

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

In the Matter of the Joint Application of Sprint Communications Company L.P. (U-5112-C) and T-Mobile USA, Inc., a Delaware Corporation for Approval of Transfer of Control of Sprint Communications Company L.P. Pursuant to California Public Utilities Code Section 854(a)

Application 18-07-011

In the Matter of the Joint Application of Sprint Spectrum L.P. (U-3062-C), and Virgin Mobile USA, L.P. (U-4327-C) and T-Mobile USA, Inc., a Delaware Corporation for Review of Wireless Transfer Notification per Commission Decision 95-10-032

Application 18-07-012

**JOINT APPLICANTS' POST-HEARING REPLY BRIEF ON THE JOINT APPLICATION
FOR REVIEW OF WIRELESS TRANSFER NOTIFICATION
PER COMMISSION DECISION 95-10-032**

[PUBLIC VERSION]

Dave Conn
Susan Lipper
T-Mobile USA, Inc.
12920 SE 38th St.
Bellevue, WA 98006
Telephone: 425.378.4000
Facsimile: 425.378.4040
Email: dave.conn@t-mobile.com
susan.lipper@t-mobile.com

Stephen H. Kukta
Sprint
900 7th Street, NW, Suite 700
Washington, DC 20001
Telephone: 415.572.8358
Email: stephen.h.kukta@sprint.com

Suzanne Toller
Davis Wright Tremaine LLP
505 Montgomery Street, Suite 800
San Francisco, CA 94111
Telephone: (415) 276-6536
Facsimile: (415) 276-6599
Email: suzannetoller@dwt.com

Earl Nicholas Selby
Law Offices of Earl Nicholas Selby
530 Lytton Avenue, 2nd Floor
Palo Alto, CA 94301
Telephone: 650.323.0990
Facsimile: 650.325.9041
Email: selbytelecom@gmail.com

Leon M. Bloomfield
Law Offices of Leon M. Bloomfield
1901 Harrison St., Suite 1400
Oakland, CA 94612
Telephone: 510.625.1164
Email: lmb@wblaw.net

Attorneys for Sprint Spectrum L.P. (U-3062-C),
and Virgin Mobile USA, L.P. (U-4327-C)

Attorneys for T-Mobile USA, Inc.

May 10, 2019

PUBLIC VERSION

TABLE OF CONTENTS

	Page
I. EXECUTIVE SUMMARY	2
II. THE TRANSFER OF THE SPRINT WIRELESS ENTITIES DOES NOT REQUIRE COMMISSION PREAPPROVAL	7
III. NOT ALL 5G NETWORKS WILL BE THE SAME	13
A. Not All 5G Networks Are Equal.....	13
B. The Unique Combination of Complementary T-Mobile and Sprint Spectrum Is a Prerequisite to Achieving the Vastly Improved Performance of the New T-Mobile Network	15
C. Cal PA Misconstrues T-Mobile’s Demand and Adoption Forecasts.....	16
1. T-Mobile’s Demand Forecast Remains Unchallenged	17
2. New T-Mobile’s Transformative Network Will Accelerate 5G Adoption and Handset Availability, Benefitting All Users	20
D. Deploying Better Service More Quickly Is in the Public Interest	22
E. The Proposed Merger Will Increase Capital Investments in California.....	23
F. DISH Recycles Old Arguments Rebutted at the FCC and Relies on Evidence Not in the Record.....	25
IV. CAL PA IGNORES THE OVERWHELMING EVIDENCE THAT THE MERGER WOULD DRAMATICALLY IMPROVE SERVICE QUALITY	27
A. New T-Mobile’s Coverage Will Benefit Sprint and LifeLine Consumers	28
B. New T-Mobile’s Data Speeds Are Transformational and Merger-Dependent.....	29
V. THE MERGER IS PROCOMPETITIVE AND INTERVENORS CANNOT UNDERMINE THIS FACT	30
A. Intervenor’s Claims That Prices Will Increase and That Joint Applicants’ Economic Models Show Higher Prices for Consumers Are Incorrect	30
1. Cal PA’s Expert Analyzed the Wrong Model; The Correct IKK Model Shows Falling Prices (Nominal and Quality Adjusted).....	30
2. Cal PA’s Economist’s Claims That AT&T and Verizon’s Marginal Costs and Prices Undermine Joint Applicants’ Conclusions Are Incorrect	35
B. Cal PA’s Critiques of The Consumer Valuation of Network Quality Fail and In Any Event Do Not Undermine The Conclusion that the Transaction is Procompetitive	36
1. Dr. Selwyn’s Critiques of Joint Applicants’ Experts’ Valuation of Network Quality Are Incorrect.....	36
2. Cal PA’s Assertion that Customers Do Not Value Throughput (Speed) is Demonstrably False	38

C.	The New T-Mobile Business Plan Prepared in the Ordinary Course of Business and Relied Upon by Wall Street in Financing the Transaction Calls for Lower Prices.....	41
D.	Intervenors Fail to Show Joint Applicants Are Each Other’s Closest Competitors; Economic Analysis Proves They Are Not	43
E.	Wholesale MVNO Providers Will Benefit From the Increased Competition Enabled by New T-Mobile.....	44
F.	Intervenors Do Not Properly Analyze the Competitive Landscape of the World Without the Merger.....	46
1.	The Undisputed Evidence Is that T-Mobile Would Face Increasingly Constrained Capacity Absent the Transaction	47
2.	Intervenors’ Focus on Isolated Financial Metrics Ignores the Import of Sprint’s Structural Limitations and Financial Challenges	48
G.	Intervenors’ References to Foreign Market Structures Are Irrelevant to This Proceeding.....	52
VI.	INTERVENORS IGNORE THAT COORDINATION IS CONTRARY TO NEW T-MOBILE’S ECONOMIC INTERESTS AND IMPROBABLE IN THE WIRELESS INDUSTRY	53
A.	Superior Network and Lower Costs Make Coordination Economically Irrational for New T-Mobile	53
B.	Intervenors Have Provided No Evidence of Historic Coordination, Despite Promises to Do So.....	56
VII.	INTERVENORS’ ASSERTION THAT LOW INCOME CONSUMERS WILL BE HARMED FLIES IN THE FACE OF THE EVIDENCE	57
VIII.	INTERVENORS DISREGARD THE UNREFUTED EVIDENCE THAT NEW T-MOBILE IS COMMITTED TO THE LIFELINE PROGRAM IN CALIFORNIA.....	58
IX.	INTERVENORS’ INSISTENCE THAT RURAL CALIFORNIA WILL NOT BENEFIT IS CONTRARY TO THE EVIDENCE	62
A.	Dr. Selwyn’s Rural Mid-Band Deployment Analysis is Fundamentally Flawed.....	63
B.	Mr. Reed’s Assumptions Regarding the Amount of Available Spectrum and Cell Site Locations for Standalone T-Mobile as Compared to New T-Mobile is Equally Flawed.....	66
C.	Cal PA Conflates Sites and Coverage in Projecting Rural Coverage for Standalone Sprint and T-Mobile.....	67
D.	Cal PA Disregards Standalone Sprint’s Lack of Rural Deployment Possibilities	68
X.	IN-HOME BROADBAND IS A SIGNIFICANT MERGER BENEFIT	68

A.	Applicants Claimed Customer Cost Savings for In-home Broadband are Based on Sound Economic Reasoning and Valid Inputs.....	69
B.	Joint Applicants’ Estimate of Households Eligible for In-home Broadband Service is Accurate and is Based upon Census Data	70
C.	Joint Applicant’s In-home Broadband Offerings Will be Competitive	72
D.	Joint Applicant’s In-Home Broadband Offerings Will Have Numerous Advantages Over Incumbent Services	73
E.	Sprint Does Not Intend to Provide In-Home Broadband on a Standalone Basis	75
XI.	CWA CONTINUES TO IGNORE THE EVIDENCE THAT THE MERGER WOULD CREATE NEW JOBS IN CALIFORNIA	76
XII.	NEW T-MOBILE IS COMMITTED TO ENSURING NETWORK RESILIENCY	78
A.	New T-Mobile’s Network Will Be Even More Resilient than the Standalone Network.....	78
B.	Cal PA’s Allegation that the Decommissioning of Sprint’s Sites Will Impact Network Resiliency is Based on Flawed Analysis	82
XIII.	INTERVENOR COMMENTS ON PRIVACY, ARBITRATION AND DIVERSITY ARE MISGUIDED	83
A.	Privacy Protection is a Critical Concern for T-Mobile.....	84
1.	T-Mobile Has a Robust Third-Party Risk Management Program	84
2.	T-Mobile Fully Complies with COPPA	85
3.	Location Data.....	86
4.	T-Mobile’s Commitments to Privacy	87
B.	Intervenors’ Proposed Conditions Regarding T-Mobile’s Arbitration Provisions Should Be Rejected.....	87
C.	New T-Mobile’s Commitment to Diversity and Inclusion is Unquestionable.	91
XIV.	CONCLUSION.....	96

Appendix 1: Joint Applicants’ Commitments and Intervenor Requested Conditions

Appendix 2: Analysis of Topics Identified in Amended Scoping Memo

Confidential

Appendix 3: Explanation of Flaws in Supplemental Economic Testimony of Dr. Lee Selwyn

TABLE OF AUTHORITIES

	Page(s)
Cases	
<i>AT&T Mobility LLC v. Concepcion et ux.</i> , 563 U.S. 333. (2011).....	88
<i>Bastien v. AT&T Wireless, Inc.</i> , 205 F.3d 983 (7th Cir. 2000)	11, 88
<i>FCC v. Fox Television Stations, Inc.</i> , 567 U.S. 239 (2012).....	9
<i>Geier v. Am. Honda Motor Co.</i> , 529 U.S. 861 (2000).....	10
<i>Johnson v. Am. Towers, LLC</i> , 781 F.3d 693 (4th Cir. 2015)	10
<i>McElroy Elecs. Corp. v. FCC</i> , 990 F.2d 1351 (D.C. Cir. 1993).....	9
<i>Milner v. Dep’t of Navy</i> , 562 U.S. 562 (2011).....	11
<i>Shroyer v. New Cingular Wireless Servs., Inc.</i> , 622 F.3d 1035 (9th Cir. 2010)	10
<i>Telesaurus VPC, LLC v. Power</i> , 623 F.3d 998 (9th Cir. 2010)	10
<i>United States v. AT&T Inc.</i> , No. 1:11-cv-01560 (D.D.C. Aug. 31, 2011).....	58
California Public Utilities (PU) Code	
Public Utilities Code	
§§ 851-856	8
§ 854.....	7
§ 854(a).....	8, 9
§ 1708.....	9
§ 1708.5.....	9
California Public Utilities Commission Decisions	
D.95-10-032	8

D.01-05-092	9
D.03-02-031	9
D.05-05-014	9, 11
D.15-12-005	93, 94, 95, 96
D.16-05-007	88, 94
D.16-12-070	88
D.17-03-028	88

Statutes

9 U.S.C. § 2	6, 46, 87, 88
47 U.S.C.	
§ 253(a)	10
§ 332	11
§ 332(c)(3)(A)	10, 11, 12
§ 332(c)(3)(A)	11

Regulations

64 Federal Regulations	
59,888 (Nov. 3, 1999)	85
59,891 (Nov. 3, 1999)	85

Other

H.R. Rep. No. 103-111 (1993)	11
------------------------------------	----

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

In the Matter of the Joint Application of Sprint Communications Company L.P. (U-5112-C) and T-Mobile USA, Inc., a Delaware Corporation for Approval of Transfer of Control of Sprint Communications Company L.P. Pursuant to California Public Utilities Code Section 854(a)

Application 18-07-011

In the Matter of the Joint Application of Sprint Spectrum L.P. (U-3062-C), and Virgin Mobile USA, L.P. (U-4327-C) and T-Mobile USA, Inc., a Delaware Corporation for Review of Wireless Transfer Notification per Commission Decision 95-10-032

Application 18-07-012

**JOINT APPLICANTS’ POST-HEARING REPLY BRIEF ON THE JOINT
APPLICATION FOR REVIEW OF WIRELESS TRANSFER NOTIFICATION
PER COMMISSION DECISION 95-10-032
(PUBLIC VERSION)**

Pursuant to the procedural schedule established in the Amended Scoping Ruling issued on October 4, 2018, as further amended by ALJ Bemserfer’s March 25, 2019 Ruling resetting the briefing schedule, Sprint Spectrum L.P. (U-3062-C) and Virgin Mobile USA, L.P. (U-4327-C) (collectively referred to as the “Sprint Wireless CA Entities”),¹ and T-Mobile USA, Inc. (“T-Mobile USA”)² (collectively referred to as the “Joint Applicants”), respectfully submit this brief in reply to the Intervenor’s³ opening briefs and supplemental declarations submitted on April 26,

¹ Sprint Spectrum L.P. and Virgin Mobile USA, L.P. are wholly owned subsidiaries of Sprint Corporation (“Sprint”).

² T-Mobile USA, Inc. is a wholly owned subsidiary of T-Mobile US, Inc. (“T-Mobile”).

³ The Intervenor’s include: California Public Advocates Office (“Cal PA”), Communications Workers of America – District 9 (“CWA”), DISH Network Corporation (“DISH”), The Greenlining Institute (“Greenlining”) and The Utility Reform Network’s (“TURN”).

2019 with respect to the pending Application for Review of the Wireless Transfer Notification (the “Wireless Notification”) referenced in the above-captioned proceedings.

I. EXECUTIVE SUMMARY

The record overwhelmingly demonstrates that the proposed merger will be good for consumers, good for competition, and good for the future of California. It establishes that the proposed merger will result in a world-leading 5G wireless network with capabilities that neither standalone company could build on its own. This network will have greater capacity, better coverage and faster speeds – facts that are indisputable and undisputed here. The record, including economic models submitted by Joint Applicants, confirms that New T-Mobile consumers will enjoy better service and lower prices. In addition, millions of Sprint customers – including roughly half a million LifeLine customers – will obtain vastly better coverage and service than standalone Sprint could ever offer. The record also demonstrates that the proposed merger will produce a host of new employment opportunities and will be jobs positive from day one.

Consistent with the benefits flowing from the New T-Mobile network and its business plans, T-Mobile has made a number of voluntary, enforceable commitments including those relating to 5G deployment and network buildout, rural expansion, network resiliency, public safety, MVNOs and jobs. T-Mobile has also made other commitments which address concerns that Intervenors have raised about the impact of the merger, including those relating to pricing, LifeLine, privacy, bridging the digital divide and diversity. All told, T-Mobile has made nearly 50 voluntary, enforceable commitments in the context of this proceeding.⁴ Moreover, to ensure their enforceability, T-Mobile has requested that these commitments be made conditions of the

⁴ See Appendix 1.

merger, be embodied in ordering paragraphs of the Commission decision and be enforceable by the Commission. T-Mobile has also agreed to a robust reporting regime so that its compliance with its commitments can be easily monitored and verified.

The Intervenors, however, have dug in their heels. They ignore, misinterpret, or misunderstand the record evidence and rely on a host of unsupported assertions (identified below) to insist that the merger is not in the public interest and does not provide meaningful benefits to Californians. These claims are plainly incorrect. The testimony and the record leave no doubt that the benefits of the proposed merger are not only wide-ranging; they are demonstrably transformative and enforceable.

The Intervenors' unrelenting attempts to delay or otherwise undermine the merger only serve to deprive California consumers – particularly under-connected low-income and rural consumers – of the benefits that New T-Mobile will bring. The Intervenors seem intent on condemning Californians to the status quo, where AT&T, Verizon Wireless, and the cable companies dominate the wireless and broadband markets, for the indefinite future.⁵ The Commission should reject Intervenors' arguments and their limited vision for California consumers and conclude its review of the proposed merger without further delay.

The key erroneous assertions relied on by the Intervenors include the following:

➤ **Intervenor Assertion: *There Are No Material Benefits – Just Promises without Commitments.***

Evidence: Both the benefits of the mergers and the enforceable voluntary commitments made by the Joint Applicants are well-documented. Intervenors' assertions that there are no such benefits or commitments – and their various attempts to ask the Commission to ignore the reality of recent additional commitments – does not render the benefits, or T-Mobile's commitments, less real or impactful. (See Appendix 1, *infra*.)

⁵ Notably, the Intervenor Opening Briefs contain no discussion whatsoever of the Sprint wireline business or how the approval of the transfer of control of Sprint Communications LP, which is the subject of A.18-07-011, is even arguably adverse to the public interest.

➤ **Intervenor Assertion: *5G Is 5G – All 5G Networks Will Be The Same.***

Evidence: This assertion reflects a fundamental misunderstanding of wireless networks and a seemingly willful disregard for the detailed evidence presented in this proceeding. All 5G networks will not be the same any more than all LTE networks are equivalent. Differences in coverage, capacity, and throughput, among other factors, will continue to differentiate 5G networks just as they have for legacy networks. The Intervenors' repeated refusal to acknowledge the difference between coverage and capacity seems to permeate their analysis. (See Section III, *infra.*)

➤ **Intervenor Assertion: *Standalones Can Do This On Their Own.***

Evidence: New T-Mobile's 5G network will constitute a sea change bringing massive capacity, speed and coverage to California consumers in a way that would not otherwise be possible for the standalone companies. Faced with this engineering truth, the Intervenors are left to argue that Californians do not need a superior network, which is a retrogressive view that should be rejected. In addition, Sprint faces real and significant financial challenges impacting its ability to improve its network or continue with aggressive promotional pricing and national competition. (See Section III and IV, *infra.*)

➤ **Intervenor Assertion: *T-Mobile's IKK Study Confirms That Prices Will Rise.***

Evidence: This erroneous conclusion arises from Cal PA's analysis of another merger opponent's incomplete model – not the IKK or Cornerstone analyses submitted by the Joint Applicants. In fact, both IKK's and Cornerstones' economic analysis, together with the New T-Mobile business plan, confirm that post-merger prices *will go down both on a nominal and quality-adjusted basis.* (See Section V, *infra.*)

➤ **Intervenor Assertion: *The Merger Is Not Pro-Competitive.***

Evidence: The Intervenors have not, and cannot, refute that the economic analysis demonstrating that the merger is pro-competitive as result of the lower marginal costs and massive increases in capacity created by combining network assets and spectrum. To the contrary, Cal PA's assertion relies on an incomplete economic model created by transaction opponents (which they misrepresent as IKK's model) that reaches this conclusion only by failing to take any efficiencies into account. (See Section V and VI, *infra.*)

➤ **Intervenor Assertion: *Low-Income Customers Will Suffer As A Result Of The Merger And T-Mobile Will Abandon The Lifeline Program.***

Evidence: Low-income consumers will especially benefit from the merger as LifeLine service and coverage are greatly expanded, digital inclusion programs are enhanced, fixed wireless broadband becomes a viable reality, and prices are reduced.

