application running on off-the-shelf equipment also will not—contrary to competitors’ claims—solve interoperability problems for point-to-point calls. So long as VRS providers deploy different communications infrastructures, a standardized application will not solve all interoperability problems, which are not limited to *software* problems but also include issues of communication *between* VRS providers’ “clouds.” Again, those problems must be solved through the adoption of interoperability standards applicable to the systems deployed by VRS providers.

ZVRS’s suggestion that the Commission should seek to create artificial “competition” by “unbundling” the provision of VRS equipment, software, and network operations from interpreter services is also flawed in a way reminiscent of the debate surrounding unbundled network elements (“UNEs”) in the wireline context. There, the Commission was subject to a statutory mandate that it *must* “unbundle” certain network elements—that is, make incumbent carrier UNEs available to competitive local exchange carriers on terms established by regulators—when the failure to provide such access would “impair” competitors’ ability to provide service.¹²⁶ Notwithstanding this statutory mandate, however, the D.C. Circuit proved extremely skeptical of unbundling given its incentive effects on competition—*i.e.*, unbundling obviously “reduces the incentives for innovation and investment” by competitors in their own facilities.¹²⁷ More specifically, in *USTA I*, the D.C. Circuit found that the Commission’s “belief in the beneficence of the widest unbundling possible” was arbitrary and capricious given the

¹²⁶ See 47 U.S.C. § 251(d)(2).

¹²⁷ *U.S. Telecom Ass’n v. FCC*, 290 F.3d 415, 425 (D.C. Cir. 2002) (“*USTA I*”).

clear “disincentive to invest in innovation” that arises from unbundling.¹²⁸ Of course, the same concerns exist here—unbundling the provision of VRS equipment, software, and networking functions from interpreter services undermines competitors’ incentives to attempt to match (or even exceed) Sorenson’s innovations in those areas.

In short, the record in this proceeding amply demonstrates that consumers would suffer from limitations on their choice of VRS equipment, applications, and networking functions, and provides no reason to think that they would experience offsetting benefits. Indeed, Sorenson’s competitors do not very seriously insist that *consumers* would experience such benefits at all. Instead, those competitors suggest that *they* would benefit from restrictive regulations because they would no longer have to compete against Sorenson’s combination of superior equipment, superior applications, and superior service. ZVRS argues, for example, that mandating a switch to “standard VRS software” would result in a more “competitive market” based on “Interpreter Quality not Video Phone.”¹²⁹ ZVRS does not explain, however, why the Commission should favor competition based on “interpreter quality” over competition based on “interpreter quality” *and* equipment quality. Of course, as the Commission has recognized, it should not.

Against this backdrop, it is clear that Sorenson’s competitors are really seeking a regulatory “thumb on the scales” to permit them to compete more successfully against Sorenson’s combination of superior equipment and superior service. But such competitive

¹²⁸ *Id.* at 425-27; *see also U.S. Telecom Ass’n v. FCC*, 359 F.3d 554 (D.C. Cir. 2004) (observing that the order challenged in *USTA I* was not “rationally related” to the goals of the statute because the Commission had failed to “balance” any advantages of unbundling against the costs, including “spreading the disincentive to invest in innovation”).

¹²⁹ *See* ZVRS July 10 Letter, Attachment 2 at 7. ZVRS does not explain where this “standard” VRS software would come from. As explained in Sorenson’s reply comments in response to the FNPRM, however, forcing Sorenson to share the benefits of its investments—whether in the form of superior proprietary equipment or superior software and enhanced features—with competitors that have failed to make such investments would represent a taking without just compensation. *See* Sorenson FNPRM Comments at 25-28.

gerrymandering would be arbitrary and capricious. Helping unsuccessful competitors to compete more successfully in the marketplace while harming consumers does not constitute reasoned decisionmaking. Indeed, as the Commission itself has long held, its job is to be “pro-competitive,” not “pro-competitor.”¹³⁰ The Commission should not and does not “determine which competitors will be ‘winners’ and ‘losers’” in the marketplace, but rather “ensure[s] that all [service providers] receive an equal opportunity to compete.”¹³¹ In this proceeding, the Commission should accordingly continue to focus on allowing consumers to select their preferred provider of VRS, *and* their preferred equipment and networking solution, and should refrain from addressing interoperability, portability, and off-the-shelf issues in such a way as to engineer market gains for competitors at Sorenson’s expense.

2. Restricting Consumers’ Choice of VRS Equipment and Applications Would Violate the Commission’s Mandate to Ensure Functional Equivalence.

As noted above, there is no question that Sorenson’s industry-leading VRS equipment enables the provision of a VRS experience far more “functionally equivalent” to the telephone services available to hearing individuals than off-the-shelf equipment is capable of providing. That is because off-the-shelf products are not optimized for VRS, and manufacturers targeting the hearing mass market have little incentive to make the necessary changes and improvements—the deaf and hard-of-hearing market is simply too small.

But, of course, it is more than Sorenson’s equipment alone that ensures the most “functionally equivalent” VRS user experience. Sorenson’s tightly integrated equipment,

¹³⁰ See, e.g., *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, FCC 96-325, 11 FCC Rcd. 15,499, 15,812 ¶ 618 (1996) (emphasis omitted).

¹³¹ *MTS and WATS Market Structure*, Memorandum Opinion and Order, FCC 85-551, 102 F.C.C.2d 849, 860 ¶ 22 (1985).

software, networking and transmission operations, back office functions, customer service, and so on combine to create the best possible VRS experience. The PN's proposals to fragment the functions of endpoint development, service, and interpreting would destroy the existing VRS experience, which has made such enormous progress toward achieving the functional equivalence mandated by the ADA.

Preventing consumers from choosing the best VRS equipment and applications available—as proposed by ZVRS—will undermine functional equivalence, and thus violate the Commission's statutory responsibilities. As set forth in Sorenson's comments and reply comments in response to the FNPRM, the Commission should therefore eschew heavy-handed intervention in this market, and instead focus on advancing VRS industry standardization based on SIP while allowing market forces to continue to drive the evolution of VRS equipment and applications.

IV. Shifting Network Functions and Features from VRS Providers to a Centralized Communications Provider Would Result in a Substantial Backwards Step for Consumers and Providers.

For many of the same reasons that it should reject ZVRS's proposal regarding a government-mandated standard VRS endpoint application, the Commission should also discard ZVRS's proposal to disaggregate networking functions and certain enhanced features from the interpreting function. Although couched in terms of changes to the iTRS "database", the proposal contained in the PN extends far beyond just "database" operations. Rather, the proposal calls for the creation of a central communications service provider that would handle and route all calls and provide the core communications platform over which both VRS and point-to-point communications occur. But it is impossible to discern any benefit from such a transformation—there is simply "no evidence of a public-interest problem to which [ZVRS's] proposal would be

a solution.”¹³² It certainly would not help the Commission detect any remaining fraud in VRS, as it obviously fails to address minute-pumping incentives and likewise has no bearing on other features of the VRS program—like the guest-user rule and current verification requirements—that might conceivably lie at the root of misconduct. Like the centrally-planned endpoint, a centrally-planned network operations system would also destroy innovation, lead to complex and burdensome customer support experiences, and place greater burdens on the TRS Fund.¹³³ Beyond those harms, the disaggregation proposal would also pose an unacceptable risk to deaf and hard-of-hearing users’ privacy interests.

A. ZVRS’s Proposal to Disaggregate Network Functions Would Do Nothing to Address Fraud—But It Would Expose the TRS Fund to Greater Waste.

The PN notes in its opening paragraph that “the Commission’s goal” in its long running reassessment of VRS has been to reform a program “which for many years has been beset by waste, fraud, and abuse.”¹³⁴ Sorenson wholeheartedly endorses that stated goal and believes that the Commission has made great strides in addressing critical weaknesses, like white-label providers, subcontracted call-center operations, and brazen minute-pumping schemes. But the Commission’s impressive track record on this score highlights the fact that the disaggregation proposal presented in the PN would have absolutely no discernible effect on fraud. It would certainly increase costs and waste (as explained in more detail in the subsections that follow), but it would do nothing to address whatever remnants of fraud remain in the program.

¹³² Katz PN Declaration ¶ 3.

¹³³ *See also id.* ¶¶ 25-30 (“Adoption of [ZVRS’s] “proposal to isolate the provision of video communication services could be expected to harm deaf and hard-of-hearing consumers” by undermining “accountability to customers,” introducing more room for error by the Commission in setting rates, and by leading to “distortions in investments.”).

¹³⁴ PN at 1.

Though the PN is notably silent on the subject, the disaggregation proposal might be viewed by some as a way to address ongoing misconduct, as it would centralize data collection in a manner that arguably permits the Commission to more closely monitor the industry. The reality, however, is that centralizing data collection would impose enormous costs and jeopardize privacy interests (as detailed below) *without having any discernible impact on misconduct*. While some have expressed concerns that the existing guest user rules and the current verification requirements may create space for fraudulent conduct,¹³⁵ the network and data-gathering disaggregation proposal would do nothing to address them even if they were responsible for some amount of fraud.¹³⁶ Nothing about centralizing the data collection and storage functions would alter the rules permitting VRS users to make calls after they register but before they verify their eligibility, nor would it have any impact on the specific eligibility criteria that VRS subscribers must meet to qualify for service. Simply put, centralizing these functions would not improve the Commission's (or providers') ability to detect unauthorized users, pumped minutes, or non-compensable calls.

Moreover, the Commission and TRS Fund Administrator already have access to virtually all of the data that would be centralized under the proposal. Through current monthly data

¹³⁵ See 2008 VRS Report and Order, 24 FCC Rcd. at 809-10 ¶¶ 37-38; see also Consumer & Governmental Affairs Bureau Reminds Video Relay Service (VRS) and Internet Protocol Relay Service Providers of Their Outreach Obligations and Clarifies Their Call Handling Obligations for Unregistered Users after the November 12, 2009. Ten-Digit Numbering Registration Deadline, Public Notice, DA 09-2261, 24 FCC Rcd. 12,877, 12,879 (2009) (“We emphasize that the provider must handle calls to or from such callers, to the extent technically feasible, even if the provider has not completed verifying that information, assigning the caller a new ten-digit number, and provisioning that number to the iTRS database.”).

¹³⁶ Sorenson is not aware of evidence validating concerns that the current guest user rule and verification requirements are the source of any material misconduct in the VRS industry. While IP Relay affords users a measure of anonymity that can enable non-eligible individuals to use the service, it is simply hard to imagine how a non-eligible user could meaningfully use a service that requires real-time ASL communications with a video interpreter.

submissions, routine provider audits, and annual cost submission requirements, providers already submit much of the data that the PN would entrust exclusively to the “enhanced” database administrator. For example, Sorenson already provides the TRS Fund Administrator with a call detail record for every billed and abandoned VRS call, and the TRS Fund Administrator’s auditors have access to records for every call—whether or not completed and whether or not Sorenson seeks compensation for it. Moreover, to the extent that the Administrator believes it needs additional data to monitor fraud, it can request that information. In Sorenson’s experience, however, auditors have not generally required call detail information beyond that in the call detail records in order to complete their reviews.

In fact, the disaggregation proposal may actually *increase* opportunities for fraudulent conduct, as it will be less clear where the FCC should direct inquiries or enforcement actions in a disaggregated world. As a result of the rule changes adopted in the last two years (including the elimination of white label providers and subcontracting operations), it is comparatively easy at present for the Commission to identify precisely which provider is responsible for handling a particular call or providing the service that generates a complaint. But that clarity would largely evaporate in the disaggregated system ZVRS proposes, as joint provision of VRS would blur lines between the entities responsible for the three components of the service and as the providers would have strong incentives to pin the blame for any shortcoming on someone else.