Moreover, New T-Mobile's commitment to LifeLine is firm and unambiguous. (See Section VII and VIII, *infra*.)

➤ **Intervenor Assertion: *No Benefits For Rural California.***

Evidence: In rural California, the New T-Mobile network will bring deeper capacity, broader coverage, and faster data speeds, and will materially address the needs of underconnected/unconnected rural Californians. It will also expand facilities-based wireless LifeLine service in those areas; something that Sprint standalone cannot do given its limited network in this state. (See Section IX, *infra*.)

➤ **Intervenor Assertion: *In-Home Broadband Is Too Speculative.***

Evidence: New T-Mobile's in-home broadband product will be the first bona fide competitive alternative to traditional wireline broadband services. The ability to offer in-home broadband is not speculative; it is made possible by the uncontested massive increase in capacity resulting from the merger. The broadband opportunities and cost-savings to California consumers generated by this new product will help bridge the digital divide. (See Section X, *infra*.)

➤ **Intervenor Assertion: *Service Quality Will Decrease With The Merger.***

Evidence: Service quality and coverage for Sprint consumers – including LifeLine participants – will improve immediately as they migrate to the superior New T-Mobile network with improved service quality, greater capacity, speed and capabilities. T-Mobile customers will similarly experience greater speed and capacity than is possible on T-Mobile's current network. Not surprisingly, the largest MVNO in America and several other MVNOs have all urged approval of this transaction. (See Section III, IV and XII, *infra*.)

➤ **Intervenor Assertion: *MVNOs Will Be Harmed By The Merger.***

Evidence: MVNOs will significantly benefit from the merger and the advent of the New T-Mobile 5G network. In addition, New T-Mobile has committed to honor existing MVNO agreements through 2021. (See Section V, *infra*.)

➤ **Intervenor Assertion: *The Merger Will Lead to Job Losses.***

Evidence: The merger will bring new jobs to California including over 1,000 new jobs at a new Customer Experience Center located in the Central Valley. All current Sprint and T-Mobile retail employees will be offered comparable jobs with comparable benefits and New T-Mobile has made a no net job loss commitment. CWA's attempts to manufacture panic over jobs are unfounded and their motivation is suspect. (See Section XI, *infra*.)

➤ **Intervenor Assertion: *T-Mobile’s Privacy Policies Are Inadequate, Its Arbitration Provision Is Unfair And Its Commitment To Diversity Is Tepid***

Evidence: T-Mobile’s third-party risk management program is robust and comprehensive; it is the only major wireless carrier to provide an arbitration opt-out, and its commitment to diversity and inclusion is unparalleled. (See Section XIII, *infra*.)

The Joint Applicants further note that while Cal PA and TURN continue to oppose the merger, both assert that if the Commission fails to deny the Wireless Notification – which, as discussed below, is not within the Commission’s jurisdiction in the first place (see Section II, *infra*) – it should impose numerous conditions on New T-Mobile’s wireless business to mitigate alleged risks from the merger.⁶ Although Intervenors have failed to establish any such risks exist, and mandatory conditions are also outside the Commission’s jurisdiction in the wireless review process, the voluntary commitments T-Mobile has made address virtually all conditions proposed by Cal PA and TURN, regardless of whether those conditions are related to the merger in any way. These commitments provide further assurance to the Commission that the transaction is not adverse to the public interest.

In brief, the Joint Applicants look forward to closing the proposed transaction as quickly as federal law permits and to begin bringing the benefits of this merger to wireless consumers throughout California. To assist the Commission with the completion of its review, attached as Appendix 2 is a chart listing the issues identified in the Amended Scoping Memo which provides a roadmap to where those issues are addressed in the Joint Applicants’ Briefs and a brief analysis of the issue.⁷ Accordingly, based on the evidentiary record, and for the reasons set forth in their

⁶ Cal PA Opening Brief (“Cal PA Opening Br.”) at 52-54; TURN Opening Brief (“TURN Opening Br.”) at 17, 19-20, 28, and 41-42.

⁷ A similar version of this chart was included with the Executive Summary to Joint Applicants’ testimony. See *Joint Applicants’ Executive Summary of Rebuttal Testimony* at 9-11 (January 29, 2019). That chart provides a road map to where the Scoping Memo issues were addressed in testimony.

post-hearing briefs, the Joint Applicants respectfully urge the Commission to conclude its review of the Wireless Notification and otherwise close this docket without further delay.

II. THE TRANSFER OF THE SPRINT WIRELESS ENTITIES DOES NOT REQUIRE COMMISSION PREAPPROVAL

Joint Applicants' Opening Brief explained that the Wireless Notification – in contrast to the Wireline Approval Application – does not require the Commission's prior approval.⁸ That is because (1) the Commission's long-settled precedent recognizes that transfers of control involving wireless carriers are exempt from any requirement to obtain the Commission's preapproval under Public Utilities Code § 854,⁹ and (2) federal law forecloses any such preapproval requirement – whether it is direct (e.g., a prohibition on transferring wireless carrier assets without Commission authorization) or indirect (e.g., action that hinders closing of the transaction or the Commission's imposition of mandatory conditions).¹⁰

The Intervenors ignore the key legal and factual distinctions between the Joint Applicants' Wireline Approval Application and their Wireless Notification and urge the Commission to “deny” the entire “merger,” including the transfers of control at issue in the Wireless Notification.¹¹ The Commission should reject that request, which runs counter to its established precedent and would violate both state and federal law.

⁸ See Joint Applicants' Wireless Opening Brief (“Jt. Applicants' Opening Br.”) at 14-16.

⁹ *Id.* at 14-15.

¹⁰ *Id.* at 15-16 & n. 20.

¹¹ See, e.g., Cal PA Opening Br. at 1 (“The merger ... should be denied.”); TURN Opening Br. at 6 (Commission should “find that the transaction is not in the public interest and should be rejected.”).

As an initial matter, longstanding Commission precedent makes clear that Public Utilities Code § 854(a) – the provision cited by Intervenor¹² – does *not govern* the wireless transfer of control. In Decision 95-10-032 (the “*1995 Decision*”),¹³ the Commission squarely held that wireless carriers are *exempted* from seeking “preapproval” for any transfer of wireless assets under Public Utilities Code Sections 851-856.¹⁴ Because no preapproval is required for a wireless merger, it follows that the Commission cannot “reject” or “deny” that merger – nor can the Commission mandate conditions as a prerequisite to proceeding with a wireless merger. Nonetheless, TURN urges the Commission to abandon its longstanding exemption.¹⁵ TURN’s argument, however, is fundamentally flawed and should be rejected.

First, TURN provides no basis for reconsidering the *1995 Decision*. TURN wrongly suggests that the Commission’s decision to exempt wireless transfers of control from Commission approval was driven by the fact that “there was a nascent cellular market in 1995 and consumers did not yet depend on wireless services to carry out almost every aspect of their day to day lives.”¹⁶ In fact, the Commission concluded that requiring preapproval of wireless transfers “would be wasteful of resources and could inhibit the growth of competition.”¹⁷ That remains true today. TURN also ignores that the Commission reaffirmed the *1995 Decision*’s

¹² See, e.g., Cal PA Opening Br. at 1; TURN Opening Br. at 4-5.

¹³ *Investigation on the Commission’s Own Motion Into Mobile Telephone Service and Wireless Communications*, D. 95-10-032, 1995 Cal. PUC LEXIS 888 (Oct. 18, 1995).

¹⁴ *1995 Decision* at *45 (Ordering Paragraph 3) (emphasis added)). Instead, in situations involving “any change in ownership of” a wireless carrier – the situation presented by the Wireless Notification – the carrier simply must *provide advance notice* to the Commission. *Id.* at *46 (Ordering Paragraph 3(c)). The Intervenor¹² do not dispute that the Wireless Notification provided such notice here.

¹⁵ TURN Opening Br. at 4.

¹⁶ *Id.*

¹⁷ *1995 Decision* at *22.

wireless exemption as recently as 2005, by which time there was a large, robust market for wireless services. In 2005, the Commission categorically reiterated that a “transfer of [a carrier’s non-wireline] assets and operations, *including its wireless assets and operations, is not subject to § 854(a).*”¹⁸ TURN provides no plausible explanation for why the exemption reaffirmed in 2005 should not continue to apply today.

Second, it would be unlawful for the Commission to eliminate the wireless exemption in this proceeding. Doing so would effect a major change in regulatory policy that, at minimum, would require reversal of – or at least a material amendment to – the 1995 and 2005 Commission decisions. It is well established that the Commission may not make such an amendment without following the requisite procedures under the Public Utilities Code.¹⁹ Here, the Commission has not provided notice to Joint Applicants, the wireless industry, or other potential stakeholders that it intends to repeal or amend its longstanding exemption – and it is certainly too late in the day to do so now for this transaction.

Third, fundamental principles of due process and “elementary fairness” preclude the Commission from acting in a manner inconsistent with Commission precedent – and thereby imposing new regulatory requirements – or purporting to prohibit a wireless transfer of control based on standards that were not previously articulated with any reasonable clarity.²⁰

Fourth, federal law unequivocally prohibits any attempt by a state PUC to require preapproval for a wireless transfer of control (or to mandate conditions as a prerequisite to

¹⁸ D.05-05-014, 2005 Cal. PUC LEXIS 176, at *6 (May 5, 2005) (“*2005 Decision*”) (emphasis added).

¹⁹ In particular, the Commission may not “rescind, *alter, or amend* any order or decision made by it,” unless parties to the original rulemaking or decision are given appropriate notice and an opportunity to be heard. Pub. Util. Code § 1708 (emphasis added); *see also id.* § 1708.5; D.03-02-031, 2003 Cal. PUC LEXIS 120, *5 (Feb. 13, 2003); D.01-05-092, 2001 Cal. PUC LEXIS 269, *50-51 (May 24, 2001).

²⁰ *See, e.g., FCC v. Fox Television Stations, Inc.*, 567 U.S. 239, 253 (2012); *McElroy Elecs. Corp. v. FCC*, 990 F.2d 1351, 1353 (D.C. Cir. 1993).

approval). As Joint Applicants have previously explained, Section 332(c)(3)(A) of the Federal Communications Act expressly prohibits states from “regulat[ing] the entry of” wireless carriers.²¹ Particularly relevant here, Section 332(c)(3)(A) preempts states from reexamining or second-guessing the FCC’s wireless-merger determinations, including the FCC’s balancing and evaluation of the public interest.²² Courts have made clear that Section 332(c)(3)(A) preempts state regulation that “obstruct[s] or burden[s] a wireless service provider’s ability to provide a network of wireless service coverage.”²³ Similarly, Section 253(a) of the Communications Act preempts any form of state regulation that “ha[s] the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service,”²⁴ which would be the inevitable outcome should the Commission attempt to “reject,” “deny,” or impose conditions on the wireless transfer here.²⁵ Finally, principles of conflict preemption also preclude the Commission from second-guessing a wireless merger subject to FCC approval.²⁶

Rather than addressing this federal law, TURN points to language in the body of the *1995 Decision* suggesting that the Commission may “forbear[.]” from requiring preapproval.²⁷ But

²¹ 47 U.S.C. § 332(c)(3)(A).

²² *Shroyer v. New Cingular Wireless Servs., Inc.*, 622 F.3d 1035, 1041, 1044 (9th Cir. 2010); *see also Telesaurus VPC, LLC v. Power*, 623 F.3d 998, 1008-09 (9th Cir. 2010). Moreover, Section 332(c)(3)(A) independently prohibits states from regulating wireless carrier “rates” or prices. 47 U.S.C. § 332(c)(3)(A).

²³ *See, e.g., Johnson v. Am. Towers, LLC*, 781 F.3d 693, 705-06 (4th Cir. 2015) (citations omitted).

²⁴ 47 U.S.C. § 253(a).

²⁵ *See Accelerating Wireless Broadband Deployment By Removing Barriers to Infrastructure Investment*, 2018 WL 4678555, *12, ¶ 35 (FCC Sept. 27, 2018) (“a state or local legal requirement constitutes an effective prohibition” – and is therefore preempted – “if it ‘materially limits or inhibits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment’”) (citations omitted).

²⁶ *See, e.g., Shroyer*, 622 F.3d at 1041; *Geier v. Am. Honda Motor Co.*, 529 U.S. 861, 875-81 (2000).

²⁷ TURN Opening Br. at 4 (citing, e.g., *1995 Decision* at *42).

that language does not appear in the *1995 Decision*'s Ordering Paragraphs, which – as the Commission subsequently made clear – are the operative provisions here.²⁸ In any event, that dicta is incorrect to the extent it implied the exemption for wireless carriers is not required by federal law. The statutory provisions and appellate precedent discussed above (and in Joint Applicants' Opening Brief) leave no doubt that requiring preapproval for a wireless transfer would directly conflict with federal law and therefore would be preempted.²⁹

As noted above, federal law also forecloses the Commission from accepting Intervenors' requests to "reject" or "deny" the merger based on unfounded concerns³⁰ related to the price of New T-Mobile's services. Cal PA candidly concedes that "the Commission cannot regulate wireless rates due to federal preemption,"³¹ yet it nevertheless urges the Commission to use its alleged "statutory authority to deny the merger" in light of "the absence of rate regulation" by the FCC.³² In other words, Cal PA invites the Commission to use a wireless merger review process

²⁸ See, e.g., *2005 Decision* at *6 n.7 (citing Ordering Paragraph 3 of the *1995 Decision*).

²⁹ Nor does the limited state PUC authority over "other terms and conditions" of wireless service, 47 U.S.C. § 332(c)(3)(A), suggest otherwise. The text of the federal statute and appellate precedent are clear: under no reading of the plain language of Section 332 can a wireless merger transaction be considered a "term and condition" of wireless service. And because the statutory text is clear, any attempt by Intervenors to rely on legislative history – which comments on narrow state authority over various consumer protection matters, including transfers of control, H.R. Rep. No. 103-111, at 261 (1993) – would be unavailing. See, e.g., *Milner v. Dep't of Navy*, 562 U.S. 562, 572 (2011). Reading the "other terms and conditions" comment in a House Committee report as somehow authorizing state preapproval requirements for wireless mergers would deprive the statutory language in Section 332(c)(3)(A)'s prohibition on market-entry restrictions of any meaning – contrary to basic principles of statutory interpretation – and allow states to impermissibly impinge on the FCC's exclusive authority over national wireless licensing. *Bastien v. AT&T Wireless, Inc.*, 205 F.3d 983 (7th Cir. 2000).

³⁰ See Section V.A, *infra* (evidence showing that consumers will benefit from lower prices under the merger).

³¹ Cal PA Opening Br. at 5; see also *id.* at 4-5 (conceding that "federal law preempts states from regulating entry or wireless rates").

³² Cal PA Opening Br. at 5.

to engage in patently unlawful rate regulation. Because federal law explicitly prohibits such action,³³ the Commission should reject Cal PA’s request.

Finally, TURN notes in passing that the wireline and wireless transactions are “inextricably linked.”³⁴ But, as Joint Applicants explain in their reply brief supporting the Wireline Application, the mere fact that the wireline and wireless transfers are part of a larger transaction does not and cannot expand the Commission’s authority over wireless transfers.³⁵

In sum, the Wireless Notification is subject to the Commission’s *review* – not its *approval* – and the Commission should reject Intervenors’ request to depart from its well-established exemption from a preapproval requirement for wireless transfers and to exceed its jurisdiction in violation of the Public Utilities Code and federal law.³⁶

³³ See 47 U.S.C. § 332(c)(3)(A) (expressly preempting state regulation of wireless “rates”).

³⁴ TURN Opening Br. at 5.

³⁵ See *Joint Applicants’ Motion for Immediate Approval of the Transfer of Sprint Communications Company L.P. to T-Mobile USA, Inc.* at 2-4 (May 6, 2019); see also *Joint Applicants’ Reply Brief Requesting Immediate Approval of the Transfer of Sprint Communications Company L.P. to T-Mobile USA, Inc.* at 3-4 (May 10, 2019).

³⁶ Cal PA recycles an old argument from a prior motion stating that Joint Applicants’ Wireless Notification did not include their case in chief, but instead Joint Applicants put forth new arguments and information in their rebuttal testimony, which Cal PA classifies as an “improper amendment.” (See Cal PA Opening Br. at 4, 6.) Although the issues of alleged new arguments and testimony have already been addressed in the context of the earlier motion (*see* Joint Applicants’ Response to Motion of Public Advocates Office to Amend and Supplement Testimony and Add Hearings at 5-6 (Feb. 12, 2019)), Cal PA has already been provided with additional time to prepare their post-hearing briefs, conduct additional discovery and submit additional evidence. Moreover, there is no Commission rule that requires that parties be limited to submitting information only in their application; as a practical matter any such rule would be highly problematic especially given that a scoping ruling - which lays out the issues to be addressed in a proceeding - is not issued until well after an application is filed. This argument simply warrants no further consideration.

III. NOT ALL 5G NETWORKS WILL BE THE SAME

Cal PA's Opening Brief rests on the fallacious assumption that 5G is binary; *i.e.*, that because "5G service either meets the [standard-based] parameters of 5G or it does not," all 5G networks are the same.³⁷ This argument is the centerpiece of Cal PA's critiques of the proposed transaction. Yet the argument has no foundation in fact, no engineering basis,³⁸ is directly contrary to the LTE experience, and is so outlandish that no other opponents of this merger in any forum have even hinted at such a claim. Cal PA and its experts simply continue to misunderstand fundamental facts about what a wireless standard³⁹ is and how wireless networks are designed and operate – despite Joint Applicants' thorough explanations and extensive evidence entered into the record on these issues.

A. Not All 5G Networks Are Equal.

Contrary to Cal PA's position, the essential question is not whether a 5G service complies with the requirements of a specific standard. Rather the key question centers on the nature of the service provided to the public, in terms of the network's speed, coverage, reliability, and capacity available to serve Californians. Simply operating under the same wireless standard will not make all 5G networks equivalent – just as it does not make all 4G

³⁷ Cal PA Opening Br at 38. Cal PA goes on further, doubling down on its assertion and claiming that "it makes no sense to say that because one carrier could allocate more spectrum to 5G than another carrier some 5G service is better than other 5G service." *Id.*

³⁸ *See, e.g.*, Hearing Ex. Jt Appl. 3-C ("Ray Rebuttal Testimony") at 29:1-4 ("Cal PA makes the persistent mistake of assuming that all "5G" is equivalent. It is true that T-Mobile is building a 5G network on its own, but to be clear, it would be a limited deployment compared to New T-Mobile's and would simply not bring the same benefits to Californians."); *see also* Hearing Tr. at 398:5-11 and 407:19-28.

³⁹ According to 3GPP, the telecommunications standards organization that oversaw development of both the 4G LTE and 5G NR standards, "The major focus for all 3GPP Releases is to make the system backwards and forwards compatible where possible, to ensure that the operation of user equipment is uninterrupted." Available at <https://www.3gpp.org/about-3gpp>

networks equivalent. For example, Verizon and Sprint networks use the same 4G LTE standard, but they deliver very different quality experiences to the public because the companies have different spectrum and site assets. The same will be true, and likely even more pronounced, for networks using the 5G standard.

Although 5G services are indeed standards-based, the *performance* of particular 5G networks will depend upon a combination of the number of cell sites (and the density of these sites), the megahertz of spectrum deployed per site,⁴⁰ and the spectral efficiency.⁴¹ Applicants have presented this formula to Cal PA several times,⁴² and Cal PA’s witness acknowledged its relevance on cross-examination⁴³ and even uses the formula in his own Opening Brief declaration to calculate capacity.⁴⁴ However, Cal PA continues to dispute the relevance of any factor beyond the 5G standard. For example, Cal PA attempts to use Neville Ray’s statement that “[y]ou can deploy 5G on any frequency, and in the future, all spectrum will be 5G

⁴⁰ Higher band spectrum provides higher frequency of waveforms making such bands particularly attractive for capacity of data transmission.

⁴¹ Average spectral efficiency differs by spectrum band, and the spectral efficiency gains that will result from the transition to 5G will thus vary across spectrum bands. *See* Ray Decl., Attachment A to Ray Rebuttal Testimony ¶ 50 (explaining that low-band spectrum will achieve a 19 percent improvement in average spectral efficiency moving from LTE to 5G, while mid-band spectrum will achieve a 52 percent improvement). Thus, the spectral efficiency of a 5G network – and by extension, the performance of that network – will depend on the spectrum bands deployed (as well as the other components of the capacity formula).

⁴² *See, e.g.*, Jt. Applicants’ Opening Br. at 18 (“As the testimony at the hearing made clear, adding to any one of these three ingredients – cell sites, spectrum, spectral efficiency – multiplies capacity.”).

⁴³ *See* Hearing Tr. 1102:24-1103:6 (Reed Cross) (“Q: That formula is basically to take the number of cell towers and to multiply it by the amount of spectrum on the cell tower and then to multiply that by spectral efficiency; is that correct? A: That’s my recollection, yes.”).

⁴⁴ *See* Cal PA Opening Br. at Attachment B (Reed Suppl. Decl.) at 26:21-25. In some places, Cal PA does concede that the capacity of a network is dependent upon the amount of spectrum deployed. Specifically, Cal PA asserts that “[r]ural areas with low population densities do not need as much capacity as dense, urban areas,” Cal PA Opening Br. at 46, but again fails to acknowledge that throughput is a key performance indicator that can also differ from network to network depending upon the type and amount of spectrum deployed.

spectrum,” to argue that “T-Mobile itself believes that it has sufficient spectrum to deploy a 5G network.”⁴⁵ Cal PA misses the point. T-Mobile never disputed that it has “sufficient” spectrum to deploy some level of 5G; the same is true for Sprint. However, each standalone network would have limited coverage, capacity, speed, signal quality, and lesser consistency than New T-Mobile’s network due to their limited spectrum and site assets.⁴⁶

B. The Unique Combination of Complementary T-Mobile and Sprint Spectrum Is a Prerequisite to Achieving the Vastly Improved Performance of the New T-Mobile Network

Building on its theme that all 5G is the same, Cal PA asserts that there is no benefit to New T-Mobile from combining T-Mobile’s and Sprint’s complementary spectrum. Cal PA incorrectly concludes that the standalone companies do not need each other’s spectrum to build standalone 5G networks comparable to that of New T-Mobile.⁴⁷ This is completely inaccurate. First, in support of the proposition that additional spectrum is not necessary to meet demand for 5G, Cal PA cites to Mr. Ray’s 5G coverage maps to argue that “without the merger, California will be largely covered by 5G service coverage in a reasonable timeframe.”⁴⁸ However, these maps actually show that absent the merger, while T-Mobile would be able to provide 5G coverage by deploying its 600 MHz spectrum across the state, including in many rural areas, it would only be able to deploy its very limited amount of higher-capacity mid-band spectrum in a

⁴⁵ Reed Suppl. Decl. at 39.

⁴⁶ See, e.g., Ray Rebuttal Testimony at 3:22-28 (“[T]he benefits of New T-Mobile’s 5G network in terms of *coverage, speed, and capacity* – and all the potential consumer uses which depend on those metrics – are simply not possible without the combination of spectrum and other assets created by the merger. T-Mobile and Sprint, as standalone entities, do not have the spectrum, the sites, or the resources to create a network that would so significantly alter the wireless landscape as New T-Mobile. On its own, T-Mobile’s 5G network would have good coverage but relatively limited capacity, while Sprint’s 5G network would have capacity but very limited coverage.”). See also Section IV, *infra*.

⁴⁷ See Reed Suppl. Decl. at 23; Cal PA Opening Br. at 41.

⁴⁸ Cal PA Opening Br. at 41.

handful of population dense areas.⁴⁹ In most areas, this would mean thin 5G coverage, without the capacity afforded by the mid-band spectrum layer (a distinction that Cal PA consistently disregards) and therefore a lesser user experience for customers in those areas.⁵⁰

Conversely, Sprint lacks adequate low-band spectrum and is unable to provide any 5G coverage for the overwhelming majority of California's geography because its 5G deployment would be limited to mid-band spectrum, which has limited geographic propagation, and it therefore confined to a few population dense areas. Indeed, Sprint's limited coverage in California is noted by Cal PA in its Opening Testimony.⁵¹

In contrast, the combination of Sprint's and T-Mobile's complementary spectrum portfolios would allow New T-Mobile to use T-Mobile's low-band spectrum for broad coverage but also to deploy mid-band spectrum (AWS, PCS, and 2.5 GHz) far more expansively than either company could on a standalone basis, providing mid-band coverage over much of California's geography.⁵² The net effect of this combination of complementary spectrum and network assets will be a massive increase in the overall capacity of the new network which in turn will deliver dramatically improved speeds and user experiences to consumers relative to what the standalones could achieve.

C. Cal PA Misconstrues T-Mobile's Demand and Adoption Forecasts

As we discuss above and throughout this proceeding, the combination of T-Mobile and Sprint sites and spectrum will enable New T-Mobile to deploy a network with far greater capacity than the standalone networks combined. This massive capacity increase is important

⁴⁹ Ray Rebuttal Testimony at 31:10-13.

⁵⁰ *Id.* at 31:14.

⁵¹ *See* Cal PA Opening Br. at 21-22.

⁵² Ray Rebuttal Testimony at 31:19-23.

because it is necessary to meet the rapidly increasing data demand that T-Mobile and experts throughout the wireless industry project will only increase over the course of the next several years with the advent of 5G.

However, Cal PA claims that T-Mobile overstates the need for 5G and exaggerates its benefits for consumers. Cal PA makes two arguments: (i) T-Mobile inflates projected demand for data usage;⁵³; and (ii) customers will not have easily available 5G handsets for several years.⁵⁴ In fact, Cal PA misinterprets the demand-forecast evidence, disregards the almost insatiable consumer demand for data brought on by 4G LTE (which is apparent to even the casual observer), and ignores how the merger will accelerate 5G adoption and handset availability.

1. T-Mobile's Demand Forecast Remains Unchallenged

Cal PA asserts that the Commission should disregard the New T-Mobile Network Model⁵⁵ – which has been discussed in detail in this proceeding and at the FCC – because “T-Mobile uses an overestimate of current demand in both Mr. Ray’s Rebuttal Testimony and their network model.”⁵⁶ Cal PA’s assertion of inflated demand should be disregarded for two key reasons: (i) T-Mobile’s demand forecasts are in line with industry projections; and (ii) the demand figure that Cal PA claims is overinflated (10.1 GB/subscriber/month)⁵⁷ was not an input into the network model.

In order to understand the future demand on the New T-Mobile (and the standalone) networks, T-Mobile developed a demand forecast to predict the usage per subscriber for 2019

⁵³ Reed Suppl. Decl. at 17.

⁵⁴ See Cal PA Opening Br. at 23.

⁵⁵ Reed Suppl. Decl. at 5:5-11.

⁵⁶ Reed Suppl. Decl. at 19:21-20:2.

⁵⁷ *Id.*

through 2024. As explained by Mr. Ray, this forecast was created through a detailed, bottoms-up analysis that breaks down wireless demand into individual use cases, and projects the demand of each use case on New T-Mobile's network before summing the demand of each individual use case into a final forecast.⁵⁸ The focus of the forecast was the usage of 5G subscribers, but it accounts for all future usage on the T-Mobile network. It predicts that 5G subscribers will use on average [BHC-AEO] [REDACTED] [EHC-AEO] per month in 2021 and [BHC-AEO] [REDACTED] [EHC-AEO] per month in 2024.

As Mr. Ray also explained, T-Mobile then used third-party forecasts from leading industry sources (i.e., Ericsson, Cisco, and Nokia Bell Labs) to validate this forecast.⁵⁹ These third-party forecasts estimate compound annual growth rates (CAGRs) of mobile data usage. To validate its independent forecast, T-Mobile applied the third-party CAGRs to the average usage on its network at the end of 2017. This usage number, 10.1 GB per subscriber per month, was used because (1) it best lined up with the starting period of the CAGRs in the third-party forecasts, and (2) it provided an apples-to-apples comparison of the usage categories in the third party-forecasts.⁶⁰

⁵⁸ Ray Rebuttal Testimony at 10:14-17 (“T-Mobile’s 5G demand forecast uses this same methodology to understand both (1) how consumers’ rising expectations in a 5G world will lead to a demand for increased quality of existing applications, and (2) how 5G will enable growth of emerging applications that will further increase the demand for data.”).

⁵⁹ Ray Rebuttal Testimony at 11.

⁶⁰ The Ericsson and Nokia forecasts cited in Mr. Ray’s Rebuttal Testimony exclude low usage, non-smartphone devices such as IoT devices. IoT devices are one of the use cases analyzed in the 5G demand forecast. See Ray Rebuttal Testimony at 10:18-28 (“In order to predict 5G demand, T-Mobile projected both consumer behavior and the content richness expected for both current applications on a 5G network and new applications enabled by 5G... More generally, the forecast considers multiple existing and emerging applications”). Thus, in order to perform an apples-to-apples comparison, T-Mobile used the 10.1GB/month figure, which excludes low-usage devices, to validate its demand forecast.

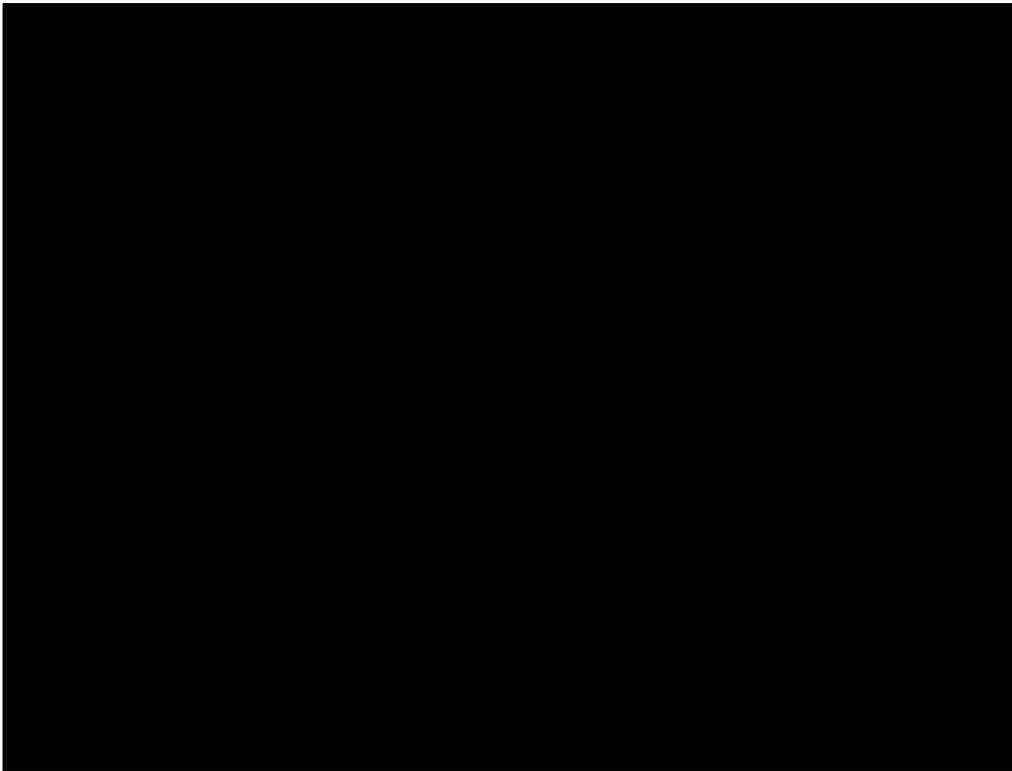
Cal PA's expert Mr. Reed makes the critical error of treating this 10.1 GB number - used *only* as the starting point to a validation exercise - as an actual input into the demand forecast T-Mobile used in its network model. It is telling that Mr. Reed spoke only in broad terms about the implications of changing the 10.1 GB figure, saying that the Commission should disregard the New T-Mobile network model.⁶¹ He makes no attempt to quantify the effect this purported inflation has on the output of the network model. Had he endeavored to do so, he would have found that change would have no effect, because the 10.1 GB figure *is not an input into the demand forecast used in T-Mobile's network model*. In fact, Mr. Reed fails to consider the actual demand forecast used in the network model at all.⁶²

Furthermore, even when properly framed as only a criticism of the validation of T-Mobile's demand forecast, Cal PA's criticism still falls short. As illustrated by Figure [X] below, even if one were to replace the 10.1GB/month figure used by T-Mobile (and based on ordinary-course observations of actual usage by T-Mobile customers) to validate its network model projections against industry standards with the incorrect figure (8.7 GB/month) created by Cal PA, T-Mobile's demand projection for 2024 is still only slightly higher than the most conservative third-party forecasts.

⁶¹ Reed Suppl. Decl. at 5:5-11.

⁶² Cal PA witness Reed apparently undertook this misguided analysis in recognition of his testimony on cross-examination at the hearing where his initial mistake in analyzing demand forecasts was revealed. *See* Jt. Applicants' Opening Br. at 29-30. *See also* Reed Suppl. Declaration at 45:1-48:22.

[BHC-AEO]



[EHC-AEO]

In short, Cal PA's criticisms of T-Mobile's demand forecast misconstrue that forecast and in any event do not change the fact that T-Mobile's demand forecast is conservative.

2. New T-Mobile's Transformative Network Will Accelerate 5G Adoption and Handset Availability, Benefitting All Users

⁶³ The Cisco, Ericsson, and Nokia lines in Figure 1 are calculated by taking Cal PA's (incorrect) estimate of the average amount of data used per subscriber at the end of 2017 (8.7 GB/month) and applying the compound annual growth rate estimates of Cisco (47%), Nokia (43.5%), and Ericsson (37% for North America). Ray Rebuttal Testimony at 11:4-13 (Cisco, Nokia); Hearing Tr. at 1164:13-22 (Reed Cross) (Ericsson). The T-Mobile line represents the T-Mobile 5G demand forecast. See Service Quality Testimony of Cameron Reed as Exhibit C-34. Applying the growth rates for Cisco, Nokia, and Ericsson demonstrates that T-Mobile's demand forecast for [BHC-AEO]

[EHC-AEO] Moreover, even this comparison overstates T-Mobile's demand forecast relative to third-party forecasts, making T-Mobile's figures appear artificially high. See Jt. Applicants' Opening Br. at 28-31.

Cal PA also misunderstands the state of 5G development and consumer demand, both of which reinforce T-Mobile's aggressive 5G deployment plans. For example, Cal PA states that "5G standards are still in the final phases of development and the full scope of T-Mobile's needs for 'broader' and 'deeper' speeds is as yet unknown" and consumer adoption of 5G devices "will take time."⁶⁴ Cal PA is mistaken – 5G standards are complete and have been for nearly a year.⁶⁵ 5G capable phones have been introduced into the market,⁶⁶ Verizon and AT&T launched 5G,⁶⁷ Motorola sells a 5G accessory upgrade,⁶⁸ and Samsung will have a 5G capable device available later this month.⁶⁹ Cal PA's premise that the timing of 5G deployment is not important is ill-founded and displays a disconcerting ignorance of industry developments.