In other words, adopting this proposal would not somehow give the Commission access to additional information that might help combat fraud—but it would generate substantial new costs, sow confusion and frustration for consumers, and expose consumers to potential breaches of their privacy rights. If the Commission were inclined to adopt this proposal, therefore, it must

first explain the proposal's justification considering its failure to advance the Commission's core goal of fighting waste, fraud, and abuse.

B. Disaggregating Network Functions Would Disserve Functional Equivalence by Threatening VRS Consumers' Privacy Interests, Expanding the Burden on the TRS Fund, and Eroding Quality of Service.

Barring VRS providers from providing standard network-related functions in connection with the provision of VRS—and instead entrusting that role to the iTRS Database Administrator or a similar entity, as ZVRS proposes¹³⁷—would create unprecedented privacy-related exposure for every VRS user in the country, generate redundant expenses that would further strain the TRS Fund, and result in severely degraded service quality. Before addressing these core flaws with ZVRS's proposal, however, it is important to step back and recognize again what ZVRS is hoping to achieve. ZVRS's proposal would eliminate the competitive dynamic in which Sorenson has succeeded by providing the superlative and comprehensive service that consumers demand. ZVRS is pushing a centrally-planned model in which consumers would be assigned a network provider by regulatory fiat, not through the competitive forces that have sparked innovation and enabled VRS to become a life-changing technology for deaf and hard-of-hearing end users.

Among the long list of harmful impacts this proposal would produce, perhaps none is more troubling than the intense threat it would pose to VRS users' privacy interests. Distilled to its core, the proposal would result in the iTRS Database Administrator maintaining sweeping and detailed account and usage information for every VRS user in the country. Pooling all of this information—including user registration information (name, address, and phone number), verification information, call routing processes, and user usage accounting—in a single

¹³⁷ See PN at 4-5.

repository to which multiple providers (and perhaps other entities) must have some degree of access creates an enormous and unnecessary risk of disclosure, whether inadvertent or due to nefarious efforts. Adopting the proposal would therefore require the Commission (in conjunction with the iTRS Database Administrator) to establish clear and robust protocols, most properly via a separate rulemaking process, to ensure safeguards for the consumer proprietary network information and other personal data that have never before been concentrated in a single location to which multiple entities must have some degree of access.¹³⁸ Among other things, the Commission would need to address with great care questions related to who can access the various kinds of sensitive information stored in the centralized repository and for what purpose, how providers and consumers can identify and correct errors, and so on. In short, the proposal to assign many network-related operations and storage functions to the iTRS Database Administrator must be preceded by a careful assessment of the privacy risks the proposal poses and possible approaches to address or mitigate them.

In addition to the privacy-related dangers, the proposal would have a profoundly negative impact on consumers for many of the same reasons that mandating a centrally-planned endpoint would be so harmful. Just as the developer of a “standardized app” may not understand the end users nearly as well as VRS providers themselves, the iTRS Database Administrator has no familiarity with many of the VRS-specific functions that the proposal would assign to it. Stripping those functions away from providers and implementing them within the iTRS Database Administrator’s operations would be hugely disruptive to ongoing operations, and the transition

¹³⁸ While VRS providers currently maintain much of this information for their own customers, they can protect confidentiality and privacy interests by controlling access tightly and completely. The challenge is exponentially greater with respect to a single industry-wide database, however, because multiple entities will need to have access to it—possibly including access to data associated with competitors’ customers.

would also generate great expense as the administrator would need to design, build, and operate systems that replicate VRS providers' current platforms.

Unlike VRS providers, moreover, the iTRS Database Administrator would not have competitive incentives to keep improving the services it provides. Simply put, it would have little competitive incentive to search for solutions or upgrades that help optimize video transmission or speed up routing operations in a manner that might result in faster “speed of answer” data or more seamless connections. This is the clear consequence of turning to a centralized solution instead of relying on competition—the provider will have little incentive to innovate and improve. The Commission could theoretically pay the iTRS Database Administrator for service improvements, but that would impose new costs on the Fund and also entail the nearly impossible task of identifying what sorts of improvements would merit additional compensation, and how the compensation system should be structured. In the competitive environment that exists today, of course, VRS providers have competitive incentives to update and improve their network operations—or else they risk losing customers. Command economics simply cannot produce comparable results.

The proposal would also generate a disjointed experience for consumers—and doubly so if it were adopted alongside the “standardized endpoint” proposal discussed above. With as many as three separate entities providing service to a single consumer (the endpoint provider, the network operations provider, and the interpreting provider), VRS end users would frequently have no idea where to turn when problems and glitches inevitably arise. In many cases, it would be equally difficult for the providers themselves to pinpoint the source of the problem without engaging in expensive, time-consuming, and duplicative assessments of the issues. As explained in detail in the context of the standardized endpoint, technical support issues would become

overwhelmingly problematic and expensive to resolve in the disaggregated system described in the proposal. Because they often will not know whom to call, consumers would frequently register complaints with the interpreting provider (since they are in direct face-to-face contact during every VRS call), but the interpreting provider may have no insight into the technical problem at the root of the complaint. And, as to all service providers, there will “likely be less accountability to customers” because there will no longer be a “single point of responsibility so that a customer does not get bounced among multiple providers, each of which claims that the problem the consumer is facing is due to the actions of another provider.”¹³⁹ Getting to the source of a problem associated with a service co-provided by three separate entities would burn time, money, and consumers’ patience. Overall, this approach would degrade the customer support function while making it more expensive, because all of the entities involved in providing service would need to maintain separate customer service staffs to resolve a single customer’s problem.

In addition, this proposal would require the Commission to overhaul the existing compensation regime in ways that have not been identified or addressed anywhere in the record. Although the issue does not appear in the PN, it is critical to recognize the difficulty in compensating the administrator in a way that could establish incentives for it to continue some of the innovations and efficiency improvements that VRS providers currently pursue for competitive reasons. The lack of attention to this issue in the PN suggests that the Bureau might understand ZVRS’s proposal to rely on a continuation of the administrator’s fixed-price contract—but that approach would essentially eliminate competitive incentives to improve service or respond swiftly to technical problems after the contract has been signed. It would also

¹³⁹ Katz PN Declaration ¶ 29.

effectively ignore the fact that the administrator would need to provide ongoing support for point-to-point traffic that would not touch the interpreting provider. The Commission could implement a new stand-alone rate for point-to-point calls, but that would mean the addition of yet another rate-setting process with different stakeholders on top of developing new compensation systems for the application developer and the interpreting providers. The existing system, of course, avoids these problems. VRS providers have market-based incentives to provide cutting edge and efficient network operations and to provide highly responsive customer support—all of which is supported through a single compensation system.

C. The Specific Questions Posed in the PN Underscore How the Proposal Would Raise Costs While Undermining the Consumer Experience.

The PN's specific questions related to ZVRS's proposal help reinforce the conclusion that it would completely disserve VRS consumers and overburden the TRS Fund:

1. What functions and services should the enhanced iTRS database provide?

The Bureau's first question focuses on the functions that could be assigned to the iTRS Database Administrator, beginning with the prospect of directing it to handle the development of a standardized VRS endpoint or application.¹⁴⁰ This proposal would be deeply harmful for all of the reasons identified in the previous section. In short, centralizing the development of a single

¹⁴⁰ See PN at 5. The Bureau also asks whether the iTRS Database Administrator should be charged with handling TRS Directory functions and “per-call user verification (authentication).” Sorenson does not object to these assignments of responsibility because they reflect the role that the iTRS Database Administrator already fills efficiently in the current system. While the phrase “per-call user verification (authentication)” is not defined or explained in the PN, Sorenson understands it to refer to a process to ensure that only registered users make VRS calls. In the current system, VRS providers are able to check their own customer databases to ensure that their own customers are registered, and they rely on the Database Administrator to determine if a dial-around caller has registered with another provider. If the VRS provider gets a hit when dipping the iTRS Database when handling a dial-around call, it can infer that another provider has registered the user and provided his or her number to the Database Administrator. Sorenson does not object to preserving the Database Administrator's role in this process.

common application would be regressive, achieving at great cost and disruption a stripped-down endpoint that is vastly inferior to existing options. The harm would be sharpened by directing the iTRS Database Administrator to take on the job; while the Database Administrator has deep expertise in many areas, programming and coding capabilities for communications endpoints are not among them.

The Bureau also asks whether the iTRS Database Administrator should be charged with handling registration and validation functions.¹⁴¹ While the Database Administrator might be able to store this information effectively (subject to the critical privacy concerns noted above), it simply lacks the capacity to gather the information from end users. This responsibility currently rests with the providers themselves. Sorenson meets it by employing a nationwide staff of deaf trainers and installers who can deploy to the homes of customers and prospective customers to gather needed registration or verification information directly from the end user. The iTRS Database Administrator simply does not have comparable resources. It was never envisioned as a provider that would have direct contact with tens of thousands of end users—and certainly not tens of thousands of *deaf* end users. If the administrator were charged with this task all the same, enormous numbers of potential VRS users would effectively be denied service—because the administrator does not have the outreach staff or experience necessary to reach users nationwide, nor would it have a clear incentive to do so.¹⁴² Sorenson fears that it might become something

¹⁴¹ PN at 5. Though the word “validation” is not defined in the PN, Sorenson understands it to refer to the verification requirements adopted in the Commission’s December 2008 Order. *See 2008 VRS Report and Order*, 24 FCC Rcd. at 809-10 ¶¶ 37-38.

¹⁴² Moreover, if the administrator were to rely more heavily on non-direct and quasi-anonymous contacts (such as electronic communications and documents submissions) rather than the face-to-face approach Sorenson employs for most registration and verification, this disaggregation proposal could in fact *increase* the potential for fraud and abuse.

like the Department of Motor Vehicles: a central office that performs a gatekeeping role without a clear incentive to do it well.

The PN asks further whether the iTRS Database Administrator should bear responsibility for “usage accounting.”¹⁴³ While that phrase is not defined or explained in the PN, it could refer to tracking the date on which a number was last used (that is, tracking whether it is active) as well as storing data related to individual customers’ actual VRS usage (calls, minutes, numbers, endpoints, etc.). While the latter possibility is certainly more troubling than the first, they both raise critical privacy concerns. As noted above, storing this kind of information in a centralized location to which multiple (often competing) entities must have access would pose pronounced risks for the VRS end users and present critical questions: precisely who would have access to the data and for what purposes, how it would be protected, and how could users and providers identify and correct errors? And, even more centrally, is there really any need or benefit in directing the iTRS Database Administrator to manage this data instead of the providers themselves? As noted above, these possibilities increase the threat to privacy interests because they make all of this sensitive information available to more parties. Unlike the current system, under which VRS providers have clear incentives to preserve privacy and control access tightly with respect to their own customers’ data, relying on a central database administrator (or administrators) with which all providers must interact greatly exacerbates privacy concerns. The reasons *for* this proposed shift in responsibility are unclear at best, though there can be little doubt that it would jeopardize privacy rights and impose additional costs on the Fund related to developing data tracking systems that largely mirror the systems providers already maintain. For this reason alone it should be rejected.

¹⁴³ PN at 5.

The Bureau also seeks comment on whether the iTRS Database Administrator should handle “call routing” functions.¹⁴⁴ This would create enormous logistical and technological challenges—for the administrator, for providers, and ultimately for the consumers that are forced to endure the disruptions that this transition would cause. Unfortunately, a standalone provider for all call routing would lack competitive incentives to improve or optimize service—which would by definition result in lower quality and less efficient service. And reaching this counterproductive result would generate new costs (to develop infrastructure solutions that duplicate comparable systems already adopted by providers) and cause consumer frustration (as this adds an additional point of failure managed by a different provider relying on a different customer support team).

Shifting the call routing function to the iTRS Database Administrator would also pose an unnecessary risk to public safety, as it would complicate emergency calling for virtually every VRS customer. At present, VRS providers manage PSAP data provisioning and emergency call routing in different ways and via different E911 solution providers. If a single entity were to bear responsibility for all call routing, it would need to develop protocols enabling it to process the various emergency call delivery systems currently employed in the VRS marketplace. That will result in increased cost and, more ominously, the possibility of dropped connections or faulty provision of emergency data to the PSAP. In short, disaggregating network operations in this manner would be dangerous and disruptive.

The PN turns next to the idea of entrusting the Database Administrator with providing “video mail and address book” functions.¹⁴⁵ As explained above with respect to a standardized endpoint, however, it is not clear that these functions could be centralized at all without forcing

¹⁴⁴ *Id.*

¹⁴⁵ *Id.*

providers to substantially retrofit their existing back office operations (at substantial cost) to be compatible. And even if it were possible to provision these features centrally, they would have to be “dumbed down” to a plain vanilla level to make them operable within each provider’s ecosystem.¹⁴⁶ Providers like Sorenson, of course, would effectively be required to discard the superior video mail and address book features they have spent time and money developing. Moreover, because a single provider of these lowest-common-denominator features would have no competitive incentive to improve them, adopting this proposal would mark a deeply regressive (yet expensive) step for functionally equivalent features that VRS consumers depend on.

2. *How would ASL relay CA service providers interface with the enhanced iTRS database? Would each ASL relay CA service provider be required to establish its own internal routing system for distributing calls among its call centers, or should the enhanced iTRS database allow providers to specify provider-internal call routing rules?*

This second question is vague, but appears to be asking whether the iTRS Database Administrator should have some involvement in the providers’ internal operations (such as routing among call centers) or whether the Database Administrator should simply hand the call off to the provider in some fashion. Because the proposal suggests broadly that the Database Administrator should handle a variety of core functions, and because those functions are currently handled in materially different ways by different VRS providers, the “interface” between the Database Administrator and providers will present a laundry list of technical challenges that will vary and grow along with the list of functions that the Database

¹⁴⁶ Sorenson assumes that the proposal envisions that current VRS providers would handle the interpreting function for video mail messages created via the proposed centralized video mail function. This kind of joint provision of video mail—with one entity supporting the technical functionality and another handling the interpreting—would of course require costly and time-consuming implementation efforts. Otherwise, the Database Administrator would need to employ ASL interpreters of its own to handle the video mail messages.

Administrator handles. The PN flags one excellent example—call routing among a single provider’s call centers. While the notice asks whether the Database Administrator should handle that function (pursuant to “rules” submitted by providers), it would be infeasible to make such a system work smoothly and without disclosing too much sensitive information about the providers’ internal operations. Call center routing depends centrally on critical company decision-making that simply cannot be outsourced, including decisions related to staffing availability, costs, interpreter abilities, and other core operational factors.

Setting aside the impracticalities inherent in allowing the iTRS Database Administrator to manage call routing at the call center level, it is important to note that the proposal envisions two separate entities handling call routing and transmission (and maintaining the parallel and duplicative systems necessary to do so). The iTRS Database Administrator would handle call routing outside of the provider’s ecosystem (namely to and from the TRS Directory, and to and from the other party’s carrier), but the provider itself would remain responsible for routing to and among its call centers. Relying on two entities to manage these routing and transmission functions would result in duplicative functionalities and, correspondingly, the added cost of maintaining them. Moreover, rather than have these functions contained within each provider’s own ecosystem, where problems can be detected and addressed efficiently, the bifurcated nature of the routing and transmission function would lead to greater costs to monitor traffic flows and coordinate responses to resolve problems.

3. *CSDVRS’ proposal appears to contemplate the existence of multiple video communication service providers. Is this necessary? How would the user or application choose among these providers? If the choice of the communication service provider is independent of the ASL relay CA service, based on what criteria or metrics would users or applications make that choice? Given that VRS providers currently compete primarily on quality of CA service, should the Commission contract for a single provider of the enhanced iTRS database functions, including video communication service, that allows*

users to access the ASL relay CA service of their choice? If the Commission does choose to contract for these functions, should there be a single contract or multiple contracts?

Perhaps recognizing the risks to quality inherent in a centrally-planned one-provider model, this question asks whether there should instead be multiple providers in this role. But while this variation might generate some incentive to innovate, it would prove just as costly and counterproductive for consumer welfare. Creating multiple “database administrators” to handle these various functions in competition with one another would exponentially increase costs, as each would need to design and implement separate networking operations to perform the functions identified in the proposal, and each current VRS provider would need to retrofit its existing systems (which they have built at substantial expense) to interoperate with each of the new administrator entities.

The lowest-common-denominator problem would still exist for many functions (including call routing, video mail, and address books), since they would need to operate smoothly in conjunction with any VRS provider and regardless of whether a customer ported from one administrator to another. Simply put, empowering multiple new entities to provide this core component of the service currently offered competitively by VRS providers would introduce duplication, complexity, and new points of potential failure. It would lead to more aggravation (and more limited service features) for consumers, who would have to keep track of three different providers—one for interpreting, one for network functions, and one for equipment—rather than just one provider and one point of contact.

Many deaf and hard-of-hearing users will find this to be a serious impediment to service, as they may not know where to turn in the event of inadequate call quality and they may find that the providers of the various functions tend to point their fingers at one another rather than address the problem. This tendency will be particular prevalent with providers—like a

standardized endpoint developer or network function provider—that do not face competition.

Since consumers would be unable to express dissatisfaction by switching to a competing provider, the provider will have little incentive to be responsive.

4. *What changes in the Commission’s rules would be necessary to implement such a structure?*

ZVRS’s network-function disaggregation proposal would require a wholesale overhaul of the rules—as well as being incompatible with the rate proposals currently being considered. Indeed, the breadth of changes would be so sweeping that they are difficult to catalog. First, the proposal would require the Commission to completely reassess the E911 obligations applicable to providers, including which entities in the chain (endpoint developer, interpreting provider, network functions provider) bear responsibility for which aspects of emergency communications. This would likely entail completely rewriting the iTRS 911 rules and also convening a working group to develop standards applicable to iTRS emergency communications.

The proposal would also require the Commission to reassess compensation at a fundamental level and to determine how each component of the new industry structure is compensated (fixed fee contract, per minute compensation, per user compensation, licensing payments, etc.), adopt ratemaking and compensation structures for each, and then make an honest assessment of the total impact on the TRS Fund. As Professor Katz observes, this would “create[] greater uncertainty with respect to rate setting,”¹⁴⁷ because “a more complex compensation scheme will be needed: one for each rate component.”¹⁴⁸ In essence, then ZVRS’s proposal to disaggregate the functions currently performed by VRS providers and assign some to a new service provider (or providers) is a proposal for a hybrid VRS compensation

¹⁴⁷ Katz PN Declaration ¶ 3.

¹⁴⁸ *Id.* ¶ 27.

regime—disaggregation would require a combination of compensation structures if the Commission is to have any hope of maintaining appropriate incentives for service and innovation.

Of course, disaggregation of compensation structures could, if properly pursued, have benefits. Both Sorenson and the consumer groups proposed a hybrid compensation mechanism for VRS compensation in comments and reply comments.¹⁴⁹ But the PN does not appear even to recognize the necessity of a hybrid regime if the Commission severs the provision of video access service from interpreting functions—the rate portions of the PN wholly ignore the possibility of a hybrid per user/per minute rate system. The rate uncertainty that Professor Katz describes is heightened by this fact that the PN does not recognize—let alone attempt to explain—how compensation would be divided between the rates left for the interpreting provider, and the rates paid to the communications platform provider.

The Commission would, as part of an overhaul of its VRS rules in response to disaggregation, also need to consider and address the kinds of information (*e.g.*, call detail records or comparable information) that providers of the various functions must submit routinely to the TRS Fund Administrator, the frequency with which the information must be submitted, and who has access to it. It would also be important to consider rule changes to address which entity involved in providing VRS bears a responsibility to report service outages. At present, the VRS provider must report outages to the FCC, but that regime would be far less appropriate if there were multiple entities involved in the provision of service. Under the proposed regime, the Commission would have to resolve whether the application developer and the network provider

¹⁴⁹ See, *e.g.*, Sorenson FNPRM Reply Comments at 41-46; Comments to Further Notice of Proposed Rulemaking of the Deaf and Hard of Hearing Consumer Advocacy Network *et al.*, at 48-52, CG Docket Nos. 10-51, 03-123 (filed Mar. 9, 2012).

must report outages that have a relationship to their particular deliverables, and it must assess rules to ensure that the incentive to blame other entities in the chain does not result in unreported outages. In addition, the Commission will need to rethink the certification process and the certification requirements. While the certification rules are currently tailored to stand-alone VRS providers, a disaggregated VRS model would require an overhauled approach.

Finally, and more broadly, the proposal would require the Commission to restructure all of the minimum standards, apportioning obligations, and liability among the distinct entities with different roles in the process. The regulatory structure is already complex and disjointed even under the current regime where there is little ambiguity about who provides the service. That complexity would mushroom to an unworkable level without a structural overhaul of the rules if the FCC moved to a disaggregated world. For example, the Commission would need to determine which entity bears responsibility for meeting the speed-of-answer requirements (which is a function of networking efficiency and interpreter availability) and who bears responsibility if the threshold is not achieved. Similar reassessments will be required throughout the TRS rules.

D. Before the Commission Could Adopt ZVRS's Proposals, It Would Need to Explain Why It Chose to Reverse Its Previous Rejection of Similar Proposals.

If it were to adopt any element of the disaggregation proposals reflected in the PN (including the stand-alone standardized application proposal discussed in Section III.C above), the Commission will need to explain and justify their resuscitation. The PN, it should be noted, is not the first time that these ideas have been put out for comment. In its Notice of Inquiry related to VRS released in June 2010, the FCC expressly raised the prospect of disaggregating VRS, asking whether there was any need to have the constituent components of VRS (equipment,

transmission, interpreting) supplied by vertically integrated providers.¹⁵⁰ Sorenson responded by urging the Commission to let the market dictate the most suitable business models for VRS. Sorenson explained that FCC intervention to limit vertical integration would harm competition and consumer choice, as integrated operations have generated cutting-edge and feature-rich services that serve consumer interests.¹⁵¹ Purple's comments were similar, concurring that vertical integrations should be permitted as it has provided innovations and benefits to users.¹⁵²

By the time it released its FNPRM in December 2011, the FCC had apparently reached the decision that there was no merit to mandated disaggregation, as the issue was completely missing from the FCC's comprehensive proposals for reforming the industry. It is therefore odd to say the least that the Bureau has re-raised this discarded issue at this late stage in the proceeding—after the Commission had raised it in an earlier context, received reasoned comments explaining the proposal's core flaws, and then appropriately removed it from its more comprehensive reform process. If the Commission were to proceed with any variant of the disaggregation proposal in the face of this record, it would need to explain not only why it is reasonable in light of the harm and cost it would inflict. It would also have to explain and justify how the proposal can constitute reasoned rulemaking considering that the FCC had assessed and abandoned it earlier in the proceeding.

Overall, it should be perfectly clear that disaggregating VRS would *not* lead to more competition and improved service. This is because the interpreting function provider, the

¹⁵⁰ See *Structure and Practices of the Video Relay Service Program*, Notice of Inquiry, FCC 10-111, 25 FCC Rcd. 8597, 8608-10 ¶¶ 32-40 (2010).

¹⁵¹ See Comments of Sorenson Communications, Inc., at 40-44, CG Docket No. 10-51 (filed Aug 18, 2010).