Cal PA further claims that consumers will not benefit from New T-Mobile's accelerated 5G network because "[t]he benefits of a 5G network can only be realized if customers have handsets that can access the 5G network" and argues that 5G adoption is years in the future. Cal

⁶⁴ Cal PA Opening Br. at 39-40 (citing Reed 5G at 40, which states that the market for 5G devices at the moment is non-existent and that there are no customers with handsets that can utilize a 5G network); *but see* Phillip Michaels, *5G Phones: Every Known Phone and Release Date*, TOM'S GUIDE (May 3, 2019), <https://www.tomsguide.com/us/5g-phones-list,news-29292.html> (noting the 5G Motorola Z3 has been available since 2018).

⁶⁵ Chaim Gartenberg, *The 5G Standard is Finally Finished with New Standalone Specification*, THE VERGE (June 15, 2018), <https://www.theverge.com/2018/6/15/17467734/5g-nr-standard-3gpp-standalone-finished>.

⁶⁶ James Rogerson, *5G phones: These are Going to be the First Next-gen Handsets*, TECHRADAR (Apr. 26, 2019), <https://www.techradar.com/news/5g-phones-what-are-the-first-5g-phones><https://www.techradar.com/news/5g-phones-what-are-the-first-5g-phones>.

⁶⁷ Roger Cheng, *5G, and Not 5GE, Is Live and Real – If You Can Find It: Early Launches by AT&T and Verizon Have Shown Small-Scale Deployments That Aren't Broadly Available Yet*, CNET (Apr. 11, 2019), <https://www.cnet.com/news/5g-is-live-and-real-if-you-can-find-it/>.

⁶⁸ *Id.*

⁶⁹ Lynn La, *Galaxy S10 5G, OnePlus 7 Pro: Here Are All the 5G Phones That Are Coming*, CNET (Apr. 26, 2019), <https://www.cnet.com/news/galaxy-s10-5g-oneplus-7-pro-here-are-all-the-5g-phones-that-are-coming-5g-verizon-deployment-chicago/>.

PA's premise is again incorrect. The benefits of a 5G network will accrue to network users with both 5G and 4G devices. As data heavy users (who are incented to adopt 5G earlier) transition to the 5G network, it frees capacity on the 4G LTE network, improving service for 4G LTE users. Cal PA also ignored Joint Applicants' testimony about how New T-Mobile will more quickly refarm spectrum to 5G, thereby increasing 5G-capable device penetration rates by 10 percent year over year.⁷⁰ As New T-Mobile deploys 5G, vendors will have a greater incentive to bring 5G capable devices to market.⁷¹ This increased manufacturing of 5G capable devices will drive faster 5G device adoption rates and increase the number of customers that can enjoy the benefits of the network.

D. Deploying Better Service More Quickly Is in the Public Interest

Cal PA inexplicably argues there is no time imperative in 5G network development and incorrectly concludes that there is no benefit from New T-Mobile's faster deployment plans.⁷² Cal PA's position fails to recognize tangible benefits to consumers from deploying a substantially better 5G user experience sooner. First, because generational leaps in network technology have historically not been incremental but rather driven by a competitor's quantum leap, New T-Mobile will create a competitive spur that will cause other major operators to upgrade their networks sooner. Greater industrywide capacity could cut consumer prices in

⁷⁰ Jt. Applicants' Opening Br. at 28.

⁷¹ See Hearing Ex. Jt Appl.-2C ("Sievert Rebuttal Testimony"), Attachment A (Appx. G: Declaration of David S. Evans, Market Platform Dynamics, "Economic Analysis of the Impact of the Proposed Merger of T-Mobile and Sprint on the Deployment of 5G Cellular Technologies, the 5G App Ecosystem, and Consumers, Enterprises, and the Economy,") ("Evans Declaration") ¶ 33 ("[Cellular carriers] induce handset makers and others in the supply chain to develop the necessary inputs by making substantial capital investments to deploy new technologies.").

⁷² See Cal PA Opening Br. at 22-23.

half.⁷³ Cal PA seems to suggest that the Commission should embrace a “good enough for California” approach; such a cavalier attitude is surprising, especially coming from an entity purporting to represent Californians’ public interest. To argue that New T-Mobile should not deploy a world-class 5G network as soon as possible displays a startling disregard for the benefit of Californians would glean from accessing improved wireless services, especially at a time when competitors are already attempting to capitalize on user demands for better quality and faster service than those provided by LTE.⁷⁴

E. The Proposed Merger Will Increase Capital Investments in California

Contrary to Cal PA’s claim that “The Proposed Merger Will Not Increase Capital Investments in California,”⁷⁵ New T-Mobile will invest heavily in California and consumers will reap the benefits. Cal PA and its financial analyst witness rely on flawed and misleading calculations to falsely assert that capital expenditures will not increase as a result of the merger.⁷⁶

Cal PA claims that New T-Mobile plans to invest [BHC-AEO] [REDACTED]

[REDACTED] [EHC-AEO]⁷⁷ [BHC-AEO] [REDACTED]

[REDACTED]

[REDACTED] [EHC-AEO].⁷⁸ Even this estimate understates New T-Mobile’s overall capital investment in California because New T-Mobile’s estimate includes only network-specific investments and excludes capital investments related to stores, a new call center and

⁷³ See Sievert Rebuttal Testimony, Evans Declaration, Section V.C., ¶¶ 220-44.

⁷⁴ See, e.g., AT&T, 5G Evolution (2019), https://www.att.com/5g/consumer/5g-evolution?source=EC1N25000000000P&WT.srch=1&wtExtndSource=at%26t+5ge&gclsrc=aw.ds&&clid=EAIaIQobChMIi83C4OH64QIVRISGCh1y8wtzEAAAYASAAEgI0DfD_BwE&gclsrc=aw.ds (last visited May 1, 2019) (noting “5G Evolution” is up to twice as fast as AT&T’s LTE offering and is available now in over 400 markets).

other necessary facilities, as well as expansion of businesses supported by the New T-Mobile network.⁷⁹ Despite being repeatedly informed that the statement is false and misleading,⁸⁰ Cal PA continues to repeat these claims,⁸¹ and makes the utterly disingenuous assertion that, “[i]f anything, the proposed merger will disincentivize New T-Mobile from increasing capital investments in California.”⁸²

More importantly, Cal PA makes the fundamental error of confusing the importance of the dollar amount of investment and the resulting capacity from that investment. Due to the complementary nature of the Joint Applicants’ assets and the multiplicative effect of combining sites and spectrum, the Joint Applicants’ investment will be more efficient in that it will provide more capacity per dollar invested than either of the standalone networks. Using the correct numbers, New T-Mobile will not only invest more in its network in dollar terms [BHC–AEO]

⁷⁵ Cal PA Opening Br. at 35.

⁷⁶ Cal PA Opening Br. at 35 (“The Public Advocates Office’s financial analyst determined that capital expenditures will not increase as a result of the proposed merger.”).

⁷⁷ Cal PA Opening Br. at 36, Figure 13.

⁷⁸ Sievert Rebuttal Testimony at 14:3-4.

⁷⁹ Sievert Rebuttal Testimony at 13:24-26.

⁸⁰ *See, e.g.*, Sievert Rebuttal Testimony at 14:9-18 (“Q: Cal PA claims that the combined capital investment of standalone T-Mobile and Sprint in California will be more than the New T-Mobile’s capital investment (Clark Testimony at pp. 29-30)—is that correct? A: No. That is absolutely not the case. Mr. Clark has apparently taken data provided by Sprint with respect to their estimated total capital expenditures in California, added it to our directional estimates for standalone T-Mobile *network cap ex*—which does not account for additional capital investment related to stores, other necessary facilities, or expansion of businesses supported by the New T-Mobile network that is also part of New T-Mobile’s projected overall capital investment—and then compared to our estimate of *network cap ex* for New T-Mobile. In other words, he is comparing proverbial apples to oranges.”).

⁸¹ *Compare* Cal PA Opening Br. at 36, Figure 13, *with* Clark Testimony at 30, Figure 13.

⁸² Cal PA Opening Br. at 37.

██████████ [EHC–AEO] than Cal PA falsely claims,⁸³ but also that investment will lead to a significantly higher increase in capacity.

Cal PA’s testifying network witness, who admitted that he is not a network engineer,⁸⁴ also attempts to second guess the Joint Applicants’ judgments about which sites to retain and upgrade, rather than building new ones.⁸⁵ Moreover Cal PA makes the mistake of confusing a lack of new site builds with a lack of new investment. New T-Mobile will invest billions in its network in California, including investments in both new and existing towers, and will add new radios to existing T-Mobile and Sprint towers to deploy 5G on the combined company’s spectrum bands. This investment will be significantly more efficient than would be possible for either standalone company, generating more output at lower cost.

F. DISH Recycles Old Arguments Rebutted at the FCC and Relies on Evidence Not in the Record

DISH has injected itself into this proceeding, arguing that the Transaction has no cognizable benefits for consumers, because each of T-Mobile and Sprint would deploy 5G on their own without the merger. DISH offers nothing more than recycled arguments previously presented to the FCC which Applicants have long since thoroughly rebutted. First, DISH speculates that the standalone companies might obtain additional mmWave spectrum.⁸⁶ Despite the limited propagation characteristics of mmWave spectrum, DISH argues that Applicants’ engineering model “shows that each company will be able to provide full 5G without

⁸³ Compare Sievert Rebuttal Testimony at 14:3-4, with Cal PA Opening Br. at 36, Figure 13.

⁸⁴ Hearing Tr. at 1101:1-3 (Reed Cross).

⁸⁵ See Reed Suppl. Decl. at 6 “(Most of New T-Mobile’s “new” sites are in fact a subset of existing Sprint sites that will be retained post-merger.[...] This signifies that the majority of ‘new’ cell sites in New T-Mobile’s network already exist and do not represent increased investment in California.”).

⁸⁶ See DISH Opening Br. at 39.

experiencing almost any congestion at all” when deploying mmWave.⁸⁷ DISH references CWA’s Opening Brief and admits that this claim is the same as that which DISH previously submitted to the FCC in August of 2018.⁸⁸ Applicants debunked DISH’s theory months ago in its Joint Opposition⁸⁹ but, for the convenience of the Commission, reiterate their points here:

1. The millimeter wave band spectrum auction, while representing a valuable influx of needed spectrum for dense urban deployments, would not remedy the spectrum deficits faced by either standalone company.
2. Speculative mid-band spectrum auctions, which would not make spectrum available in the timeframe during which New T-Mobile will initiate deployment of its nationwide 5G network, are not practical substitutes for the spectrum resources available in the transaction.⁹⁰
3. Such bands are not viable spectrum solutions and would not enable the standalone companies to increase network capacity in the near term (or potentially ever, as the availability of almost all of this spectrum is uncertain).

Second, DISH next argues that Applicants’ current network model should take into account the potential acquisition of additional spectrum, including mmWave, and that doing so would significantly reduce claimed merger efficiencies.⁹¹

Joint Applicants have debunked this baseless argument as well. DISH cites to filings before the FCC that are not in the record⁹² and alleges that “[t]he addition of just 200 MHz of

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ *See* Sievert Rebuttal Testimony at Attachment B (“Joint Opposition”) at 55 (TMUS-CPUC-PA-00001153).

⁹⁰ For example, 3.5 GHz spectrum has a number of significant limitations that make it an inferior substitute for Sprint’s 2.5 GHz spectrum, including limited amounts of spectrum, constrained power limits on the band, small geographic areas for associated licenses, complicated sharing requirements, and a lack of license term and renewal expectancy. Joint Opposition, Appx. B (“Ray Reply Decl.”) ¶¶ 55-56.

⁹¹ *Id.*

⁹² DISH references the Letter from Pantelis Michalopoulos, DISH Counsel, to Marlene Dortch, FCC, WT Docket No. 18-197, at 2 (Apr. 16, 2019). This filing is not in the record before the Commission. *See*

millimeter wave spectrum to each standalone company would vastly increase capacity for the standalone companies, gutting the merger’s claimed effect on marginal costs.”⁹³ The filing that DISH claims supports this erroneous statement is not in the CPUC record and, therefore, the Commission should not rely upon it. However, if the Commission decides to include DISH’s filing in the record, then it should also admit Joint Applicants’ response, which was filed with the FCC as an ex parte and, which (1) shows that DISH’s claims are based on the false premise that acquiring and deploying mmWave spectrum is free, while purporting to assert that its model proves mmW spectrum is an effective solution for congestion as incremental traffic grows; and (2) thoroughly refutes DISH’s position and explains how DISH’s hypothesized additional mmWave spectrum licenses do not meaningfully change network marginal costs or the consumer benefits from the merger.⁹⁴

Ultimately, DISH’s late entry into these proceeding brings unsupported argument and stale rehash of issues raised and debunked in last year’s FCC filing . The Commission should disregard DISH’s attempts to mislead.

IV. CAL PA IGNORES THE OVERWHELMING EVIDENCE THAT THE MERGER WOULD DRAMATICALLY IMPROVE SERVICE QUALITY

Cal PA incorrectly claims that the Joint Application narrowly discusses the benefits that a 5G network will have on service quality in terms of “*just speed and coverage.*”⁹⁵ Cal PA’s

Administrative Law Judges’ Amended Ruling Granting in Part and Denying in Part the Motion of DISH Network Corporation for Party Status and for Official Notice of Documents Filed with the Federal Communications Commission (Feb. 25, 2019).

⁹³ DISH Opening Br. at 32.

⁹⁴ See Joint Applicants Response to DISH, Letter from Nancy J. Victory to Marlene Dortch, FCC, WT Docket No. 18-197 (Apr. 22, 2019).
<https://ecfsapi.fcc.gov/file/10422284636221/mmW%20Public%202019.04.22.pdf>

⁹⁵ Cal PA Opening Br. at 20 (emphasis added).

claim, however, is demonstrably false. The Application and supporting evidence describes in great detail the service-quality improvements flowing directly from the New T-Mobile 5G network, including increased capacity, greater service reliability, and depth of coverage with stronger and more consistent signal quality, all at a lower cost to consumers.⁹⁶

Cal PA also argues without evidence that the merger would not even improve speed or coverage.⁹⁷ However, as explained below, these claims are demonstrably false.

A. New T-Mobile’s Coverage Will Benefit Sprint and LifeLine Consumers

Cal PA argues Sprint already has a roaming agreement with T-Mobile so its customers would actually not gain any coverage benefit from the merger.⁹⁸ This point has been previously addressed by the Applicants and shown to be false. Sprint’s limited, four-year roaming agreement with T-Mobile⁹⁹ – which does not even apply to its LifeLine customers – is a wholly insufficient replacement for the benefits that would be created by the merger. Even for those Sprint customers who can roam, the customer experience while roaming is far from the seamless replacement that Cal PA claims (and indeed, any roaming agreement would suffer from these issues).¹⁰⁰ As previously explained, Sprint’s roaming agreement with T-Mobile limits the amount of traffic Sprint can put on the T-Mobile network based on congestion, and includes only

⁹⁶ Wireless Transfer Application of T-Mobile US, A.18-07-012 at 3-4; 17-22.

⁹⁷ See Cal PA Opening Br. at 20-23.

⁹⁸ *Id.* at 22. Cal PA additionally takes the baffling position that an individual carrier’s coverage is immaterial (despite previously arguing it is a significant factor in customer satisfaction because consumers can always switch to a provider with superior coverage. *Id.* at 21. This position is however diametrically opposed to any rational economic theory

⁹⁹ Hearing Ex. Jt. Appl.-5C (“Draper Rebuttal Testimony”) at 15:25-16:5.

¹⁰⁰ Ray Rebuttal Testimony at 37.

LTE data, not voice, VoLTE, or 5G.¹⁰¹ In addition, the handoff as a customer transitions from Sprint's network to a roaming partner's network can result in service interruptions.¹⁰² Moreover, the T-Mobile roaming agreement is of limited duration.

Even Cal PA's witness concedes that roaming is not as good as being on a home network,¹⁰³ and that roaming agreements typically have low data caps and reduced speeds.¹⁰⁴

B. New T-Mobile's Data Speeds Are Transformational and Merger-Dependent

Cal PA argues that the speed increases claimed by the Applicants are a result of the transition to 5G and are not unique to New T-Mobile's 5G network.¹⁰⁵ Cal PA claims that "[a]s time passes, technological innovation and continued infrastructure investment will improve 5G performance independent of the merger, just like with 4G LTE."¹⁰⁶ Cal PA is woefully mistaken. While standards and technology do improve over time, network performance is far more directly driven by the deployment of more spectrum on more sites. This is why, for example, carriers continue to invest significantly on site access for their 4G networks each year. As demonstrated, the multiplicative effects associated with more cell sites, more spectrum per cell site, and higher spectral efficiencies will deliver, among other benefits, data rates greater than 150 Mbps to 97 percent of the population and greater than 300 Mbps to 93 percent of the

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ Hearing Tr. at 1117:27 (Reed Cross).

¹⁰⁴ *Id.* at 1118:1-15.

¹⁰⁵ *See* Cal PA Opening Br. at 22-23.

¹⁰⁶ *Id.* at 38.

population by 2024 (data speeds that are 14x faster than standalone T-Mobile LTE and 5x faster than standalone T-Mobile 5G).¹⁰⁷

V. THE MERGER IS PROCOMPETITIVE AND INTERVENORS CANNOT UNDERMINE THIS FACT

A. Intervenors' Claims That Prices Will Increase and That Joint Applicants' Economic Models Show Higher Prices for Consumers Are Incorrect¹⁰⁸

Cal PA asserts, based on the supplemental analysis of Cal PA's economic expert, that Joint Applicants' IKK model "confirms that prices that will be charged by post-merger New T-Mobile will be higher than the prices that the two standalone firms will charge absent their merger."¹⁰⁹ This is *false*. In fact, both IKK's and Cornerstone's economic analyses, as well as the New T-Mobile business plan, confirm that post-merger prices paid by California customers for wireless service plans will go down both on a nominal and quality-adjusted basis.¹¹⁰

1. Cal PA's Expert Analyzed the Wrong Model; The Correct IKK Model Shows Falling Prices (Nominal and Quality Adjusted)

Dr. Selwyn's analysis is entitled to no weight at all due to the simple fact that he analyzed the *wrong model* in reaching his conclusions. Rather than analyzing the IKK model submitted by the Joint Applicants, he based his entire economic report on an incomplete and discredited model submitted on behalf of Intervenor DISH, which was only included in the produced IKK materials because IKK reverse-engineered and critiqued the DISH model.¹¹¹ Had Dr. Selwyn

¹⁰⁷ Joint Opposition at 3.