¹⁵² See Comments of Purple Communications, Inc., at 36-37, CG Docket No. 10-51 (filed Aug 18, 2010).

network function provider, and the equipment provider do not compete with each other. Indeed, ZVRS appears to have proposed this division precisely because it has had such difficulty competing with Sorenson on each of these scores. Instead, as explained above, ZVRS has proposed a disaggregated system that would create confusion, degrade service quality, waste TRS Fund resources without combatting fraud, and introduce a centrally-planned structure that eliminates competition.

V. Conclusion.

Each of the proposals contained in the Public Notice—whether viewed individually or in aggregate—would devastate VRS as we know it. In the myriad ways catalogued above, the proposals would obliterate the financial structure of every VRS provider, freeze investment in the industry, fail to curtail fraud, eliminate consumer choice, require consumers to abandon the endpoints they prefer, undermine incentives to innovate, forcibly discard existing functionalities that users value greatly, generate enormous technical problems (and, as a result, dropped calls or call failures), and ensure disastrous customer support and customer relations experiences. Adopting any of the proposals would forge for this Commission a legacy of unraveling one of the great successes of the ADA. The proposals should be rejected.

Respectfully submitted,



Michael D. Maddix
 Director of Government and
 Regulatory Affairs
 SORENSON COMMUNICATIONS, INC.
 4192 South Riverboat Road
 Salt Lake City, UT 84123

John T. Nakahata
 Christopher J. Wright
 Charles D. Breckinridge
 Timothy J. Simeone
 WILTSHIRE & GRANNIS LLP
 1200 Eighteenth Street, N.W.
 Washington, D.C. 20036
 T: (202) 730-1300
 jnakahata@wiltshiregrannis.com

Counsel to Sorenson Communications, Inc.

November 14, 2012

Attachment A

**RESPONSE TO ADDITIONAL REQUEST FOR
COMMENTS ON VRS POLICY**

Declaration of Michael L. Katz

November 13, 2012

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I. INTRODUCTION AND OVERVIEW

1. The Federal Communications Commission (Commission) has been undertaking a multi-year review of the design of the video relay services (VRS) program. Recently, the Consumer and Governmental Affairs Bureau (CG) issued a public notice¹ seeking comment on: (a) proposals by CSDVRS, LLC, under which the Commission would force a dramatically different structure on the industry,² and (b) a proposal by the TRS Fund Administrator, Rolka Loube Saltzer Associates, LLC (RLSA), to reduce VRS compensation rates based on a cost-of-service rate-setting methodology.³ I have been asked by counsel for Sorenson Communications, Inc. (Sorenson) to conduct an economic analysis of these proposals to assess their likely effects on competition and consumer welfare.
2. In brief, I find that implementing these proposals would be likely to quash competition (in some cases by design), stifle innovation, and degrade the quality of services offered to deaf and hard-of-hearing consumers. Through these mechanisms, implementing the proposals

¹ *Additional Comment Sought on Structure and Practices of the Video Relay Service (VRS) Program and on Proposed VRS Compensation Rates*, CG Docket Nos. 08-123 and 10-51, October 15, 2012 (hereinafter *Public Notice*).

² Attachment 2 to Letter from Jeff Rosen, General Counsel, CSDVRS, LLC, CG Docket Nos. 10-51, 03-123, July 10, 2012 (hereinafter *CSDVRS Software Proposal*). Letter from Jeff Rosen, General Counsel, CSDVRS, LLC, CG Docket Nos. 10-51, 03-123, August 27, 2012 (hereinafter *CSDVRS Software Proposal II*). Comments of CSDVRS, LLC, CG Docket Nos. 10-51, 03-123, March 9, 2012 (hereinafter *CSDVRS Separation Proposal*).

³ *Supplemental Filing of the Telecommunications Relay Service Administrator Regarding Reasonable Rates for VRS Service*, CG Docket Nos. 03-123 and 10-51, October 15, 2012 (hereinafter *RLSA Filing*).

would likely inhibit the Commission's ability to meet its statutory obligation to ensure that VRS is available to all users and offers functional equivalence.⁴ The welfare of other consumers would also be harmed by the fact that they would be less able to communicate with deaf and hard-of-hearing consumers.

3. More specifically, my analysis finds that:

- *If adopted, CSDVRS's proposal to create a monopoly-franchise VRS application would deny choice to deaf and hard-of-hearing consumers, stifle innovation, and create a host of administrative problems.* The U.S. Congress and the Commission have rightly abandoned the approach of granting monopolies for communications services because of the associated inefficiencies and harm to consumers. Although CSDVRS asserts that creation of a monopoly application would solve industry interoperability issues, there is a far-superior approach that is compatible with competition and consumer choice: the creation of industry-wide standards.
- *CSDVRS's proposal to rely on off-the-shelf hardware is unnecessary and would harm consumers by denying them choice and stifling innovation.*⁵ There is no evidence of a public-interest problem to which CSDVRS's proposal would be a solution. If some

⁴ See FCC Regulations for the Provision of Telecommunications Relay Services (TRS) pursuant to Title IV of the Americans with Disabilities Act (ADA), Pub. L. No. 101-336, § 401, 104 Stat. 327, 366-69 (adding Section 225 to the Communications Act of 1934, as amended, 47 U.S.C. § 225).

⁵ CSDVRS proposes that purpose-built video phones should be allowed for an interim period of two to three years before transitioning to off-the-shelf hardware and a universal software application. (See *CSDVRS Software Proposal*, Part 3 at 19 and *CSDVRS Software Proposal II* at 2 and 3.)

VRS providers believe that they can offer superior service more efficiently by utilizing off-the-shelf equipment, they are free to do so today. The only effect of a ban of purpose-built equipment would be to prevent firms from offering consumers a wider range of choices, including choices specifically designed for the deaf and hard-of-hearing community. Preventing a VRS provider from offering purpose-built products that consumers find highly attractive would clearly benefit VRS providers that do not provide such devices, or whose devices are not preferred by consumers. But this proposal would even more clearly harm deaf and hard-of-hearing consumers by denying them choice and weakening competition.

- *CSDVRS's proposal to sever access-related elements of video communications services (e.g., user registration and validation, authentication, call routing, and usage accounting) from other components of VRS risks blocking the realization of economies of scope, creates greater uncertainty with respect to rate setting, and may reduce provider accountability to deaf and hard-of-hearing consumers.* Here, too, there is no evidence of a public-interest problem to which CSDVRS's proposal would be a solution. If today some VRS providers believe that they can offer service more efficiently on a vertically disintegrated basis, they are free to adopt such a structure as their competitive strategy.
- *The RLSA proposal to retain rate tiers would distort competition and support inefficient service providers.* RLSA proposes to continue having a multi-tier compensation structure over at least a multi-year phase-in period and leaves open the question of whether the system ever will converge to a single tier. Although the

proposal reduces the number of tiers from a total of three to two, the rates for the two tiers RLSA proposes to combine already were very close to another. This is not a meaningful reform. The retention of tiered rate structure with a sizable gap between the higher and lower compensation rates would distort incentives and support inefficient competitors.

- *RLSA's rate proposal is based on the approach underlying traditional rate-of-return regulation, an approach which the Commission has properly rejected in other contexts.* This type of rate setting can be expected to stifle innovation that might otherwise reduce costs or improve service quality. The Commission should instead direct the TRS Fund Administrator to set compensation rates based on an incentive-regulation approach, which is widely recognized as creating superior dynamic incentives.
- *The RLSA rate proposal is based on an allowed rate of return that lacks factual foundation.* The Commission has repeatedly expressed its intention to engage in evidence-based policymaking. RLSA's proposed use of an arbitrary 11.25-percent rate of return on investment runs squarely counter to that intention. The only justification offered for using this number appears to be that it was found to be appropriate for a very different industry decades ago. Neither the Commission nor RLSA appear to have made any attempt to ground the allowed rate of return on any measure of the actual cost of capital faced by current VRS providers or on any of the characteristics of the current VRS marketplace.

- *If some or all of CSDVRS's proposals are adopted, then it will be necessary to revisit the RLSA proposal in order to disaggregate the rate components, thus creating further delay and increasing the likelihood that some or all of the rates will harm deaf and hard-of-hearing consumers by weakening providers' incentives to offer high-quality products and services.* If the provision of VRS is broken into two or more separate components, then separate compensation rates will be needed for each component. If one rate is too high and another too low, then there may be no service, or only low-quality service offered by those providers receiving the low rate. In contrast, when the different components are combined, one component's being too high can compensate for another component's being too low, thus benefitting consumers.

4. The remainder of this declaration explains these findings in greater depth and provides details of the facts and analysis that led me to reach them.

II. ANALYSIS OF CSDVRS'S PROPOSALS TO RESTRUCTURE THE VRS INDUSTRY

5. The *Public Notice* seeks comment on proposals by CSDVRS to have the Commission force the industry to adopt a radically different structure.⁶ In this section, I first address these ill-advised proposals on a broad level and then turn to the *Public Notice's* detailed questions regarding the proposals.

⁶ *Public Notice*, §§ I.A and I.B.

A. PREVIOUS FINDINGS WITH RESPECT TO USING REGULATION TO DETERMINE THE INDUSTRY STRUCTURE

6. At the request of counsel for Sorenson, I previously conducted two economic analyses of several proposals to modify the VRS program in order to determine the likely effects of these proposals on consumer welfare and the attainment of the Commission’s goals.⁷ My broad conclusion was that the Commission’s fundamental approach to promoting consumer welfare in the VRS marketplace should be to promote undistorted competition because undistorted competition is widely recognized as promoting efficiency and consumer welfare, and will create incentives for providers to serve all eligible users. Indeed, the Commission has long championed competition in the industries that it oversees.

7. There are many dimensions to competition, including product or service quality, the nature of the product or service offered, the means used to produce the product or service, and the organization of the enterprises that supply the product or service. When suppliers are free to compete, they have incentives to innovate in all of these areas, including organizational structure and business-model design. It is widely recognized that the view that competition and innovation pertain only to products and manufacturing processes is outdated and

⁷ *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*, CG Docket Nos. 10-51 and 03-123, An Economic Analysis of VRS Policy Reform, Appendix A to Comments of Sorenson Communications, Inc., March 9, 2012 (hereinafter *Initial Declaration*); *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*, CG Docket Nos. 10-51 and 03-123, Reply Comments Regarding VRS Policy Reform, Appendix A to Reply Comments of Sorenson Communications, Inc., March 30, 2012 (hereinafter *Reply Declaration*).

dangerously narrow. Under a policy of promoting undistorted competition, the Commission would *not* impose a particular structure and vision on market participants. Rather, the industry structure and the business models of rival suppliers would be driven by competition.

8. Unfortunately, my previous analyses revealed that the current VRS Program distorts competition and, thus, can be expected to reduce efficiency and harm deaf and hard-of-hearing consumers, as well as other consumers. My specific findings were that:

- A compensation system of declining rate tiers harms deaf and hard-of-hearing consumers by supporting inefficient competitors and distorting competition.
- A single-tiered compensation system would benefit deaf and hard-of-hearing consumers—as well as telecommunications users more generally—by promoting efficiency and undistorted competition.
- An examination of economies of scale demonstrates that declining compensation tiers are not needed to promote quality competition.

9. I also found that several proposals before the Commission could further distort competition, thus harming deaf and hard-of-hearing individuals, as well as other telecommunications users.

- Although the creation of—and adherence to—baseline standards would enhance competition, excessive or overbroad standards can stifle product variety and innovation, thus denying deaf and hard-of-hearing users access to the most advanced technologies and attractive services.
- Proposals advanced by CSDVRS to separate equipment from interpreting services run the risk of stifling innovation, reducing availability and, thus, harming consumers and program efficiency.

- Requiring off-the-shelf equipment would harm consumers by denying them the benefits of competition and innovation.