¹⁰⁸ For an explanation of the many mistakes and mischaracterizations Dr. Selwyn's economic analysis makes. See Appendix 3.

¹⁰⁹ Cal PA Opening Br. at Attachment A ("Selwyn Suppl. Decl.") at 2.

¹¹⁰ See Appendix 3 for a full detailing of the errors, false claims, and mischaracterizations in Dr. Selwyn's supplemental declaration and an explanation of the correct conclusions of the IKK model.

¹¹¹ See Appendix 3 ¶ 6 ("Critically, the only reason IKK replicated the HBVZ model was in order to critique it.").

reviewed the actual IKK merger simulation, he would have had to conclude that the merger is *procompetitive*, and *output enhancing* – generating *lower* nominal prices, *lower* prices per GB of data used, and *lower* quality-adjusted prices.¹¹²

In Figure 2 of Dr. Selwyn’s declaration, he claims he “reproduce[s] IKK model output.”¹¹³ In fact, the very headings shown in Dr. Selwyn’s Figure 2 (and highlighted below) are labeled “Merger Simulation Results As Reported by HBVZ” and “Replication of HBVZ Merger Simulation Results” – “HBVZ” being references to DISH’s hired economists.¹¹⁴ In fact, all of Dr. Selwyn’s tables purporting to represent IKK Model results are sourced to “Replication of HBVZ ALM.xlsx.”¹¹⁵

¹¹² See Appendix 3 ¶¶ 4, 10-13.

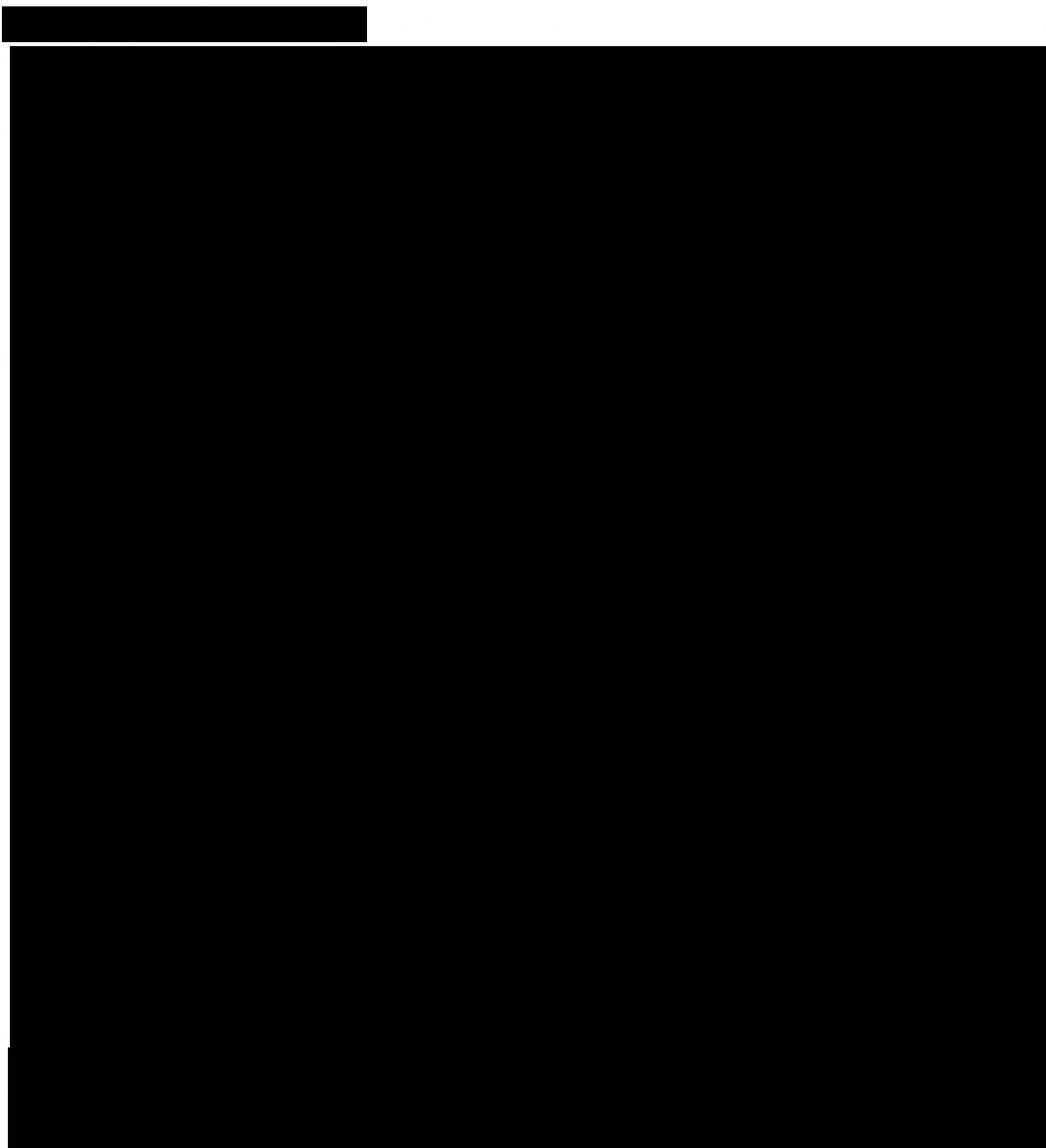
¹¹³ Selwyn Suppl. Decl., ¶ 27 and Figure 2.

¹¹⁴ Selwyn Suppl. Decl., ¶¶ 4-5; Hearing Ex. Jt Appl.-7C (“Israel Rebuttal Testimony”) at 40:4-6.

¹¹⁵ *Id.* at Table 1, Table 2 and Table 3.

Figure 2¹¹⁶

[BHC-AEO]



[EHC-AEO]

As a result, Dr. Selwyn is actually presenting *DISH*'s economists' results, not *IKK*'s.¹¹⁷

¹¹⁶ *Id.* ¶ 27 and Figure 2.

¹¹⁷ In their analysis, HBVZ used two types of models: an Antitrust Logit Model (“ALM”) and a Proportionally Calibrated Almost Ideal Demand System (“PC-AIDS”) model. Hearing Ex. Jt Appl.-007C (“Israel Rebuttal Testimony”) at Attachment B (“IKK Declaration”), ¶ 9.” Because HBVZ did not provide backup files for their models, IKK had to replicate the models themselves in order to analyze them. *Id.* at 29 n.47 (“As noted above, because HBVZ did not provide backup materials with their declaration, we have had to reverse engineer their results based on the information contained in the declaration. We are able to replicate HBVZ’s predicted post-merger prices within 0.2 percent in HBVZ’s

Moreover, from a substantive perspective, DISH's HBVZ model is able to show anticompetitive effects only by completely ignoring the efficiencies created by the Transaction.¹¹⁸ Dr. Selwyn therefore makes the exact same mistake in regards to efficiencies that he made in his initial testimony, analyzing an imagined merger without efficiencies instead of the actual transaction presented in this case.¹¹⁹ When efficiencies are added to the HBVZ (*i.e.*, DISH) models that Dr. Selwyn analyzes – which even Cal PA acknowledges is necessary to assess the true impact of the merger¹²⁰ – the merger is shown to be procompetitive.

Joint Applicants' actual model, the IKK model, demonstrates that, across a broad range of sensitivity analyses, the merger will *enhance* consumer surplus.¹²¹ Indeed, the IKK model shows that marginal cost efficiencies are so large that, even without considering quality improvements, the merger is procompetitive in all years after the networks are merged and

ALM prepaid and postpaid models and HBVZ's PC-AIDS postpaid model. We have been able to replicate HBVZ's predicted post-merger prices within 2.0 percent in HBVZ's PC-AIDS prepaid model. The results that we report below are based on our reverse engineered version of HBVZ's merger simulation models.”).

Therefore, in order to respond to HBVZ, IKK attempted to replicate the ALM and PC-AIDS models. *Id.* IKK also corrected the HBVZ models to account for methodological errors. *Id.* ¶ 3. These models are not IKK's merger simulation. Section II.A. of the IKK Declaration, entitled “Our Alternative Market Equilibrium Model” introduces IKK's model.

¹¹⁸ Israel Rebuttal Testimony at 38:1-22. IKK's merger simulation, which is the basis for IKK's conclusions, shows that both nominal and quality-adjusted prices decrease because of the merger.

¹¹⁹ The Horizontal Merger Guidelines explain the importance of weighing efficiencies, acknowledging that “a primary benefit of mergers to the economy is their potential to generate significant efficiencies and thus enhance the merged firm's ability and incentive to compete, which may result in lower prices, improved quality, enhanced service, or new products. For example, merger-generated efficiencies may enhance competition by permitting two ineffective competitors to form a more effective competitor, *e.g.*, by combining complementary assets.” Hearing Ex. Jt Appl.-015 Horizontal Merger Guidelines (“Horizontal Merger Guidelines”) at 29.

¹²⁰ *See, e.g.*, Hearing Tr. at 1110:28-1111:3 (Reed Cross) (“The question is whether or not these scale efficiencies would outweigh any competitive harms that may result from the merger.”).

¹²¹ Israel Rebuttal Testimony at 49:1-15.

customers are migrated to the combined network in 2021.¹²² Dr. Selwyn’s claim that quality adjustments must be made to the IKK model before the merger can be deemed pro-competitive is therefore wrong.¹²³

Though Dr. Selwyn continues to suggest that New T-Mobile will not pass on the marginal cost efficiencies to consumers, as Joint Applicants explained in their Opening Brief, elementary economics shows that all firms have an incentive to pass through marginal cost changes.¹²⁴ Dr. Selwyn’s decision to ignore the transaction’s effect on marginal cost completely undermines his conclusions.¹²⁵

New T-Mobile’s lower marginal costs also refute Dr. Selwyn’s claims that the IKK model shows “both AT&T and Verizon would also increase their prices [and] New T-Mobile’s market share would be less than the combined market shares of the two companies standing alone.”¹²⁶ Dr. Selwyn’s conclusion can only be explained by his analysis of the HBVZ rather than the IKK model, because such a finding is not supported by the IKK model. The IKK model

¹²² This is true for 2021 as well so long as the average subscriber values the quality improvements at just [BHC-AEO] [REDACTED] [EHC-AEO] per month in 2021—a threshold that is surely met.

¹²³ See Appendix 3 ¶¶ 4, 10-13.

¹²⁴ Jt. Applicants’ Opening Br. at 61-62; see also Israel Rebuttal Testimony at 18:22-19:8.

¹²⁵ Notably, Dr. Selwyn’s original testimony relies solely upon generalizations about market concentration and HHIs, which are at most rebuttable starting point for analysis. Dr. Selwyn never took the necessary next step of analysis in conducting a merger simulation or other quantitative analysis to predict the competitive effects of the merger. Indeed, despite admitting that “some” claimed benefits of combining Sprint and T-Mobile’s complementary spectrum assets “may well be true,” Dr. Selwyn made no effort to quantify how those benefits would improve consumer welfare in California. Selwyn Testimony ¶ 136. Instead, relying on his irrelevant calculation of county and census-level HHIs which purport to show a “marked increase in concentration,” Dr. Selwyn asserts the effects of increased concentration cannot be offset by the benefits of the merger. *Id.* ¶ 161. Still left unanswered is how Dr. Selwyn purports to reach this unfounded conclusion given that he does not even attempt to calculate the benefits of the merger. Dr. Selwyn’s failure to consider any benefits to consumers renders his conclusions useless.

¹²⁶ Selwyn Suppl. Decl. at ¶ 5.

shows that New T-Mobile will offer a more attractive product at lower prices.¹²⁷ As a matter of economics captured in IKK's model, this better offering will attract customers from AT&T and Verizon, increasing the share of New T-Mobile relative to the combination of standalone Sprint and T-Mobile.¹²⁸ AT&T and Verizon's profit maximizing response to this will be to lower their own prices to mitigate this share loss, further amplifying the benefits to consumers.¹²⁹

In sum, Dr. Selwyn's analysis does not respond to Dr. Israel's testimony. Rather, it combines a flawed analysis from a potential competitor in the wireless market with faulty reasoning at odds with basic principles of economics. Dr. Selwyn ignores Dr. Israel's testimony, supported by the real IKK model, that the merger produces [BHC-AEO] [REDACTED] [EHC-AEO] in incremental consumer surplus for California customers.¹³⁰ In short, Dr. Israel's testimony remains unrebutted.

2. Cal PA's Economist's Claims That AT&T and Verizon's Marginal Costs and Prices Undermine Joint Applicants' Conclusions Are Incorrect

Dr. Selwyn also argues that, because Verizon and AT&T currently charge higher prices despite having lower marginal costs than T-Mobile and Sprint, New T-Mobile's lower marginal costs will not result in lower prices.¹³¹ However, a merger analysis properly compares consumer welfare with and without the merger by comparing prices pre- and post-merger, not by cross firm

¹²⁷ See Appendix 3 ¶¶ 12-13.

¹²⁸ See Appendix 3 ¶¶ 13.

¹²⁹ See Appendix 3 ¶¶ 13.

¹³⁰ Israel Rebuttal Testimony at 33:14-34:5.

¹³¹ Selwyn Suppl. Decl. ¶ 17.

comparisons.¹³² Comparisons of prices across companies at a particular point in time are influenced by myriad factors such as those firms' relative capacity utilization and the extent to which firms have equally robust networks. Because of these differences across firms, such comparisons do not inform the analysis of the pricing incentives faced by the merged firm relative to the two standalones. In the current case, for example, New T-Mobile will have substantial additional available capacity relative to AT&T and Verizon in today's market. If anything, Dr. Selwyn's observation supports the conclusion that blocking this transaction will only cement AT&T's and Verizon's market power, which can only be challenged by a firm with the capabilities and capacity of the New T-Mobile.

B. Cal PA's Critiques of The Consumer Valuation of Network Quality Fail and In Any Event Do Not Undermine The Conclusion that the Transaction is Procompetitive

Dr. Selwyn also claims that the Joint Applicants' experts' valuations of network quality are unreliable and therefore do not adequately reflect consumer benefits. This claim ignores the multiple sources supporting their conclusions. Dr. Selwyn's further assertion that download speeds receive "little to no attention in any of Sprint's or T-Mobile's marketing and advertising" is demonstrably false by reference to the very evidence he cites.¹³³

It cannot be denied that quality improvements are highly relevant to consumer welfare. Dr. Selwyn's flawed critiques therefore go only to how much, not whether, consumers will benefit from the increased network quality the merger undeniably will bring.

1. Dr. Selwyn's Critiques of Joint Applicants' Experts' Valuation of Network Quality Are Incorrect

¹³² Horizontal Merger Guidelines at 1 (merger analysis "require[es] an assessment of what will likely happen if a merger proceeds as compared to what will likely happen if it does not").

¹³³ See Selwyn Suppl. Decl. ¶¶ 34, 38.

The Applicants provided two alternative metrics to measure the value of the quality improvements of the New T-Mobile network relative to the standalone networks.

First, the Joint Applicants presented IKK’s analysis, which relies in part on a published study¹³⁴ (“Nevo *et al.*”) in a leading peer-reviewed economic journal specializing in cutting edge econometric techniques, with a lead author (Aviv Nevo) who is a highly respected professor at the University of Pennsylvania and a former chief economist at the DOJ Antitrust Division. Dr. Selwyn identifies two different statistical techniques that he claims would have been superior in estimating the value of quality.¹³⁵ But this criticism fails, among other reasons, because Dr. Israel’s testimony discusses a wide range of evidence supporting IKK’s findings on the value of quality improvements to consumers, including conjoint analyses of the type Dr. Selwyn recommends.¹³⁶

Second, to value quality improvements, the Applicants also presented results based on detailed data from the Nielsen Mobile Performance (“NMP”) dataset. NMP collects real life data on the [BHC-AEO] [REDACTED] [REDACTED] [EHC-AEO]¹³⁷ This rich data set allowed Dr. Bresnahan and his colleagues to measure at a granular level how individual customers’ choice of carrier reflects the value they place on network quality.¹³⁸ That analysis

¹³⁴ Aviv Nevo, John L. Turner, and Jonathan W. Williams, “Usage-Based Pricing and Demand for Residential Broadband,” *Econometrica*, Vol. 84, No. 2 (March, 2016), at 411–443 (hereinafter, Nevo *et al.*).

¹³⁵ Selwyn Suppl. Decl. ¶ 40.

¹³⁶ See, for example, IKK Declaration, September 17, 2018, notes 140 and 143, attached to Israel Rebuttal Declaration.

¹³⁷ Hearing Ex. Jt Appl.-6C (“Bresnahan Rebuttal Testimony”) at Attachment A (“ABH White Paper”) ¶ 2.

¹³⁸ Bresnahan Rebuttal Testimony at 12-13.

shows that, in fact, consumers value speeds *more* than what Dr. Israel conservatively used for his modeling work.¹³⁹ Put differently, Professor Bresnahan has already performed the statistical analysis on data from wireless users that Dr. Selwyn argues should have been done, and found that Dr. Israel's estimate *understated* the value consumers place on quality.¹⁴⁰ Dr. Selwyn ignores ABH's direct measurement of quality altogether, and their showing that wireless consumers in today's marketplace attribute high value to network quality thus stands unrebutted. As such, they remain an unassailably reliable measure of the value consumers will achieve if the merger proceeds.

Finally, and perhaps most importantly, the existence of multiple techniques for estimating the value of quality in no way invalidates the application of any particular one of those techniques. And Dr. Selwyn provides no evidence that application of whichever technique he favors would have yielded any different result than what IKK found. Dr. Selwyn's criticisms therefore cannot be given any weight.