10. It is doubly unfortunate that the *Public Notice* contemplates further distorting—and even eliminating—competition.

B. OVERVIEW ANALYSIS OF PROPOSALS TO CREATE A MONOPOLY APPLICATION, MANDATE USE OF OFF-THE-SHELF HARDWARE, AND ISOLATE PROVISIONING OF VIDEO COMMUNICATION SERVICES.

11. There are several dimensions to CSDVRS’s proposals to use regulatory fiat to restructure the VRS industry. I begin by providing a brief overview of each one in turn.

1. Monopoly Application

12. CSDVRS proposes the creation of a monopoly application.⁸ CSDVRS asserts that doing so would promote interoperability.⁹ Interoperability is a worthy objective for VRS; the value to consumers using one VRS provider’s equipment and service is enhanced by the ability to call consumers who are using other VRS providers’ equipment and service.

However, CSDVRS’s proposal would dramatically limit consumer choice and would go far beyond the standardization required for interoperability. Implementing CSDVRS’s proposal

⁸ See *CSDVRS Software Proposal* at 7 and 11, and *CSDVRS Software Proposal II* at 2. See also *Public Notice*, I.A.2, asking in connection with CSDVRS’s proposal whether the Commission should mandate a single application. Given the very limited descriptions provided in these documents, it is impossible to be certain what CSDVRS is proposing. If CSDVRS is not proposing to create a monopoly application, then it is difficult to discern what the content of its proposal is. Providers are free today to create applications if they wish to do so. Perhaps the force of CSDVRS’s proposal is a call for explicit compensation for the development of such applications coupled with a requirement that these applications be offered on a standalone basis. If so, the proposal would not, in itself, promote interoperability, but could be expected to have many or all of the ill effects discussed below with respect to CSDVRS’s proposal to mandate vertical disintegration of the industry.

⁹ *CSDVRS Software Proposal* at 7.

would be like ensuring the interoperability of mobile wireless devices by ordering all mobile wireless service providers to sell only smart phones and tablets running a new mobile operating system yet to be developed. Such an approach clearly would be detrimental to competition and consumers.

13. CSDVRS's proposal would create a monopoly application developer with all of the attendant problems associated with franchise monopolies that led the Congress and the Commission to embrace competition.¹⁰ In addition to denying consumers the choice of a variety of competing applications that they enjoy today, creation of a monopoly application provider would eliminate competitive pressures that would otherwise promote innovation and lead to improved offerings in the future. This expected harm to innovation and, thus, to deaf and hard-of-hearing users would occur even if the Commission were to institute competitive bidding to be the monopolist. It is well-established that a franchise monopoly can give rise to lock-in of the incumbent as the result of sunk costs.¹¹ In the case of a VRS application, the vast majority of the costs of the application could be expected to be sunk. Moreover, even if the Commission were somehow able to overcome this problem, it still would face the very difficult problem of creating a mechanism for selecting the winner of the franchise competition (*i.e.*, a bid scoring system) that accurately represented consumer preferences. Indeed, given the heterogeneity of deaf and hard-of-hearing consumers' preferences, it is very

¹⁰ For a discussion of these problems, see, for example, Dennis Carlton and Jeffrey Perloff, *Modern Industrial Organization* (Fourth Edition, 2005) at 694-696.

¹¹ See, for example, Mark Armstrong and David Sappington, "Recent Developments in the Theory of Regulation," in *Handbook of Industrial Organization*, M. Armstrong and R. Porter (eds.), 2007, at 1649 and 1650.

likely impossible to do so. And given diverse preferences, it certainly would be impossible to develop a single application that served consumer interests as well as would a variety of competing applications.

14. If the Commission’s objective is to enhance interoperability, then a better approach is for the Commission to support a process to develop and coordinate on baseline standards, many of which already exist today. For example, call control and signaling are key functions for any communications system.¹² The two main standards in use are H.323 and SIP.¹³ The VRS industry historically has relied upon H.323, but is migrating to SIP.¹⁴ All VRS providers support H.323 for calls between providers. The vast majority of Sorenson’s products also support SIP. It is my understanding that Sorenson has tested SIP connectivity with several other VRS providers, including Purple, CSDVRS, GraciasVRS, and CAAG.

¹² Sending signals to establish, modify, and terminate communications sessions is a key element of any communications product. Protocols define rules governing communications between different systems. For example, communications protocols may define the format of the data being exchanged, the mapping of addresses from one format to another, the routing of data across a network or networks, the detection of transmission errors, procedures for handling lost information, and messaging from the receiver to the sender (for example, to acknowledge receipt of information or to control the flow of information).

¹³ Both H.323 and SIP can be used to initiate and control communications sessions, and each has advantages and disadvantages relative to the other. H.323 was available several years before SIP. (See Cisco Systems, Inc., “H.323 and SIP Integration,” White Paper, *available at* http://www.cisco.com/warp/public/cc/techno/tyvdve/sip/prodlit/sh23g_wp.pdf, site visited September 4, 2012.)

¹⁴ The information in the remainder of this paragraph is based on interviews with Grant Beckmann, VP Engineering of Sorenson Communications, November 8, 2012, and Scot Brooksby, Engineering Director at Sorenson Communications, November 8, 2012, and November 12, 2012.

15. Although standards for VRS communications exist and have been adopted, it is important to recognize that different VRS providers have adopted different standards. Moreover, even providers that adopt the same standard may interpret, implement, and extend that standard in different ways. This lack of coordination can lead to lack of full interoperability. For example, it is my understanding that there is disagreement amongst VRS providers as to whether telephone numbers should include a country code or not.¹⁵

16. The VRS industry is in the process of developing a SIP Forum task group to make technical recommendations regarding best practices.¹⁶ It is my understanding that Henning Schulzrinne, the Chief Technology Officer at the Commission and a developer of SIP, has participated in this process.¹⁷ It is also my understanding that the SIP Forum Video Relay Service Task Group will consider standards beyond those applying to signaling, such as video codecs.¹⁸ Given its position as a monopsony purchaser of VRS services and its statutory mandate to support functional equivalence, the Commission has a particular interest in ensuring interoperability. The use of—and coordination on—existing standards such as SIP

¹⁵ Interview with Grant Beckmann, VP Engineering of Sorenson Communications, and Scot Brooksby, Engineering Director at Sorenson Communications, November 8, 2012.

¹⁶ The SIP Forum is in the process of finalizing its charter and defining its leadership. (Interview with Grant Beckmann, VP Engineering of Sorenson Communications, and Scot Brooksby, Engineering Director at Sorenson Communications, November 8, 2012.)

¹⁷ See Federal Communications Commission, “FCC Names Henning Schulzrinne Chief Technology Officer,” December 19, 2011, *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-311578A1.pdf, site visited November 9, 2012.

¹⁸ Interview with Grant Beckmann, VP Engineering of Sorenson Communications, and Scot Brooksby, Engineering Director at Sorenson Communications, November 8, 2012; SIP Forum Video Relay Service Task Group Charter, draft, October 31, 2012, at 3.

would allow the Commission to achieve its interoperability objectives without harming competition.

17. As I discussed in my *Initial Declaration*:

properly designed standards can promote economic efficiency and consumer welfare by: ensuring interoperability that allows the realization of network effects (*e.g.*, ensures that any VRS user can make point-to-point calls to any other VRS user, without regard to the two users' default VRS providers); reducing switching or porting costs; and providing a well-defined platform on which various suppliers can develop complementary products and services.¹⁹

However, standards, if overly broad, can also harm competition by reducing the ability and incentive to innovate. Coordination through the SIP Forum should recognize the need for baseline interoperability standards, while still allowing VRS providers to compete on advanced features.

18. In addition to making overreaching claims regarding the interoperability benefits of a standard application, CSDVRS also asserts that such an application would reduce costs by eliminating hardware (*i.e.*, video phones).²⁰ As I discuss below, these claimed hardware-cost savings have to be weighed against the cost of the \$400 equipment stipend that CSDVRS proposes that each deaf or hard-of-hearing user would receive.

19. Lastly, CSDVRS claims that another advantage of its proposal for a standardized VRS application is that competition would be based on interpreter quality, not video-

¹⁹ *Initial Declaration*, ¶ 84.

²⁰ *CSDVRS Software Proposal* at 7.

phone quality.²¹ Today, VRS providers compete in terms of the quality of interpreters, applications, and customer premises equipment (whether purpose built or off the shelf). Eliminating competition in one or more dimensions might be an advantage for CSDVRS, but it would not be an advantage for consumers.

2. Mandatory Use of Off-the-Shelf Hardware

20. In my *Reply Declaration*, I explained why mandating the use of off-the-shelf hardware would limit and distort competition.²² If off-the-shelf equipment is lower cost or more attractive to users, then VRS providers currently have the incentive and ability to offer that equipment to VRS users in order to obtain competitive advantage. If a VRS provider can offer greater benefits to consumers using proprietary product designs that meet interoperability requirements, then doing so benefits consumers and makes the VRS program more efficient. If the Commission were to take away the option of competing by offering purpose-built equipment to VRS users, the only beneficiaries would be particular VRS providers that did not wish to compete with respect to equipment.

21. The history of competition in the VRS industry demonstrates that both purpose-built and off-the-shelf equipment can best serve consumer interests, depending on the situation. Today, Sorenson and CSDVRS both offer customers an option between purpose-built video-phone hardware and applications designed to work on off-the-shelf hardware such as iOS- and

²¹ *Id.*

²² *Initial Declaration*, ¶ 90.

Android-based mobile devices.²³ Purpose-built video phones include features that likely would not, or could not, be implemented using off-the-shelf hardware. Such features include large screens for the vision-impaired, compatibility with off-the-shelf flashers (which typically connect via RJ9 ports, which are not available on tablet computers such as iPads), visual ringing and caller ID, and amplified audio.²⁴ Not surprisingly, many deaf and hard-of-hearing users have expressed a clear preference for the purpose-built video phones, which are optimized for them. The vast majority of Sorenson's customers use its purpose-built video phone instead of a general-purpose platform.²⁵ The Commission should respect consumer preferences.

22. The same concerns would apply with even more force to off-the-shelf equipment running a single, mandated application, as the requirement to use a particular application with particular functionality would remove competition for additional functionality even within the limitations of off-the-shelf equipment. In all likelihood, such an application would represent a least common denominator because it would have to operate across a range of constantly changing off-the-shelf equipment.

23. Finally, it is important to recognize that, in order to determine the true changes in program costs associated with CSDVRS's proposal, one must take into account the \$400 per

²³ See *CSDVRS Software Proposal* at 3 and 5 and *CSDVRS Software Proposal II* at 2, discussing how CSDVRS and Sorenson both offer iPads to consumers at no charge to the consumer.

²⁴ Interview with Grant Beckmann, VP Engineering of Sorenson Communications, and Scot Brooksby, Engineering Director at Sorenson Communications, November 8, 2012.

²⁵ Interview with Grant Beckmann, VP Engineering of Sorenson Communications, November 8, 2012.

user equipment subsidy that is part of that proposal.²⁶ Although CSDVRS has not specified which users would be eligible for its proposed subsidy, the cost of CSDVRS's proposed equipment subsidy is likely to be substantial. It is my understanding that there are more than 100,000 total VRS users, and some VRS users may need multiple devices (*e.g.*, one for home and one for work).²⁷ Hence, CSDVRS's proposed subsidy could cost the fund \$40 million or more.²⁸ Moreover, in an *ex parte* presentation, CSDVRS complained that getting an iPad (which CSDVRS would have eligible for the subsidy²⁹) was like getting cash and that the device might be used for non-VRS purposes.³⁰ By CSDVRS's own logic, the cost of its proposal would be driven up dramatically if people sought subsidized, general-purpose equipment for uses other than VRS. Lastly, although CSDVRS appears to contemplate a one-time stipend, deaf and hard-of-hearing consumers will need to purchase replacement equipment in the future.³¹

24. In summary, because user interests are best served when the Commission lets users decide which applications and equipment best serve their needs, the Commission should not create an application monopoly and the Commission should not force consumers to use off-the-shelf equipment. A much better approach is to have the industry agree to baseline

²⁶ *CSDVRS Software Proposal* at 18.

²⁷ Interview with Grant Beckmann, VP Engineering of Sorenson Communications, November 12, 2012.

²⁸ Of course, some users might choose not to take advantage of the subsidy program.

²⁹ *CSDVRS Software Proposal* at 8 and 18; *CSDVRS Software Proposal II* at 3.

³⁰ *CSDVRS Software Proposal II* at 1.

³¹ *CSDVRS Software Proposal* at 18.

interoperability standards and then allow VRS providers to offer any application and equipment that meets those standards. In this way, consumers and VRS providers will have the *option* to use whatever best meets consumer needs, whether off-the-shelf equipment or purpose-built.³²

3. Isolated Provision of Video Communication Service

25. CSDVRS also proposes that VRS providers be forced to offer video access service on a stand-alone basis, if they choose to offer it.³³ In particular, CSDVRS proposes that VRS consumers separately choose a VRS Access Provider and a VRS Interpreting Provider. The VRS Access Provider would be responsible for the provision of customer premises equipment, telephone number acquisition and provisioning, populating the iTRS database, ensuring that the customer’s address is correct for E911, and routing emergency calls.³⁴ In addition, under CSDVRS’s proposal, the VRS Access Provider would be responsible for installation, training, support, maintenance, network and platform operation, engineering, repair, and testing.³⁵ The VRS Interpreting Provider would be responsible for handling all

³² Ironically, although CSDVRS does not object to VRS firms’ providing customers with purpose-built hardware at no charge to the customer, CSDVRS has objected to firms providing customers with off-the-shelf hardware such as iPads. *CSDVRS Software Proposal II* at 2 (“ZVRS suggested a line should be drawn between purpose built VPs [video phones] which distribution should continue to be allowed and multi-function products which giveaways should be restricted.”).

³³ *CSDVRS Separation Proposal* at 15-22.

³⁴ *CSDVRS Separation Proposal* at 18 and 37.

³⁵ Letter from Jeff Rosen, General Counsel, CSDVRS, LLC, to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 10-51, 03-123, May 9, 2012, Attachment.

VRS calls except emergency calls.³⁶ To support this separation proposal, CSDVRS also proposes the enhancement of the iTRS numbering directory.³⁷ As discussed below, the *Public Notice* contemplates a large range of functions that might be included in the enhanced iTRS database, including registration, validation, verification, usage accounting, call routing, and vertical features such as video mail and address book maintenance.³⁸

26. Adoption of CSDVRS's proposal to isolate the provision of video communication services could be expected to harm deaf and hard-of-hearing consumers through several mechanisms.

27. First, if VRS is broken into two or more separate components, then a more-complex compensation scheme will be needed: one rate for each component. This structure has less room for error by the Commission and the Fund Administrator; if one rate is too high and one too low, then there may be no service, or only low-quality service provided by those providers receiving the low rate. In contrast, when the different components are combined, one component's being too high can compensate for another component's being too low.

28. Forced vertical separation also may lead to higher overhead and customer-care costs due to the loss of economies of scope. For example, Sorenson has concluded that it is very efficient at providing technical support for users of its purpose-built video phones because it has a deep understanding of its own equipment and how that equipment interacts with the

³⁶ *CSDVRS Separation Proposal* at 18.

³⁷ *CSDVRS Separation Proposal* at 31.

³⁸ *Public Notice*, § I.B.

services Sorenson provides.³⁹ If the Commission forced vertical separation, particularly with a monopoly application or access provider, the provision of customer care might become less efficient.

29. There also would very likely be less accountability to customers when multiple providers were involved in serving any given user. In many markets, consumers have exhibited a preference for one-stop-shopping and for knowing where the buck stops. The benefits of one-stop shopping can include both economizing on consumers' time and having a single point of responsibility so that a consumer does not get bounced among multiple providers, each of which claims that the problem the consumer is facing is due to the actions of another provider.

30. Lastly, forced vertical separation could also lead to distortions in investments. VRS comprises multiple dimensions of quality, including both video communications and interpreting services. Under the current compensation system, where the Commission sets a single rate that effectively covers all aspects of the service, a VRS provider has incentives to make efficient decisions in choosing where to invest: if a dollar of investment in video communications innovation is expected to increase the number of minutes of traffic by more than would a dollar of investment in additional interpreter training, then the VRS provider has incentives to choose the former over the latter. If there were separate compensation rates for equipment and service, those rates might induce the provider to invest in interpreter training

³⁹ Interview with Scott Sorensen, Chief Financial Officer of Sorenson Communications, November 8, 2012.

even when investing in equipment would generate greater consumer benefits per dollar invested. These investments can be substantial. For example, Sorenson invests [REDACTED] per year in infrastructure (*i.e.*, software, systems, and hardware excluding customer premises equipment).⁴⁰ There could be many other dimensions along which such distortions could occur.

C. THE PUBLIC NOTICE’S DETAILED QUESTIONS REGARDING A MONOPOLY APPLICATION AND THE USE OF OFF-THE-SHELF HARDWARE

31. I turn now to the detailed questions posed by the *Public Notice* regarding a monopoly application and the use of off-the-shelf hardware.

1. ... Would the process for establishing and maintaining standards discussed in the 2011 VRS Reform FNPRM be appropriate for developing an application or establishing standards for an application? Should the application or key components thereof be open source?

32. As I discussed above, the Commission should not develop a single standardized application and abandon competition. Rather, the Commission should support standards that enable interoperability, allow competition, and facilitate the realization of network effects. To the extent that the Commission does create a monopoly application, requiring the application to be open source can reduce some of the lock-in problems associated with franchise monopolies at the time of franchise renewal. That said, an open-source requirement may make firms less willing to finance investments in the application, thus raising the costs that the VRS program would have to bear up front.

⁴⁰ Interview with Scott Sorensen, Chief Financial Officer at Sorenson Communications, November 8, 2012.

2. Should the Commission mandate use of a single application or allow development of multiple, interoperable applications? Who should be responsible for application development? For example, should the Commission develop, by contract, such an application? How should the developer of the application be compensated?

33. The industry today contains multiple, interoperable applications which compete for consumers based on quality. Questions regarding the responsibility and compensation for application development demonstrate why a Commission-driven application development process is a bad idea. Designation of a monopoly application developer would be similar to the historical creation of monopoly franchises in cable and telephony, and such a designation would raise the same types of concerns that those monopoly franchises did. Alternatively, if the Commission were to designate multiple application developers, then one would have to ask why those developers should be different than the firms already offering applications and the associated services? For many of the same reasons discussed in Section II.B.3 above, vertical integration is very likely the efficient structure for VRS providers. By contrast, separating the provision of the different elements of VRS service raises difficult questions about customer support and quality control, and it introduces additional costs by requiring separate firms to operate each piece.

3. Should providers be able to continue to offer their own internally developed applications? If so, under what conditions? For example, should there be an interoperability testing process? How would such an interoperability testing process be structured?

34. As discussed above, VRS providers should be able to continue to offer their own internally developed applications as well as internally developed hardware. Regardless of the approach adopted, however, the Commission can and should facilitate interoperability testing

and/or require compliance with standards that would enable interoperability. Such interoperability could be a condition for obtaining funds.

4. Should the application be full executable, or a core executable or set of libraries (“core”) that can be customized by interested parties (e.g., using published APIs), or both? If core, what key functions should this core contain, such as video encoding, video decoding and session signaling? If core, should there be a certification process before calls placed with the application are compensable? How should that process be structured? Who should be responsible for maintaining and updating applications?

35. The best approach is not to create a monopoly at all. Instead, competing applications should be allowed. Competing VRS providers should be responsible for making their applications comply with an interoperability standard rather than being forced to use a monopoly application or modify a Commission-sponsored core product. If the Commission does fund application development, then it should fund the development of code that other firms are free to modify so long as the modified code remains standards-compliant. This approach would benefit consumers by facilitating feature competition.

5. What off-the-shelf hardware and operating system platforms should be supported? Should users be responsible for procuring their own off-the-shelf equipment, or should providers be involved in the acquisition and distribution of end user equipment to VRS users?

36. The first part of this question exposes a fundamental weakness of the proposal. Off-the-shelf hardware is constantly evolving. For example, some VRS applications are designed to run on Apple’s iPad. The second generation iPad was introduced less than a year after the first; the third generation iPad was introduced roughly a year after the second; and the fourth

generation iPad was introduced less than eight months after the third.⁴¹ It is my understanding that, in each case, complex applications (such as those providing videoconferencing) have required updates because the new operating systems or hardware were not entirely backwards compatible.⁴² In addition, a large number of other tablet devices have been introduced in recent years. Producing a VRS application that will be highly reliable for a particular piece of hardware is not simply a matter of designing a generic iOS or Android application. If the Commission were to mandate a single provider, it is not clear how quickly the vendor would support these new devices. Android-based mobile devices present a particular challenge. There are three different versions of Android common in the market available on dozens of devices, each with its own screen size, camera design, performance of video compression given the speed of the CPU, and error handling for differences or changes in networking.⁴³ Android devices offer significantly more variables than iOS devices and, therefore, are significantly more challenging to support (this is especially true because the hardware and OS landscape is constantly changing). In summary, although saying that applications should support off-the-shelf hardware sounds simple, it is not. This fact means that it would be necessary to make an explicit choice of the set of devices on which the monopoly application

⁴¹ Apple Press Releases, “iPad Available in US on April 3,” March 5, 2010; “iPad 2 Arrives Tomorrow,” March 10, 2011; “New iPad Arrives in the US & Nine Additional Countries on Friday,” March 14, 2012; “Apple Introduces iPad Mini,” October 23, 2012.

⁴² Interview with Scot Brooksby, Engineering Director at Sorenson Communications, November 12, 2012.

⁴³ For example, it is my understanding that differences in cameras across different Android devices have posed the most significant hardware challenge. Each model camera and driver has different features (*e.g.*, rotation and scaling) and performance that can cause compatibility issues. (Interview with Grant Beckmann, VP Engineering of Sorenson Communications, and Scot Brooksby, Engineering Director at Sorenson Communications, November 12, 2012.)

would run. This choice would be made more difficult by the fact that new devices are frequently introduced and it often is not evident at the start which will be commercially successful and which will not.

37. To the extent that a monopoly developer was required to make its application compatible with a long list of off-the-shelf hardware and software, the likelihood of incompatibilities and technical problems would increase. It is my understanding that Sorenson and most other software providers deal with these potential problems by defining a limited list of supported hardware and operating systems and then testing to ensure that the supported combinations of hardware and operating systems work correctly with the VRS providers' applications.⁴⁴ Importantly, these providers can compete with one another in terms of the devices that they choose to support, including the speed with which they support new devices.

38. To the extent that a monopoly developer was required to make its application compatible with only a handful of off-the-shelf devices, consumers would have little choice in equipment, the available equipment might well be dated, and consumers would lack access to

⁴⁴ Sorenson's ntouch Mobile supports only a limited number of combinations of operating systems (*e.g.*, iOS and Android), devices (from Apple, HTC, and Samsung), and carriers (*e.g.*, AT&T, Verizon, Sprint, and T-Mobile). For example, ntouch does not work with Android tablets, Blackberry devices, or phones using the Windows mobile operating system. (Interview with Scot Brooksby, Engineering Director at Sorenson Communications, November 12, 2012; Sorenson, "ntouch Mobile Supported Devices," *available at* http://www.sorensonvrs.com/ntouch/ntouchmobile_supported_devices, site accessed November 12, 2012.)

features that cannot be developed with generic off-the-shelf devices but could have been implemented on purpose-built equipment.