2. Cal PA's Assertion that Customers Do Not Value Throughput (Speed) is Demonstrably False

In his supplemental declaration, Dr. Selwyn claims that consumers do not care about download speeds by asserting speed "receives little to no attention in any of Sprint's or T-Mobile's marketing and advertising."¹⁴¹ Dr. Selwyn therefore asserts IKK's analysis looking using speed as a key metric users value is inappropriate.¹⁴² The only "evidence" Dr. Selwyn cites in support of this remarkable claim is Sprint's and T-Mobile's marketing material noting

¹³⁹ Bresnahan Rebuttal Testimony at 18:3-15.

¹⁴⁰ See Bresnahan Rebuttal Testimony, Attachment A at pp. 27, 44, Exhibit 6, and fn. 78

¹⁴¹ Selwyn Suppl. Decl. at 29.

¹⁴² Selwyn Suppl. Decl. ¶ 34.

that “download speeds ... receive[] little to no attention in any of Sprint’s or T-Mobile’s marketing and advertising.”¹⁴³ This proposition is demonstrably false and flies in the face of real world experience. Consumers *do* care about download speeds (as anyone waiting impatiently for an application or video to buffer will attest), and carriers *do* emphasize download speeds in their materials.

The very examples Dr. Selwyn himself cites prove this point. Dr. Selwyn presents a screenshot of a T-Mobile webpage about its T-Mobile ONE service, and claims that download transmission speed “is not even included in the feature list for T-Mobile ONE service.”¹⁴⁴ But Dr. Selwyn’s screenshot is not from the T-Mobile ONE plan page at all: it comes from a page about a special offer for an additional line. On the plan page itself, the very first feature highlighted is “high-speed data on your phone.”¹⁴⁵ Dr. Selwyn also trimmed his screenshot to omit multiple discussions of speed.¹⁴⁶ The very next part of the screen presents a comparison to other carriers. As seen below in Figure 3, Verizon and AT&T are criticized because, when customers choose these carriers “[t]hings could get slow after 22GB.”¹⁴⁷

¹⁴³ Selwyn Suppl. Decl. at 29.

¹⁴⁴ *Id.* at 30, and Figure 6, part of a screen capture of https://www.t-mobile.com/cell-phone-plans?icid=WMM_TM_DEVITO_T7OK1SN9U14432 (*emphasis* in original).

¹⁴⁵ <https://support.t-mobile.com/docs/DOC-36931> (“Unlimited talk, text, & high-speed data on your phone”).

¹⁴⁶ https://www.t-mobile.com/cell-phone-plans?icid=WMM_TM_DEVITO_T7OK1SN9U14432. The footnote reads: “During congestion, the small fraction of customers using >50GB/mo may notice reduced speeds until next bill cycle due to data prioritization.”

¹⁴⁷ https://www.t-mobile.com/cell-phone-plans?icid=WMM_TM_DEVITO_T7OK1SN9U14432

Figure 3¹⁴⁸

LIMITED-TIME OFFER

Get 2 lines. Add a 3rd line free.

Bring the whole family together with T-Mobile ONE™. Join with 2 lines of unlimited talk, text, and data on your smartphone, and your 3rd line is on us, after bill credits with AutoPay—that's just \$40/line.

- Unlimited talk, text, and data
- Free stuff every week
- Standard Netflix included
- Free texting from Gogo when you fly
- Taxes & fees included
- Talk, text & data in Mexico & Canada
- Texting & data abroad
- Mobile hotspot data included

Compare T-Mobile ONE to the other guys

	T-Mobile	Verizon	AT&T
Unlimited 4G LTE data.	✓ 4G LTE on your smartphone, with a prioritization point of 500B.	✗ Things could get slow after 22GB.	✗ Ditto.
Taxes & fees included.	✓ No surprises on your monthly service bill. Just ONE flat price.	✗ Prepare for taxes & fees on top of your rate.	✗ Have you been practicing your #facecrazy?
Texting & data abroad.	✓ Unlimited in 210+ countries and destinations.	✗ Sending a selfie from Paris? It'll cost you.	✗ Say "ma" to extra charges.

Or all T-Mobile plans. During comparison, the small fraction of customers using 4G LTE service may notice reduced speeds. Limit may be cycle due to data prioritization. Video typically streams at HD quality (480p). See www.t-mobile.com for more details. ©2015 T-Mobile. All rights reserved. Other offers may vary. See T-Mobile website for details.

IKK’s declaration points to numerous additional examples of how carriers advertise based on speed, engage in internal studies of consumer perceptions of speed, and price differently based on speed.¹⁴⁹

As anyone who has sat through wireless carriers’ television ads is perhaps painfully aware, Dr. Selwyn’s claim that speed is not a focus of carrier advertising is baseless.

¹⁴⁸ Id.

¹⁴⁹ IKK Declaration ¶¶ 123-132.

C. The New T-Mobile Business Plan Prepared in the Ordinary Course of Business and Relied Upon by Wall Street in Financing the Transaction Calls for Lower Prices

New T-Mobile’s business plan, which calls for price reductions that are reinforced by voluntary commitments made to regulators, constitutes the best evidence of what New T-Mobile will actually do post-closing. And Cal PA and its expert ignore it.

The New T-Mobile business and financial plan states that New T-Mobile will lower average revenue per user (ARPU) from [BHC-AEO] [REDACTED] [EHC-AEO] in 2019 to [BHC-AEO] [REDACTED] [EHC-AEO] in 2024, while standalone T-Mobile would maintain [BHC-AEO] [REDACTED] [EHC-AEO] during this period¹⁵⁰ and standalone Sprint plans to]increase ARPU.¹⁵¹ This plan was created to value the Transaction, based on how New T-Mobile would operate and how its revenues, costs, and profitability would compare to the two standalone businesses.¹⁵² This plan formed the basis for approval of the Transaction by the T-Mobile Board of Directors, and was presented to and relied on by rating agencies and investors committing billions of dollars to finance the transaction and network build out.¹⁵³ The New T-Mobile

¹⁵⁰ See Sievert Rebuttal Testimony at Attachment A (“PIS”) (“Ewens Decl.”) ¶¶ 7, 8, Figure 1 (“I developed a financial plan for New T-Mobile.”) (“The financial model projects passing scale benefits on to customers in the form of an over 6 percent reduction in ARPU, going from [BHC-AEO] [REDACTED] [EHC-AEO] to [BHC-AEO] [REDACTED] [EHC-AEO] by 2024. . . . By contrast, the financial model of T-Mobile standalone projects [BHC-AEO] [REDACTED] [EHC-AEO] over time.”) (TMUS-CPUC-CD-000229 to TMUS-CPUC-CD-00230. See also Attachment C to Sievert Testimony TMUS-CPUC-PA-10000113 to TMUS-CPUC-PA-10000127.

¹⁵¹ Sievert Rebuttal Testimony, Attachment A (“PIS”) at App. F (“Draper Declaration”) ¶ 6.

¹⁵² See Sievert Rebuttal Testimony at 15:11-15 (“[W]e developed New T-Mobile’s business and financial models to fund the network investment and the business. We began with each company’s standalone plans and then assessed cost savings and other value creation opportunities. Ultimately, we built a model with synergies sufficient to enable New T-Mobile to pursue its disruptive network and business plans.”).

¹⁵³ Sievert Rebuttal Testimony, Attachment C at TMUS-CPUC-PA-10000113 to TMUS-CPUC-PA-10000130 (“T-Mobile has committed to the rating agencies and its lenders that it will execute on this plan. Our shareholders and lenders have staked billions on this happening!”). See also Sievert Rebuttal Testimony at 3:19-20 (“On the basis of the cost synergies and relying on the business and network plans I

business and financial plan is consistent with T-Mobile’s growth strategy for the past several years, and it would damage the value of the business to suddenly deviate from that strategy by raising prices.¹⁵⁴ While the IKK and ABH economic models make clear that this business plan makes economic sense, at the end of the day, the Business Plan is what New T-Mobile will implement, and the business plan is to lower prices to attract AT&T and Verizon customers to fill New T-Mobile’s massively increased capacity.

Cal PA further insinuates without any foundation whatsoever that the synergies from the transaction are somehow associated with higher prices.¹⁵⁵ This is simply incorrect. The Joint Applicants have provided detailed documentation of the source of the synergies and cost-savings that will allow New T-Mobile to invest \$40 billion in detail,¹⁵⁶ and its synergies do not include any price increases.¹⁵⁷ The business plan shows that the majority of the synergies – \$25.7 billion – come from eliminating redundancies in T-Mobile and Sprint’s existing networks.¹⁵⁸

introduced above, T-Mobile was able to secure financing to fund an enormous up-front investment to build its nationwide 5G network.”).

¹⁵⁴ Ewens Declaration ¶ 10 (“Most notably, the company would be punished by subscribers (and ultimately by shareholders) if it started acting like the ‘other guys,’ abandoned its steady drumbeat of pro-consumer enhancements, or walked back from the Un-contract rate promise. To be sure, even a small misstep in an era when consumer activism is amplified through social media could have grave consequences. Simply put, squandering such a successful Un-carrier business strategy for small incremental profits would be a financial and business disaster for the long-term success of New T-Mobile.”) (TMUS-CPUC-CD-00231).

¹⁵⁵ Cal PA Opening Br. at 35.

¹⁵⁶ *Id.* at 35 (“Joint Applicants claim that ‘synergies’ and ‘cost savings’ (without explaining where the alleged synergies will come from – higher prices? layoffs? store closures? service quality cuts?), will result in an extra \$40 billion (nationwide) that the New T-Mobile will invest in capital expenditures, including in California.”).

¹⁵⁷ *Id.* [Sievert Rebuttal testimony] at 12:13-21; Sievert PIS Declaration ¶¶ 12-13.

¹⁵⁸ Sievert Rebuttal Testimony at 12:13-21.

D. Intervenor's Fail to Show Joint Applicants Are Each Other's Closest Competitors; Economic Analysis Proves They Are Not

CWA and DISH, relying primarily on anecdotal evidence, claim that Sprint and T-Mobile are each other's closest competitor, and that the loss of competition between them would be particularly harmful as a result. But rather than demonstrating this conclusion with economic analysis, the Intervenor's point to news stories about Twitter disputes and marketing stunts.¹⁵⁹ Even if anecdotal evidence of promotions were the correct way to measure closeness of competition, the Intervenor's examples only demonstrate that Sprint and T-Mobile are but two actors in a competitive industry. A closer look at the promotions the Intervenor's cite reveals how unconvincing this anecdotal evidence is.¹⁶⁰

CWA claims "T-Mobile and Sprint Engage in Extensive Head-to-Head Competition," yet the specific promotions CWA cites explicitly include many competitors, not just T-Mobile or Sprint.¹⁶¹ Moreover, Sprint's advertising is usually targeted at AT&T and Verizon.¹⁶² For

¹⁵⁹ Goldman Testimony at 21 n.64; *id.* at 22 n.65.

¹⁶⁰ In its Opening Brief, CWA also claims briefly that "porting data" indicates that Sprint and T-Mobile are each other's closest competitors. CWA Opening Br. at 18, 34. Dr. Bresnahan and Dr. Israel both thoroughly refuted on the stand the reliability of this type of data for measuring diversion. *See, e.g.*, Hearing Tr. at 802:2-6 (Bresnahan Cross) ("[M]y investigation of the suitability of the porting data for my task, which is to reliably quantify diversion ratios and related things is that in this industry they are not suitable for that task."); *see, e.g.*, Hearing Tr. at 867:3-7 (Israel Cross) ("I think every economist that I know would agree that the diversion estimates that Professor Bresnahan produced are far superior to porting data; other surveys are better than porting data.").

¹⁶¹ *See, e.g.*, Hearing Ex. Jt Appl. CWA-1 ("Goldman Testimony") at 21 ("In November 2015, Sprint unveiled a limited-time promotion offering 50 percent off to T-Mobile, Verizon, and AT&T customers."); *id.* at 23 ("In June 2017, Sprint began offering a free year of unlimited data to customers of T-Mobile, Verizon, and AT&T."); *id.* at 25 ("In June 2015, Boost Mobile offered to halve the cost of plans for customers that switched from either MetroPCS or Cricket Wireless.").

¹⁶² Hearing Tr. at 648:1-4 (Draper Cross) ("[A]lmost always our advertising is targeted at AT&T and Verizon. Why? They have the most customers, so those are the ones we tend to go after.").

example, its Super Bowl commercials focused on how much a customer would save over AT&T and Verizon.¹⁶³

DISH similarly attempts to use a collection of online articles that are not in the record to claim that Sprint and T-Mobile are close competitors.¹⁶⁴ However the specific examples they cite show that all competitors are responding to one another's promotions,¹⁶⁵ which matches up with Joint Applicants' experience – AT&T and Verizon are the principal sources of customer growth for T-Mobile.¹⁶⁶

In contrast to Intervenors' reliance on subjective interpretations of anecdotal evidence, the Joint Applicants have presented the Commission with thorough economic evidence in addition to substantial business documentation. The thorough testing of customer diversion from Dr. Bresnahan, Dr. Israel and their colleagues demonstrates quantitatively that Sprint and T-Mobile brands are not such close competitors that their merger is harmful to consumers.¹⁶⁷

E. Wholesale MVNO Providers Will Benefit From the Increased Competition Enabled by New T-Mobile.

Cal PA and Intervenors next assert that this transaction will harm competition for wholesale MVNO customers.¹⁶⁸ That is false. The evidence shows that New T-Mobile will provide more competition for the provision of wholesale services. As explained in Joint

¹⁶³ Hearing Tr. at 648:16-18 (Draper Cross).

¹⁶⁴ See DISH Opening Br. at 25.

¹⁶⁵ *Id.* at 26-30 emphasis added, internal quotation marks and brackets removed) (for example claiming in response to T-Mobile's One plan, Verizon, AT&T, and Sprint *all* introduced or improved their unlimited data offerings.)

¹⁶⁶ Hearing Tr. at 267:23-27 (Sievert Cross).

¹⁶⁷ Israel Rebuttal Testimony at 49, Table 5; Bresnahan Rebuttal Testimony at 18:3-19:14, Attachment A at ¶¶ 76-79.

¹⁶⁸ See, e.g., Cal PA Opening Br. at 24-26, 28; CWA Opening Br. at 9-10; TURN Opening Br. at 8-13.

Applicants' Opening Brief, capacity is the number one driver of MNO incentives to sell to MVNOs and the combination of the Joint Applicants' assets will dramatically increase capacity.

¹⁶⁹ The Joint Applicants have established that New T-Mobile will have greater incentives to monetize that capacity, including by partnering with MVNO and wholesale customers.¹⁷⁰

New T-Mobile's increased capacity will significantly improve the competitive landscape from the perspective of MVNO providers and their customers. Sprint lacks the network quality (especially coverage) to be an effective enabler of MVNOs. As a result many MVNOs, like TracFone, are wary of partnering with Sprint given its network limitations.¹⁷¹ T-Mobile on the other hand is running out of capacity, meaning it does not have extra capacity to sell off to wholesalers.¹⁷² New T-Mobile's massive additional capacity and improved network quality will make it a willing MVNO partner, better able to serve its customers, than either standalone company is today. As TracFone, the largest U.S. MVNO, noted in its comments to the FCC , it "expects that the New T-Mobile will increase the MNO wholesale competition for TracFone's business and thus reduce wholesale costs. As a result, TracFone expects this new competition will enable it to continue to compete successfully in the retail wireless market."¹⁷³

In addition to these competitive incentives, New T-Mobile has also committed to honoring the terms of existing Sprint and T-Mobile agreements and extending those agreements

¹⁶⁹ See Jt. Applicants' Opening Br. § V.E.

¹⁷⁰ PIS at 2, 124.

¹⁷¹ As TracFone has stated: "[i]n rural areas, T-Mobile and Sprint historically have not offered sufficient coverage and/or speeds in these geographic pockets of the United States. Comparatively, AT&T and Verizon have been the primary suppliers for these wholesale market agreements." Jt. Applicants' Ex. 13. Because of these limitations, Sprint estimates TracFone puts less than [BHC – AEO] [REDACTED] [EHC – AEO] of its total traffic over Sprint's network. Draper Rebuttal Testimony at 32:8-9.

¹⁷² See Sievert Rebuttal Testimony at 11:17-12:11, 22:20-26, 22:29-30:4.

¹⁷³ Hearing Tr. at 1080:14-21 (Odell Cross), *see also* Hearing Ex. Jt Appl.-13.

through at least 2021 upon request,¹⁷⁴ and also to providing the Commission with annual reports listing MVNOs and traffic volume. *See* Appendix 1.¹⁷⁵ These commitments are responsive to conditions that Cal PA and TURN requested in their Opening Briefs.¹⁷⁶

F. Intervenor Do Not Properly Analyze the Competitive Landscape of the World Without the Merger.

Intervenors acknowledge that the *Horizontal Merger Guidelines* provide the framework for the competitive-effects analysis here.¹⁷⁷ As Joint Applicants explained in their Opening Brief, the Guidelines mandate a holistic comparison of competition in the worlds with and without the merger.¹⁷⁸ Intervenors argue that the proposed merger is anticompetitive and that “without the proposed merger, both Sprint and T-Mobile will continue to be healthy competitors for the foreseeable future.”¹⁷⁹ As to the former point, the preceding sections explain why Intervenors’ claims of anticompetitive harm from the merger are wholly incorrect. On the latter

¹⁷⁴ Sievert Rebuttal Testimony at 45:1-5; Hearing Ex. Jt Appl.-4C (“Keys Rebuttal Testimony”) at 13:12-14.

¹⁷⁵ All such commitments are *voluntary*, which distinguishes them from *mandatory* conditions imposed by the Commission. *See* Section II, *supra* (explaining that the Commission lacks authority to mandate conditions).