39. Turning to the question about responsibility for procurement, the key principle is that deaf and hard-of-hearing consumers should have a range of competitive choices, whether offered by VRS providers or procured by the consumers separately. Consumers should not be forced to use off-the-shelf equipment if purpose-built equipment is efficient and can better meet their needs. Given the benefits of one-stop shopping described above, it would very likely be efficient to allow VRS providers to play a role in the acquisition and distribution of end-user equipment to VRS users, although users should also be free to procure off-the-shelf equipment on their own if they prefer to do so and it is compatible with their chosen VRS providers' software and systems.

6. How should consumers be involved in the development, selection, certification and on-going enhancement of either the core or the application?

40. Consumers should be involved in the development, selection, certification, and on-going enhancement of either the core or the application *as consumers*. That is to say, they should influence the outcome through the exercise of consumer sovereignty: the concept that consumers are free to choose among competing offerings. By voting with their feet, consumers can send powerful messages regarding which products, features, and functions serve their interests and which do not. An administrative process, even one nominally involving Commission-designated consumer representatives, is a poor substitute for competition and meaningful consumer choice.

7. How would users obtain support for issues relating to the application or its use on their equipment (e.g., network firewall issues, troubleshooting problems)?

41. The appropriate answer to this question depends on how the Commission implements the overall proposal for creating a monopoly application. If the Commission centralized the distribution of the application, then it would very likely also be necessary to centralize provision of customer support as well in order to insure accountability to customers. If the Commission were to mandate use of a single application and/or a specified set of equipment but allow it to be marketed by different firms, then those firms could provide support, although their ability to support the application might be less than if it were internally developed.

8. What other approaches might be considered to select an application or applications for use in the VRS system? For example, should the Commission host a competition among existing VRS access applications and/or commercial standards-based off-the-shelf video conferencing applications? What would be the benefits and drawbacks of these or other alternate approaches?

42. As discussed in my answer to Question 6 above, there is an appropriate mechanism in place today: the exercise of consumer sovereignty. There is no better representative of deaf and hard-of-hearing users than deaf and hard-of-hearing users themselves. Moreover, under the current system with competing choices, there is no need to pick a single application. Instead, a variety of applications can compete to satisfy heterogeneous consumer demands.

9. How would a transition to a VRS system that relies exclusively on a common application be accomplished, and over what period of time?⁴⁵

⁴⁵ The *Public Notice* also asks “What changes in the Commission’s rules would be necessary to adopt this proposal or one of the alternatives described above?” (*Public Notice*, § I.A.10.) I will not address this question as it is primarily a legal one, and economic analysis indicates that the Commission should not adopt CSDVRS’s proposal.

43. The Commission should not mandate a common application. If it nevertheless does so, it will be important to allow consumers to retain their legacy equipment and associated software, if they choose to do so. Thus, it will be important that the monopoly application be backwards compatible with currently deployed VRS customer premises equipment.

D. THE *PUBLIC NOTICE*'S DETAILED QUESTIONS REGARDING ISOLATING THE PROVISION OF VIDEO COMMUNICATION SERVICES

44. In this part, I address the questions posed by the *Public Notice* regarding CSDVRS's proposal to isolate the provision of video communication services.⁴⁶

1. What functions and services should the enhanced iTRS database provide? ...

45. CSDVRS proposes that all network features, including video mail and contact lists, should be handled by one or more vertically disintegrated access providers and should be made portable should users choose to switch VRS Access Providers.⁴⁷ The *Public Notice* appears to go even further by contemplating a monopoly iTRS database.⁴⁸ Economic analysis supports the conclusion that both the forced vertical separation and the elimination of competition would very likely harm deaf and hard-of-hearing consumers.

46. As discussed in Section II.B.3 above, shortcomings of forced vertical separation include: the need for a more complex compensation scheme with additional possibilities for

⁴⁶ In addition to the questions answered below, the *Public Notice* asks "What changes in the Commission's rules would be necessary to implement such a structure?" (*Public Notice*, § I.B.4.) Again, I will not address this question as it is primarily a legal one, and economic analysis indicates that the Commission should not adopt CSDVRS's proposal.

⁴⁷ *CSDVRS Separation Proposal* at 19 and 21.

⁴⁸ *Public Notice*, § I.B.

creating provider misincentives; higher overhead and customer-care costs due to the loss of economies of scope; less accountability to customers; and potential distortions in the allocation of investment funds.

47. The virtues of competition are well established. The only additional point to make here is that, the more features the Commission chose to include in a monopoly iTRS database (e.g., video mail), the more the Commission’s policies would limit competition and harm consumers. The *Public Notice*’s list includes features on which VRS firms compete today. For example, Sorenson’s video mail technology offers several features not offered by its competitors, including the ability quickly to navigate through messages and view the number of messages and the identities of callers without scrolling through all messages.⁴⁹ These enhanced features represent competition on the basis of quality and, as I explained in my *Reply Declaration*, do not trigger customer lock-in.⁵⁰ Any enhancement to the centralized database should provide only core functionality and should allow VRS providers to continue to compete by offering enhanced features and functions.

2. How would ASL relay CA service providers interface with the enhanced iTRS database? Would each ASL relay CA service provider be required to establish its own

⁴⁹ *Reply Declaration*, ¶ 26.

⁵⁰ *Reply Declaration*, § III.A.2.

On the other hand, I noted that user-inputted data such as contact lists and speed-dial lists could create lock-in effects. It is my understanding that Sorenson supports efforts to ensure the portability of consumer-inputted data. (*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*, CG Docket Nos. 10-51 and 03-123, Reply Comments Regarding VRS Policy Reform, Appendix A to Reply Comments of Sorenson Communications, Inc., March 30, 2012, at 32 and 33.)

internal routing system for distributing calls among its call centers, or should the enhanced iTRS database allow providers to specify provider-internal call routing rules?

48. Providers of communications assistants should be responsible for the routing among their call centers. The quality of call-center routing is another dimension of competition, and routing can have significant effects on users' access to VRS and on the quality of that service. For example, it is my understanding that during the recent Superstorm Sandy, Sorenson temporarily lost the use of seven call centers but was able to route calls to other call centers to provide continuous service.⁵¹

3. CSDVRS' proposal appears to contemplate the existence of multiple video communication service providers. Is this necessary? How would the user or application choose among these providers? If the choice of the communication service provider is independent of the ASL relay CA service, based on what criteria or metrics would users or applications make that choice? Given that VRS providers currently compete primarily on quality of CA service, should the Commission contract for a single provider of the enhanced iTRS database functions, including video communication service, that allows users to access the ASL relay CA service of their choice? If the Commission does choose to contract for these functions, should there be a single contract or multiple contracts?

49. If the Commission chose to separate video communication service from the other components of VRS, then it would be necessary to have multiple video communication service providers in order to promote consumer access and functional equivalence. Creating a monopoly video communication service provider would limit consumer choice while offering little in the way of cost savings. Consider the loss of choice and the limited cost savings, in turn.

⁵¹ Interview with Grant Beckmann, VP Engineering of Sorenson Communications, and Scot Brooksby, Engineering Director at Sorenson Communications, November 8, 2012.

50. Creating a monopoly access provider would harm consumers by removing competition for all aspects of access. The *Public Notice*'s premise appears to be that providers "currently compete primarily on quality of CA service" and that the video communications services and associated features are commodities with no meaningful competitive distinction between firms.⁵² In fact, firms today compete along a variety of dimensions, including the speed of call processing, emergency call handling, and the ability to connect point-to-point calls between VRS users.⁵³ For example, appropriate handling of NAT/firewall traversal can have a big impact on the quality of service, including the ability to connect calls.⁵⁴

51. Next, consider the lack of cost savings from reliance on a monopoly provider. As I discussed in my *Initial Declaration*, there is very little in the way of additional economies of scale for a monopolist to gain relative to the firms operating today.⁵⁵ Any such gains that a monopoly might obtain would likely be more than offset by the additional costs created from duplicative overhead resulting from the separation of the interpretation services from the

⁵² *Public Notice*, § I.B.3.

⁵³ Interview with Grant Beckmann, VP Engineering of Sorenson Communications, and Scot Brooksby, Engineering Director at Sorenson Communications, November 8, 2012.

⁵⁴ Network Address Translation (NAT) is often used with network firewalls to secure home or enterprise networks, but it presents problems for Internet-based communication endpoints, because it 'hides' the endpoint from the public Internet. NAT/Firewall traversal mechanisms must be employed by the provider to allow the 'hidden' phones to be visible to other endpoints on the Internet. (Interview with Scot Brooksby, Engineering Director at Sorenson Communications, November 12, 2012.)

⁵⁵ *Initial Declaration*, § III.B.

network services and, more generally, by inefficiencies stemming from a lack of competition for the network services.

52. In summary, if the Commission is going to hire a database provider, it should contract with multiple providers and allow deaf and hard-of-hearing consumers to choose among those providers in order to promote competition and consumer choice.

III. COMMENTS ON RLSA'S PROPOSED COMPENSATION SCHEME

53. The *Public Notice* poses several detailed questions on proposed compensation rates. Before addressing those questions, it is helpful to review the broader issues—and fundamental shortcomings—associated with the Commission's approach to rate setting.

A. PREVIOUS FINDINGS REGARDING THE RATE-SETTING METHODOLOGY

54. A fundamental implication of the economic analyses presented in my *Initial Declaration* and *Reply Declaration* is that RLSA's proposal is based on a deeply flawed methodology.⁵⁶ Specifically, in analyzing the likely effects on consumer welfare and the attainment of the Commission's goals of several proposals to reform the VRS program, I reached the following conclusions regarding rate setting:

- A cost-based compensation system, such as the one underlying the RLSA proposal, stifles innovation and promotes inefficiency.

⁵⁶ As discussed in § II.A above, I also found that a compensation system of declining rate tiers harms deaf and hard-of-hearing consumers by supporting inefficient competitors and distorting competition, and that declining compensation tiers are not needed to promote quality competition. The RLSA proposal is flawed in this regard as well.

- Compensation rates should be set using an “incentive-regulation approach” that incentivizes providers to invest in quality and to lower costs.
 - The base, or initial, compensation rate should be set sufficiently high to encourage an efficient provider to compete by offering high-quality services to users.
 - In order to preserve investment and innovation incentives, compensation rate adjustments over time should not seek to recapture all of the gains associated with increased provider efficiency.
 - The compensation rate should be reviewed periodically. However, doing so too frequently would create program risk that could raise providers’ cost of capital and discourage investment in VRS.

55. In my *Initial Declaration*, I outlined principles for setting appropriate compensation derived from market-based approaches. These principles are: (a) set a single rate, which is an approximation to the competitive price; (b) set the rate so that it allows the most efficient firms to earn an adequate return on investment; and (c) allow firms to benefit if they are able to operate more efficiently than are their rivals. As I discussed in that declaration, under a competitive bidding process that seeks to fund N service providers in order to facilitate quality competition, the winning bid, or market rate, would be equal to the cost level of the $N+1^{\text{st}}$ lowest-cost potential service provider.⁵⁷ Setting a compensation rate equal to the cost level of the $N+1^{\text{st}}$ provider would mimic the competitive process and provide competitive incentives

⁵⁷ Because quality is a strategic choice of each service provider, a firm’s cost level in this discussion should be understood to refer to the function that relates the firm’s cost to its quality level evaluated at the quality level at which the firm will find it optimal to compete.

for providers to lower their costs. Unfortunately, the cost-based approach to rate setting proposed by the Commission and RLSA does not adhere to these principles.