¹⁷⁶ *See* Cal PA Opening Br. at 52, Condition (b) (requesting that the Commission require that “New T-Mobile honor all existing wholesale agreements...”); TURN Opening Br. at 17 (requesting that the Commission require New T-Mobile to “report on MVNO contract movement and traffic volumes annually.”) Cal PA’s MVNO condition also proposed that New T-Mobile “offering existing wholesale partners the best wholesale terms that are offered individually ... on a non-discriminatory basis.” Cal PA Opening Br. at 52. Such a proposal is not workable in the MVNO context for several reasons including the facts that (i) each MVNO agreement is individually negotiated to reflect the unique business needs and circumstances of each carrier; and (ii) MVNO agreements require two-way commitments – i.e. the MVNO agreement not only obligates the facilities-based provider to sell capacity on the network, the agreements also requires the MVNO partner to make certain commitments to the provider.

¹⁷⁷ Cal PA Opening Br. at 12; CWA Opening Br. at 4.

¹⁷⁸ Jt. Applicants Opening Br. at 52-53 & n.173 (citing, *Horizontal Merger Guidelines* § 1 (2010)); *see also id.* at 77-81.

¹⁷⁹ Cal PA Opening Br. at 2-3, 47-51; *see also* CWA Opening Br. at 1-2, 4-22; *see also id.* 39-44 (claiming that both companies are “well-situated to compete as standalone companies”); DISH Opening Br. at 18-36 (claiming that both Sprint and T-Mobile “likely can succeed without merging.”).

point, Intervenor’s assessment of the competitive landscape in a world without the merger, where T-Mobile and Sprint remain standalone companies, is premised on incomplete facts, baseless “analysis,” and blithe disregard of reality.¹⁸⁰

1. The Undisputed Evidence Is that T-Mobile Would Face Increasingly Constrained Capacity Absent the Transaction

Intervenor’s assertions that T-Mobile is well-situated to compete on a standalone basis completely overlook Mr. Sievert’s undisputed testimony regarding T-Mobile’s capacity constraints. Mr. Sievert testified that “[o]n a standalone basis, T-Mobile would be capacity constrained” as it continues to gain customers and seeks to offer new service options (*e.g.*, 5G service).¹⁸¹ This is largely an issue of spectrum: T-Mobile’s 600 MHz spectrum is great for coverage but provides insufficient capacity to enable fiber-like speeds and the full panoply of services made possible by New T-Mobile’s network.¹⁸² This capacity limitation is a problem that T-Mobile cannot resolve on its own because of both the unavailability of new spectrum and the astronomical costs involved in building out additional capacity – let alone capacity equivalent to what New T-Mobile will provide – on its existing spectrum.¹⁸³ Nor could T-Mobile effectively manage these capacity limitations through traffic or speed restrictions (*i.e.*, throttling), as these practices tend to drive away customers and impair the company’s ability to compete effectively with other providers that do not restrict usage.¹⁸⁴ This lack of capacity will ultimately work to the detriment of consumers, as T-Mobile’s historically low prices and

¹⁸⁰ See also Jt. Applicants’ Opening Br. at 77-81 (discussion of challenges faced by standalone companies).

¹⁸¹ Sievert Rebuttal Testimony at 10:25-26; PIS at 19.

¹⁸² Sievert Rebuttal Testimony at 11:7-8.

¹⁸³ Sievert Rebuttal Testimony at 11:18-20.

¹⁸⁴ Sievert Rebuttal Testimony; Joint Opposition at 41.

disruptive offers were made available *because* of the excess capacity it previously enjoyed, and that same level of competitive vigor cannot be maintained as T-Mobile grows increasingly capacity constrained.¹⁸⁵

2. Intervenors’ Focus on Isolated Financial Metrics Ignores the Import of Sprint’s Structural Limitations and Financial Challenges

Intervenors’ assertion that Sprint will continue to be a healthy competitor likewise ignores Sprint’s spectrum limitations and other business challenges. The reality is that Sprint lacks the low-band spectrum needed to deploy a geographically broad 5G network and faces significant financial and other challenges that will constrain its ability to be a meaningful competitive force absent the transaction.

Intervenors claim that absent the merger, Sprint will be in “good” condition and remain “financially viable.”¹⁸⁶ At the hearing, Sprint’s Chief Commercial Officer, Brandon “Dow” Draper, outlined Sprint’s struggles. Intervenors seek to brush aside Mr. Draper’s firsthand account with two arguments: (1) that Sprint’s public statements purportedly contradict his sworn testimony about the metrics that are key to assessing Sprint’s health; and (2) that Cal PA’s financial “analysis” – an invented method without basis in any authority or commonly accepted financial tools – shows that Sprint is (inexplicably) outperforming even its strongest competitors. The first of these arguments presents (at best) an incomplete picture of Sprint’s future competitive prospects, and the second is entitled to no weight at all.

¹⁸⁵ Hearing Tr. at 379:16-380:4 (Sievert Cross) (“[T]he standalone T-Mobile business plan has benefitted from the past several years for having more capacity available per customer than AT&T or Verizon. It's one of the many reasons why we've been able to be very disruptive on the pricing and be able to compete so aggressively. That's not necessarily going to continue for standalone T-Mobile. We've grown significantly. That uses up our capacity. Customers are using more per month because of how popular internet connections are and that's using up more capacity. And we're finding that our access to spectrum is becoming more limited as AT&T and Verizon use their financial power to seize it all”); *see also* Sievert Rebuttal Testimony at 12:2-5.

¹⁸⁶ Cal PA Opening Br. at 48-49, 51; Dish Opening Br. at 19.

Cal PA, CWA, and DISH each cite Sprint public statements that they claim contradict Mr. Draper's sworn testimony, focusing on cherry-picked statements regarding short-term financial metrics and ignoring other recent operational metrics that foreshadow the challenges to come. For example, Intervenors cite metrics such as service revenue, EBITDA, and net income¹⁸⁷ to claim that 2017 was a stellar year for Sprint and that things have and will continue to improve.¹⁸⁸ However, these metrics do not provide an apples-to-apples comparison – for Sprint's business over time or against its competitors – and they provide only a partial picture of Sprint's health.¹⁸⁹ Cal PA also cites Sprint's \$525 million positive free cash flow in Q2 FY2018 as evidence of financial health, even though (i) that sum is merely 10% of Sprint's annual network capex (not to mention other expenses),¹⁹⁰ and (ii) Mr. Draper explained that Sprint will be overall free cash flow *negative* for FY2018.¹⁹¹ Intervenors' assessment of subscriber metrics also *entirely* ignores Sprint's dismal churn rates¹⁹² and highlights only top-level numbers that include less-valuable non-handset devices and promotions with free lines.¹⁹³ In short, Intervenors focus on financial metrics that are snapshots of the past and ignore almost entirely the subscriber metrics that portend the future.

Intervenors' shortsightedness is evident in DISH's assertion that recent negative free cash

¹⁸⁷ *Id.* at 49; CWA Opening Br. at 39-43; DISH Opening Br. at 20 (service revenues and net income). Cal PA Opening Br. at 49; CWA Opening Br. at 40, 42-43 (EBITDA).

¹⁸⁸ Cal PA Opening Br. at 47- 49.

¹⁸⁹ *See* Jt. Applicants' Opening Br. at 78-80.

¹⁹⁰ Draper Rebuttal Testimony at 9:11-13 (projected annual network capex of \$5-6 billion).

¹⁹¹ *Id.* at 7:10-12.

¹⁹² *See id.* at 20:2-13 (highest churn in industry and increasing); *id.* Att. G.

¹⁹³ *See id.* at 22:19-21; Hearing Ex. Jt Appl.-12 at 6 (negative 26,000 net adds in Q3 FY2018).

flow can be overlooked because Sprint’s elevated network capex is only “temporary.”¹⁹⁴ But Sprint has underinvested for years, so this recent increase in capex spending will only *maintain the gap* with its competitors, not *close* it.¹⁹⁵ To catch up with its competitors, Sprint would not only need to continue with its elevated capex spend but substantially increase it. DISH would apparently have Sprint return to underinvesting in return for better accounting metrics – resulting in an even poorer experience for Californians and magnifying the disadvantaged position it will have in 5G because of lack of low-band spectrum.¹⁹⁶ Moreover, Cal PA – arguing the *opposite* of DISH – asserts that Sprint will “continue to increase capital expenditures in network improvements” and that it has the (debt) financing to do so.¹⁹⁷ However, Cal PA is again selectively citing evidence and ignoring Mr. Draper’s testimony that “there are constraints on [Sprint] in terms of will we be able to continue to borrow and to invest ... at a level we need to be,” that “debt is not a solution, because debt has a cost,” and that debt is a competing drain on the financial resources available to Sprint to compete.¹⁹⁸

Results reported by Sprint for Q3 FY2018 bolster Mr. Draper’s assessment of Sprint’s challenges. For example, Sprint’s postpaid phone churn remains significantly higher than its competitors’ at 1.84% and well above churn for Q1 and Q2.¹⁹⁹ Moreover, Sprint’s postpaid

¹⁹⁴ DISH Opening Br. at 20.

¹⁹⁵ Hearing Tr. at 635:2-13 (Draper Cross).

¹⁹⁶ Cal PA also emphasizes Mr. Draper’s statements that Sprint is not going bankrupt. *See* Cal PA Br. at 50-51. Joint Applicants have never asserted Sprint will imminently shut its doors; rather, Sprint’s weakened competitive status and future prospects are integral to the inquiry mandated by the *Horizontal Merger Guidelines* – a comparison of competition in the worlds with and without the merger. *Horizontal Merger Guidelines* § 1 (2010).

¹⁹⁷ Cal PA Opening Br. at 36-37.

¹⁹⁸ Hearing Tr. at 633:15-18; 650:2-3; 650:7-12 (Draper Cross).

¹⁹⁹ Hearing Ex. Jt Appl.-12 at 5; Draper Rebuttal Testimony, Att. G.

handset net adds were negative 133,000 in Q3.²⁰⁰ Finally, as Mr. Draper predicted, Sprint's free cash flow – the money available to Sprint to repay its mountain of debt – was negative \$908 million.²⁰¹

Cal PA's opening brief devotes a mere half-page to Cal PA's "analysis" of Sprint's financial condition, which rolls up into a "single metric" that purportedly demonstrates that Sprint is financially viable as a standalone company.²⁰² However, Cal PA's witness readily admitted on cross-examination that he invented the metric²⁰³ and that he did not rely on any commonly accepted methods in the field.²⁰⁴ Moreover, to assess Sprint's financial health, Cal PA relies on Sprint's operating cash flow instead of free cash flow, even though Mr. Draper explained free cash flow is a more useful metric because it accounts for Sprint's network investment costs.²⁰⁵ Simply put, the Cal PA "analysis" is entitled to zero weight.

As elsewhere in their briefs, Intervenors insist upon a world in which California's wireless subscribers must settle for a struggling fourth competitor that is declining as a competitive force and cannot afford to be a disruptor. That result is neither procompetitive nor best for consumers. A comparison of Sprint without the merger and Sprint's assets deployed as part of New T-Mobile with the transaction inevitably leads to the conclusion that New T-Mobile's network and the ensuing benefits are best for consumers.

²⁰⁰ *Id.* at 6. These net add numbers exclude non-handset devices and migrations from prepaid to postpaid.

²⁰¹ *Id.* at 19.

²⁰² Cal PA Opening Br. at 51.

²⁰³ Hearing Tr. 1031:14-16 (Clark Cross).

²⁰⁴ *Id.* at 1031:2-1031:13.

²⁰⁵ Hearing Tr. at 692:2-23 (Draper Redirect).

G. Intervenor’s References to Foreign Market Structures Are Irrelevant to This Proceeding

The Commission is engaged in a transaction-specific factual review of the actual proposed merger at hand. Intervenor’s citations to international authorities and generalizations about numbers of MNOs in foreign countries are irrelevant to the proceeding. Cal PA cites a 2014 OECD report for its generalizations about wireless market structures in countries around the world that differ from the United States in size, population density, network quality, and myriad other characteristics.²⁰⁶ In any event, the report acknowledges that “there is no ‘golden number’ [of MNOs] that ensures effective competition.”²⁰⁷ The report states that there is “heav[y] debate” among regulators as to “whether three, four or five is the optimal number [of MNOs].”²⁰⁸ Obviously, this debate cannot be resolved in the abstract, but must be determined on the particular facts and market at issue.

In contrast to the Intervenor’s attempted analogies to mergers outside of the United States in countries with very different wireless histories, the Joint Applicants do not purport to make abstract generalizations as to whether three-firm markets are as competitive as four-firm markets. Rather, the Joint Applicants have demonstrated that *this particular merger* combining the two smallest nationwide competitors and bringing together uniquely complementary spectrum in a broad and diverse country requiring great economies of scale to cover vast, sparsely populated areas, enhances consumer welfare.

²⁰⁶ Cal PA Opening Br. at 13. DISH similarly cites a series of reports on primarily the European wireless industry that it claims shows consumer harm following mergers. DISH Opening Br. at 14. DISH’s use of these studies ignores that European nations have vastly different wireless industry histories, network quality, spectrum availability, population densities, and myriad other differences from the United States.

²⁰⁷ Selwyn Suppl. Decl., Exhibit E-3 (OECD Report) at 8.

²⁰⁸ *Id.* at 11.

If Intervenors are interested in international lessons, they could heed the advice of the United Kingdom’s telecommunications competition authority: “[T]here is no magic number of mobile network operators. *Each merger control case should be assessed on its merits at a particular time, by the relevant authorities.*” (emphasis added).²⁰⁹

VI. INTERVENORS IGNORE THAT COORDINATION IS CONTRARY TO NEW T-MOBILE’S ECONOMIC INTERESTS AND IMPROBABLE IN THE WIRELESS INDUSTRY

A. Superior Network and Lower Costs Make Coordination Economically Irrational for New T-Mobile

Cal PA and DISH assert that the merger is likely to result in coordinated effects because a “market with only three equal participants is more likely to behave like a cartel than an effectively competitive market.”²¹⁰ These assertions are speculative, unsubstantiated by record evidence, and wrong.

Cal PA’s economist makes no effort to show that the purported profit opportunity from coordination (*i.e.*, keeping prices high and forgoing acquiring millions of customers) could exceed the profit opportunity to New T-Mobile from filling its newly created, low-cost capacity by dropping prices and attracting incremental, highly profitable customers from AT&T and Verizon. Rather, Cal PA’s economist and DISH merely *suppose* that this is the case. Their supposition should be rejected in light of the detailed economic evidence to the contrary,²¹¹ New T-Mobile’s explicit business plan,²¹² and commitments to federal regulators consistent with that

²⁰⁹ Joint Opposition at 23 (TMUS-CPUC-A-00001153).

²¹⁰ Cal PA Opening Br. at 13; *see also* DISH Opening Br. at 35.

²¹¹ *See* Jt. Applicants’ Opening Br. § VI.D.

²¹² Sievert Rebuttal Testimony at 3 (“On the basis of the cost synergies and relying on the business and network plans I introduced above, T-Mobile was able to secure financing to fund an enormous up-front investment to build its nationwide 5G network.”).

plan.²¹³ New T-Mobile’s plan to lower prices and take share from Verizon and AT&T recognizes that New T-Mobile’s optimal strategy for monetizing its new network is to compete aggressively with Verizon and AT&T.²¹⁴ Post-merger, there will be millions of Californians, and millions more Americans nationally, to whom New T-Mobile will be able to offer a more competitive wireless product than either T-Mobile or Sprint can today.²¹⁵ The ability to compete for these new customers, as New T-Mobile is heavily incentivized to do, is a *disincentive* to collude.²¹⁶ With a stronger network, lower marginal costs and thus lower prices, New T-Mobile stands to gain “5 percent of all Americans as customers that it didn’t have before,” “mostly coming out of” AT&T and Verizon.²¹⁷ As a result of this competition, AT&T and Verizon stand to lose billions of dollars in revenue. Using data provided by Cal PA witnesses, the potential revenue loss would be on the order of \$8.4 billion per year.²¹⁸ With a prize in the billions of

²¹³ See Jt. Applicants’ Opening Br. at 5, 57; see also Hearing Tr. at 387:8-388:9 (Sievert Cross) (describing three-year commitment).

²¹⁴ Sievert Rebuttal Testimony at 24:1-3 (“[O]ur optimal strategy is to monetize this additional capacity and the resulting decreased costs by offering higher quality and more data at lower prices.”); see also *id.* at 24:10-13 (“As a matter of fundamental economics, significantly increasing the supply of available capacity puts substantial downward pressure on the per unit price of capacity. New T-Mobile’s business plan tracks this fundamental economic tenet by recognizing that the optimal strategy to monetize the combined network’s additional capacity is to reduce prices.”).

²¹⁵ Hearing Tr. at 791:2-12 (Bresnahan Cross) (“It is a conclusion of our analysis with the improvements in network quality and lower marginal costs, New T-Mobile is able to liberate customers from AT&T and Verizon that neither merger partner can today, that it therefore has an incentive to compete harder in price and by offering people a better deal. And that it does increase its market share which is a pro-competitive outcome as a result of the merger.”); Hearing Tr. at 831:11-832:26.

²¹⁶ Hearing Tr. at 832:22-26 (Bresnahan Cross) (“[T]hat’s the heart and soul of why they should go after the big guys . . . going after the big guys is not the kind of thing that encourages cartels.”).

²¹⁷ See Hearing Tr. at 833:14-15 (Bresnahan Cross) (noting that New T-Mobile will have a “powerful incentive” to go after Verizon and AT&T’s customers and after the merger “New T-Mobile ends up with 5 percent of all Americans as customers that it didn’t have before”).