B. THE PUBLIC NOTICE'S DETAILED QUESTIONS REGARDING COMPENSATION RATES

56. The Commission asks several detailed questions regarding ratemaking issues.

Although there is some overlap, I address each one in turn.

1. Should the following cost categories, which RLSA has included in its calculation of the proposed rates, be allowable as part of the cost basis for rates:

- *marketing ... ;*
- *outreach... ; and*
- *research and development... ?*

57. If the Commission's objective is to promote efficiency while ensuring that VRS is available to all eligible users and offers functional equivalence, then compensation rates should be based on incentive-regulation principles, not those of rate-of-return style regulation. To the extent the Commission nonetheless takes a rate-of-return-regulation approach to rate setting, it should treat marketing, outreach, and research and development costs as qualifying costs.

58. The firms that currently provide VRS services are not required by law to provide those services, and these firms will not provide high-quality services unless they can earn an adequate profit from doing so. If the Commission wishes to preserve the competition and improved quality that has resulted from such firms' entering the market, the Commission will need to set rates in such a way that these firms can cover all of the costs related to their being in the market and serving deaf and hard-of-hearing consumers.

59. Moreover, to the extent that the current compensation rates allow VRS firms to provide their customers with access equipment (*e.g.*, video phones) free of charge, significantly lower reimbursement rates raise difficult questions about the ability of providers to continue to do so. In order to maintain functional equivalence, the Commission would have to develop an alternative mechanism for distributing equipment.

2. ... RLSA's proposed rate would allow an 11.25% return on invested capital, an element which has long been used as the basis for calculating TRS rates, as well as other common carrier rates, and which previously has been found to address adequately the recovery of interest and principal payments on debt, income taxes, and profits. ... We invite commenters to refresh the record on the appropriate treatment of capital costs, rate of return, and related issues.

60. The Commission has applied the 11.25-percent return on investment to VRS since its *2004 Order*.⁵⁸ However, the Commission has articulated no basis for applying this rate to the VRS industry as it exists today.

61. In the 2004 proceeding, commenters argued that⁵⁹

the 11.25% return on investment allowance that the Bureau adopted is inappropriate because it is the return on investment allowed for local exchange carriers (LECs), and the nature and costs of VRS providers are very different from those of LECs ... that the 11.25% rate of return on investment allowance was prescribed for dominant carriers in a capital-intensive industry, and is not appropriate for a 'labor intensive enterprise such as VRS' ... [and] that government contracting provides a better analogy, where 'a reasonable profit is an expected component of a contract price.'

⁵⁸ *Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking in the Matter of Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CC Docket Nos. 90-571 and 98-67, CG Docket No. 03-123, (released June 30, 2004) (hereinafter *2004 Order*), ¶¶ 177-182.

⁵⁹ *2004 Order*, ¶ 178.

The Commission dismissed arguments for a reasonable profit (*i.e.*, a markup on expenses) by asserting that carriers providing voice telephone services were obligated also to offer Telecommunications Relay Service (TRS) under Title IV of the Americans with Disabilities Act, and that the TRS compensation rates were intended to cover only the reasonable costs incurred in providing the mandated services and that the costs of VRS could actually be considered to be a cost of offering local exchange telephone services.⁶⁰ The Commission also dismissed arguments that the 11.25-percent rate of return was inappropriate for VRS and had been developed without reference to the conditions of supplying VRS. The Commission did so merely by asserting that the 11.25-percent rate of return was not intended to be specific to TRS or VRS, but instead was “the Commission’s current rate of return on investment that the Commission has applied in a wide range of telecommunications contexts.”⁶¹ This response clearly fails to address the argument on the merits.

62. The Commission should reconsider its approach to VRS compensation in the light of the changes in the industry. For example, it is my understanding that carriers providing voice

⁶⁰ The Commission wrote that

because Title IV places the obligation on carriers providing voice telephone services to *also* offer TRS to, in effect, remedy the discriminatory effects of a telephone system inaccessible to persons with disabilities, the costs of providing TRS are really just another cost of doing business generally, *i.e.* of providing voice telephone service. For this reason, the annual determination of the TRS compensation rates is not akin to a rate-making process that determines the charges a regulated entity may charge its customers. Rather, it is a determination of a per-minute compensation rate that will cover the reasonable costs incurred in providing the TRS services mandated by Congress and our regulations.

(2004 Order, ¶ 179.) See also 2004 Order, ¶¶ 180 and 181.

⁶¹ 2004 Order, ¶ 182.

telephone service have ceased providing VRS services. The approach articulated in the *2004 Order* assumes that carriers are required to—and will—provide VRS services even if they are unable to make any profit on them. Although the Commission seems to have concluded some or all carriers providing voice telephone services could be required to supply VRS, it is clear that Sorenson and other current VRS providers are not required to do so. Moreover, even any carriers that could be forced to provide VRS would have no incentives to provide anything beyond the absolute minimums with respect to availability and quality. Indeed, such carriers might actually have incentives to minimize usage of the service.⁶²

63. The evolution of the VRS industry is instructive in this regard. According to CSDVRS, from April 2002 to March 2003, providers serviced only about 1 million minutes of VRS; after Sorenson began offering its purpose-built VP-100 hardware to consumers at no charge, usage increased to about 4 million VRS minutes in the next year, to 14 million in the following year, and to 32 million in the year after that.⁶³ What we observed was that specialized VRS providers entered the market and provided superior service at lower cost. The dramatic increase in usage suggests that the statutory goals were not being satisfied when VRS was offered only as an adjunct service by voice telephone carriers.

64. A compensation policy that provides limited financial returns to investment will generate weak investment incentives, including incentives to invest in service quality. To

⁶² To the extent that firms are not compensated for all of their costs and, thus, incur losses for operating the service, they will have incentives to minimize the uncompensated costs, which may be done in part by minimizing usage of the service.

⁶³ *CSDVRS Separation Proposal*, note 41, previously cited in *Katz Reply Declaration*, ¶ 18.

avoid such problems, the return on investment should account for the full range of investments by the firm—not just investment in physical capital. A VRS provider may invest in many other aspects of the business, including, for example, IT processes, user software improvements, developing management expertise, and interpreter training. It is also important to recognize that the returns to many significant investments in the VRS industry are risky. If the effective overall rate of return on investment is set too low—whether because the allowed rate of return is itself set too low (*e.g.*, it fails to account for risk adequately) or because the investment base on which the return is allowed is defined too narrowly—firms will find it unprofitable to continue to offer high-quality VRS services and will very likely degrade the quality of their services in the short run and exit the industry in the long run. Although voice telephone carriers might (or might not) be required to provide the service in the absence of any profit, firms like Sorenson, ZVRS, Convo, and Purple are not under any legal obligation to provide VRS.

65. In the light of current market conditions (*i.e.*, the fact that there is a market with competing stand-alone VRS service providers, as opposed to voice telephone carriers fulfilling a statutory obligation to provide service), the Commission should, as discussed above, revisit the premises underlying its *2004 Order* and the 11.25-percent return on invested capital.

3. Should the Commission retain, modify, or eliminate the current tiered VRS rate structure?

66. As I discussed in my *Initial Declaration*, the principal effect of declining rate tiers is to support inefficient competitors and distort competition. There is no sound public-interest

basis for retaining them. Instead, economic analysis supports the Commission's earlier conclusion that a single compensation rate is more appropriate than the current tiered structure. A single rate—appropriately calibrated to allow efficient firms to earn a reasonable rate of return on their investments—would allow multiple firms to compete on quality dimensions and would not penalize firms for competing successfully to attract customers. Thus, a single compensation rate would further the Commission's goal of promoting competition in quality.

4. Should there be a phase-in of the new VRS compensation rate or rates? How long should such a phase-in period last and how should rates be set during such an initial period? For example, should the Commission establish a three-year phase-in period, as RLSA suggests, with equal yearly adjustments to reach the new rate?

67. Once the new rate has been properly calculated (*i.e.*, using incentive-regulation principles) and structured (*i.e.*, condensed to a single tier), a flash-cut would be appropriate *if* the Commission were sure that it had set compensatory rates *and if* VRS providers were able instantaneously to adjust their operations to reflect the new rates. However, given the inherent uncertainties associated with rate setting, the Commission cannot be certain that the new rate (or rates) will lead to market outcomes that meet the Commission's statutory objectives. And given the nature of information technology investments, real estate contracts, and employment relationships, VRS providers cannot adjust instantaneously.

68. Consequently, it would be prudent for the Commission to recognize the risk that it might set the rate so low as to undermine the provision of high-quality VRS services, and for the Commission to phase in the rate reductions in order to have a period during which it can reverse its decision if experience with the initial rate cuts indicates that the Commission's

actions threaten the welfare of deaf and hard-of-hearing consumers. A transition period would also allow VRS providers to adjust their operations to the new rate regime.

5. How long should the new rate remain in effect? ... Should the new VRS rate likewise be instituted for a three-year period, or a different period?

69. Once the new rate has been properly calculated and put into effect, it should be reviewed periodically. As I indicated in my *Initial Declaration*, the shorter the review period, the closer is the price-cap regime to a cost-based regime with the associated short-comings of discouraging innovation and generating uncertainty that increases providers' costs of capital.⁶⁴ Short review periods also trigger administrative cost burdens for both the Commission and industry participants. On the other hand, if the review period is too long, the Commission risks significantly under- or over-compensating providers during the period. These considerations suggest that any period shorter than three years would be harmful, and a period longer than three years, say five, would strike a sensible balance.

C. THE IMPACT ON DEAF AND HARD-OF-HEARING CONSUMERS

70. The impact of the revised rates on consumers will depend on how low the rates are set. In the extreme, if the Commission eliminates all provider profits, then for-profit firms such as Sorenson and Purple can be expected to exit the industry. As discussed above, VRS services would then be left to any carriers that could be forced by the Commission to offer service. These carriers would have economic incentives to offer low-quality services and to discourage deaf and hard-of-hearing consumers from utilizing them. Alternatively, if

⁶⁴ *Initial Declaration*, ¶ 81.

compensation were significantly reduced but existing VRS providers remained active, the level of VRS quality could be expected to fall significantly as well. Providers would have incentives to reduce the number and quality of interpreters, because the costs of higher quality would outweigh the additional revenues resulting from attracting additional minutes.⁶⁵ This would likely lead to increased wait times and less satisfactory interpretation.

IV. CONCLUSION

71. The questions raised in the Commission's *Public Notice* revolve around two flawed proposals: (a) the use of government fiat to dictate industry structure, and (b) the use of principles and amounts drawn from rate-of-return regulation to set compensation rates. Alone or together, these proposals threaten to distort and eliminate competition, reduce consumer choice, and stifle innovation. If these proposals are adopted, deaf and hard-of-hearing consumers can expect lower quality service and fewer options. The statutory goals of ensuring that VRS is available to all eligible users and offers functional equivalence would be much better served by promoting undistorted competition within a framework of industry-wide interoperability standards and by setting compensation based on incentive-regulation principles.

⁶⁵ Interpreter costs are the largest cost component of the industry. A VRS provider can reduce its costs by hiring fewer or lower-quality interpreters. Sorenson and other VRS providers compete with other employers, such as hospitals and schools, to hire interpreters. (Interview with Scott Sorenson, Chief Financial Officer at Sorenson Communications, November 8, 2012.) Hence, if all VRS providers pursued such a strategy, interpreters—particularly high-quality ones—would be expected to seek employment outside of the VRS industry.

I declare, under penalty of perjury, that the foregoing is true and correct.

A handwritten signature in black ink, appearing to read "Michael L. Katz", written over a horizontal line.

Michael L. Katz

November 13, 2012