²¹⁸ Cal PA’s witness, Eileen Odell, provides information on total subscribers for the four largest MNOs estimating a total of 384,990,000 such subscribers. See Odell Testimony at Table 1. Dr. Selwyn’s testimony also includes ARPU data for certain wireless carriers based on FCC reports. See Selwyn

dollars and with significant percentages of competitors' customers now winnable, it is simply not credible to argue that New T-Mobile will not compete to win more customers. Moreover, this injection of competition against AT&T and Verizon will provoke a competitive response, making it even more unlikely that there will be coordination.²¹⁹

If New T-Mobile were to participate in coordination to raise prices, it would also squander the once in a lifetime growth opportunity created by leapfrogging Verizon and AT&T in 5G, while also putting its existing customer base at risk. Since 2013, T-Mobile has invested heavily in branding itself as the Un-carrier—the antithesis to the anti-consumer duopoly of Verizon and AT&T.²²⁰ This strategy has been the foundation of T-Mobile's recent success and has led customers to associate T-Mobile with low prices and better value.²²¹ Raising prices would destroy T-Mobile's pro-consumer Un-Carrier image, undermine a growth strategy that has served stockholders well, and undercut any chance of taking share from Verizon and AT&T.²²²

Testimony at Table 12. Taking the lower of AT&T or Verizon's ARPU for Q4 2016 (\$36.58 for AT&T), and multiplying it by the number of subscribers that AT&T and Verizon will lose as a result of the transaction (5% of 348,990,000), and annualizing the result (as ARPU is a monthly figure), shows approximately \$8.4 billion in lost revenue annually.

²¹⁹ Bresnahan Rebuttal Testimony at 36:1-12; Hearing Tr. at 796:14-20

²²⁰ Sievert Rebuttal Testimony at 5.

²²¹ *Id.* at 7:3-10 (“[B]eing the Un-carrier is good business because it distinguishes us in the marketplace. T-Mobile has consistently grown its customer base and revenues since launching the Un-carrier strategy. In addition to our steady customer growth, customers are also staying with T-Mobile longer. Preliminary results show that our postpaid churn rate was a record low 4th quarter rate of 0.99 percent in the last quarter of 2018. And, T-Mobile recently earned the highest score ever recorded in J.D. Power's 2018 U.S. Wireless Customer Care Study. In short, the T-Mobile brand and the Un-carrier have become synonymous with lower prices and better value, to which consumers have really responded.”).

²²² *Id.* at 24:1-7 (“[T]he New T-Mobile business plan recognizes that our optimal strategy is to monetize this additional capacity and the resulting decreased costs by offering higher quality and more data at lower prices. This in turn will allow us to attract new subscribers, including subscribers that highly value network quality and may not have previously considered T-Mobile and thus increase revenues for the company. In any event, to act differently would be terrible business, as it would be anathema to everything our brand stands for—everything we have worked so hard and invested so much to achieve.”).

In any event, putting aside New T-Mobile’s powerful incentives, we refer back to Joint Applicants’ Opening Brief at Section VI.E for a fuller discussion of the impediments to coordination.

B. Intervenor **Intervenors Have Provided No Evidence of Historic Coordination, Despite Promises to Do So**

Cal PA and others claim that the wireless market is prone to coordination.²²³ Under the heading “Parallel Pricing,” Cal PA claims that the “Joint Applicants’ already engage in some parallel conduct with their larger rivals,” and that the merger will create additional incentives for such coordination.²²⁴ Its misleading heading notwithstanding, Cal PA offers not a single example of coordination on price.²²⁵ Indeed, Cal PA contradicts its own claims about T-Mobile and Sprint engaging in parallel pricing twice on the same page that it makes these baseless claims.²²⁶ In fact, Dr. Selwyn’s own charts undermine any claim of a history of price coordination in the mobile wireless industry.²²⁷

As discussed in the Joint Applicants’ Opening Brief, Cal PA’s own evidence

²²³ See Cal PA Opening Br. at 14; see also DISH Opening Br. at 32-35; TURN Opening Br. at 7-8.

²²⁴ Cal PA Opening Br. at 14. Cal PA cites to the Opening Testimony of Lee Selwyn for this assertion, yet Dr. Selwyn similarly provides no support for the claim that the Joint Applicants engage in coordination.

²²⁵ The only evidence of so-called “parallel conduct” Cal PA can muster is that carriers use allegedly-similar mandatory arbitration provisions. As previously explained, the arbitration provisions of the four national carriers vary considerably and the use of such provisions in the mobile wireless industry says nothing whatsoever about coordination. Jt. Applicants’ Opening Br. at 68-69 n.242.

²²⁶ See Cal PA Opening Br. at 14 (“To date, AT&T and Verizon have demonstrated enhanced market power by maintaining higher prices in the face of lower cost offerings from Sprint and T-Mobile.”); see *id.* (“AT&T and Verizon already engage in parallel pricing... Evidence of this is that AT&T and Verizon have been successful in maintaining prices above the industry average, higher than the prices of their smaller rivals.”).

²²⁷ See Jt. Applicants’ Opening Br. at 68 n.242 (“Cal PA’s economic expert also fails to provide any evidence demonstrating that this market has exhibited coordination historically or, as is relevant here, any merger-specific evidence that this Transaction will lead to *enhanced* coordination.”) (emphasis in original); see also DISH Opening Br. at 33 (“Coordination remains difficult in the current market.”).

demonstrates that, even as concentration has risen, prices offered by mobile wireless providers have fallen—the opposite of what one would expect if increased concentration fosters coordination.²²⁸

As the Joint Applicants have explained at length in their Opening Brief, effective coordination is implausible in the mobile wireless market, and particularly after this merger.²²⁹

VII. INTERVENORS' ASSERTION THAT LOW INCOME CONSUMERS WILL BE HARMED FLIES IN THE FACE OF THE EVIDENCE

There is today – and will remain after the Transaction – vibrant competition for all customer segments, all of which are currently dominated by AT&T and Verizon.²³⁰ The fundamental benefit of this transaction – combining the assets of Sprint and T-Mobile to allow New T-Mobile to enhance its network, massively increase its quality, and sharply reduce its costs to allow it to more effectively compete against AT&T and Verizon – is a benefit for *all* customer segments, and low-income consumers in particular.²³¹

Cal PA and Intervenors claim that the merger will negatively and disproportionately affect low-income consumers.²³² As the Joint Applicants explained thoroughly in their Opening Brief, this is not the case.²³³ To the contrary:

²²⁸ See Jt. Applicants' Opening Br. at 70-71.

²²⁹ See Jt. Applicants' Opening Br. § VI.E.

²³⁰ See Bresnahan Rebuttal Testimony, Att. A at Section 3.2.1, Exs. 8-11 (reflecting that [BHC-AEO] [REDACTED] [EHC-AEO]).

²³¹ See Jt. Applicants' Opening Br. at 62-63.

²³² See Cal PA Opening Br. at 14, 24-25, 28-29; CWA Opening Br. at 9; TURN Opening Br. at 9-11. Intervenors also assert that the transaction will have a negative effect on low-income consumers who utilize LifeLine plans. These issues are thoroughly addressed in Section VIII of this reply brief.

²³³ See Jt. Applicants' Opening Br. § VI.G.

- All consumers will benefit from the lower costs and higher quality of New T-Mobile. Massive capacity increases and cost reductions will allow New T-Mobile to create a significantly higher quality network for all subscribers, close the per subscriber cost gap between Sprint/T-Mobile and Verizon/AT&T, and ultimately price more aggressively for a higher quality product to attract all types of customers and business segments.²³⁴
- AT&T and Verizon are and will remain active competitors for all customer segments, and the top two competitors for consumers in the lowest quartile of income.²³⁵
- In addition to AT&T, Verizon, and New T-Mobile, there will continue to be vigorous competition for wireless customers from multiple brands, including TracFone and other MVNOs.²³⁶
- Customers from zip codes with lower income, lower credit scores, or more African-American or Hispanic residents will benefit the most from the Transaction because these types of customers rely on their wireless service more heavily than others.²³⁷
- There is no separate “prepaid market” for merger analysis as the Joint Applicants have shown²³⁸ and the DOJ and the FCC have found in past proceedings.²³⁹

VIII. INTERVENORS DISREGARD THE UNREFUTED EVIDENCE THAT NEW T-MOBILE IS COMMITTED TO THE LIFELINE PROGRAM IN CALIFORNIA

Throughout this proceeding, T-Mobile has reiterated its commitment to continuing and expanding Assurance Wireless’ participation in the LifeLine program in California; initially in the Wireless Notification,²⁴⁰ then via testimony of both its President and COO, Michael

²³⁴ See Jt. Applicants’ Opening Br. at 62-63. See also Hearing Tr. at 810:23-811:2 (Bresnahan Cross).

²³⁵ See Jt. Applicants Opening Br. at 74-76.

²³⁶ While Cal PA and other Intervenors assert that TracFone—which primarily makes use of Verizon’s network—and other MVNOs are not a competitive constraint because they are not facilities based, these arguments defy reality. TracFone, as the Cal PA’s own witness readily admits, is the largest supplier of prepaid services in the United States and itself concluded that the merger would make them *more* competitive. See Hearing Tr. at 1074:27-1075:3, 1081:10-24.

²³⁷ See Jt. Applicants’ Opening Br. at 76-77; see also Bresnahan Rebuttal Testimony at 37:14-40:2, Att. A at Section 3.2.1.

²³⁸ See Jt. Applicants’ Opening Br. at 73-74.

²³⁹ *Id.*; see also Compl. at 5-6, *United States v. AT&T Inc.*, No. 1:11-cv-01560 (D.D.C. Aug. 31, 2011); *Communications Marketplace Report*, FCC, GN Docket No. 18-231, at 14-16 (Dec. 12, 2018).

²⁴⁰ Wireless Notification at 25.

Sievert,²⁴¹ and Vice President of Government and External Affairs Marie Sylla Dixon,²⁴² and finally in significant detail in its Memorandum of Understanding (“MOU”) with CETF.²⁴³ As is explained in Joint Applicants’ Opening Brief and set forth in the CETF MOU,²⁴⁴ T-Mobile has not only committed to continuing to offer LifeLine service in California indefinitely at rates, terms and condition no less favorable than those offered by Assurance Wireless, but to offer additional benefits to new and existing LifeLine customers. These verifiable benefits²⁴⁵ include a significantly larger geographic footprint for Assurance Wireless customers,²⁴⁶ an upgrade to the data allowance for all existing customers,²⁴⁷ and free new handsets, at no cost to LifeLine customers, that will function on the New T-Mobile network.²⁴⁸ New T-Mobile has also made commitments to grow the Assurance Wireless LifeLine customer base,²⁴⁹ spend millions of

²⁴¹ Sievert Rebuttal Testimony at 26:16-19; Hearing Tr. at 282:12-16, 313:24-314:8, 319:14-24, 338:16-25, 389:6-22 (Sievert Cross).

²⁴² Hearing Ex. Jt Appl.-08C (“Sylla Dixon Rebuttal Testimony”) at 3:6-11; Hearing Tr. at 880:4-885:11, 912:12-929:19.

²⁴³ See Jt. Applicants’ Opening Br. at 82; CETF MOU at 4-5.

²⁴⁴ See Jt. Applicants’ Opening Br. at 82; CETF MOU at 4.

²⁴⁵ TURN’s efforts to characterize New T-Mobile’s commitment to participate in the LifeLine program as something other than a merger benefit (*see* TURN Opening Br. at 21), is simply not credible. In the absence of the merger, Sprint’s LifeLine customers would not enjoy the full scope of the benefits that will be provided by New T-Mobile (e.g., expanded coverage area).

²⁴⁶ Sylla Dixon Rebuttal Testimony at Attachment A.

²⁴⁷ See CETF MOU at 4.

²⁴⁸ See CETF MOU at 5; Sylla Dixon Rebuttal Testimony at 3; Hearing Tr. at 319:14-24 (Sievert Cross).

²⁴⁹ See CETF MOU at 5 (describing New T-Mobile’s goal for new LifeLine/low income adoptions).

dollars on marketing and promotion of LifeLine,²⁵⁰ and fund digital skills training for a sizable number of LifeLine customers.²⁵¹

Cal PA and TURN largely ignore New T-Mobile's testimony regarding its support of the LifeLine program. Cal PA and TURN further attempt to ignore the LifeLine commitments made by New T-Mobile by relying on their pending motion to strike the inclusion of the CETF MOU – which was provided to them almost three weeks before these Reply Briefs were due – rather than address the strong commitments it contains.²⁵² Regardless of whether the Commission ultimately grants that motion to strike (which it should not), the fact is that those commitments are real. Moreover, these same commitments were independently reaffirmed by the Joint Applicants in their Opening Brief,²⁵³ and discussed at least in part at the evidentiary hearing.²⁵⁴ Thus, Cal PA's claims that “there is a substantial risk that New T-Mobile will discontinue LifeLine”²⁵⁵ should be disregarded in their entirety.

The only basis that Cal PA offers for its continued concern is T-Mobile's historical lack of participation in the LifeLine program, and statements T-Mobile has made about the

²⁵⁰ See CETF MOU at 6 (describing New T-Mobile's commitment of at least \$5 million for outreach, promotion and related activities).

²⁵¹ See CETF MOU at 8 (describing New T-Mobile's commitment to provide \$4.5 million for grants to community-based organizations (CBOs), schools, and libraries to provide digital literacy training for up to 75,000 new LifeLine and low-income households enrolled by New T-Mobile).

²⁵² The Greenlining Institute and The Utility Reform Network (Joint Consumers) Request to Deny Joint Applicants and CETF Motion to Modify Position in Proceeding (filed Apr. 23, 2019); Cal PA Request to Deny Joint Applicants and CETF Motion to Modify Position in Proceeding (filed Apr. 23, 2019); *see also* ALJ's Ruling Granting the Joint Motion of Joint Applicants and CETF to Reflect Memorandum of Understanding Between Joint Applicants and CETF (May 8, 2019).

²⁵³ Jt. Appl. Opening Br. at 4, 81-85.

²⁵⁴ See, e.g., Hearing Tr. at 338:10-25 (Sievert Examination by Commissioner).

²⁵⁵ Cal PA Opening Br. at 27.

uneconomical nature of the LifeLine services provided by its wholesale customers.²⁵⁶ These concerns, each of which has been addressed in testimony,²⁵⁷ simply do not withstand scrutiny in light of the evidence and the clear and enforceable T-Mobile commitments to LifeLine customers and the LifeLine Program.

Similarly, TURN takes issue with New T-Mobile's commitment to use merger savings to "provide better terms of service, more marketing and targeted outreach."²⁵⁸ TURN refuses to accept the real benefits that will flow to customers as a result of the merger, including, most notably, the expanded geographic territory, the commitment for an increase of data to existing LifeLine customers, and the significant expansion of marketing and outreach.²⁵⁹ TURN also seems to wholly discount New T-Mobile's commitment to increase LifeLine adoption in California²⁶⁰ and to promote the program through investment in community media to ensure sufficient information in-language and in-culture.²⁶¹

²⁵⁶ *Id.*

²⁵⁷ Sylla Dixon Rebuttal Testimony at 4:7-26. *See also* Hearing Tr. at 282:8-16 (Sievert Cross); *see also* Hearing Tr. at 313:24-314:8 (Sievert Cross) ("You're exactly right. We have an unprecedented expansion of capacity in this plan and lower costs, dramatically reduced cost. So our incentive is to spread those costs across the most possible customers we can. You know, it's very simple. And so for us, something that may not have been as economic for us as a standalone company becomes economic for us in a world where we have dramatically reduced network costs, and improved synergies of operations across every part of the company.").

²⁵⁸ TURN Opening Br. at 23.

²⁵⁹ TURN also criticizes T-Mobile's unwillingness to commit to extend its new in-home broadband service to LifeLine customers. TURN Opening Br. at 25. However, lack of a definite commitment is understandable given that the company has yet to even launch the program, and the details of any LifeLine program that would even potentially address a standalone broadband product are unknown.

²⁶⁰ *Jt. Applicants' Opening Br.* at 82-83, CETF MOU at 5.

²⁶¹ CETF MOU at 6; TURN Opening Br. at 28. TURN devoted the majority of its remaining criticism to the lack of familiarity that T-Mobile's witnesses displayed for the LifeLine program in general, T-Mobile's historical participation in the LifeLine program, and Sprint's witness inability to speak to the New T-Mobile's commitment. TURN Opening Br. at 23-26. Although such personal attacks seem

Notably, these commitments, as explained above and detailed in the chart attached hereto as Appendix 1, largely address the conditions proposed by TURN. The one condition that TURN proposed that is not addressed by a New T-Mobile commitment is for New T-Mobile to apply for ETC designations and participate in LifeLine under every New T-Mobile brand.²⁶² As both Cal PA and TURN clearly recognize, however, Assurance Wireless is an established and respected LifeLine brand in California, and as is detailed in the discussion above, New T-Mobile is “all in” on its commitment to continue and expand the LifeLine program in California through the established and well-respected Assurance brand. Moreover, New T-Mobile is committed to continue the company’s participation in the Boost Pilot program.²⁶³ There is no identifiable purpose served by TURN’s suggestion. Clearly, New T-Mobile plans to be a staple in the market for providing services to low-income and underserved Californians.

IX. INTERVENORS’ INSISTENCE THAT RURAL CALIFORNIA WILL NOT BENEFIT IS CONTRARY TO THE EVIDENCE

Intervenors’ insistence that rural California will not benefit – let alone substantially benefit – from the Transaction is contrary to the evidence. The Transaction will dramatically bridge the longstanding digital divide and provide high-speed connectivity to people and places who are disconnected or underconnected today. Rural Californians will come away from this Transaction with significant benefits, including.²⁶⁴

wholly inappropriate, the Joint Applicants note that they are attempting to elevate form over substance in light of New T-Mobile’s clear commitments to LifeLine customers in the state.

²⁶² TURN Opening Br. at 28. At the same time, however, TURN notes that “California has the strongest state LifeLine program in the country and...Sprint is the only facilities based wireless provider in California to participate in the LifeLine program and it does so though [sic] the Sprint affiliate Assurance Wireless.” TURN Opening Br. at 20. Likewise, Cal PA states that “Sprint, through its Virgin Mobile brand, is the only MNO that participates in the California LifeLine program. Cal PA Opening Br. at 27.

²⁶³ See Appendix 1; Jt. Applicants Opening Br. at 83, Appendix A.

²⁶⁴ Ray Rebuttal Testimony at 39:24-40:10.

- **Outdoor 2024 Coverage:** T-Mobile estimates approximately [BHC-AEO] [REDACTED] [EHC-AEO] will be covered.
- **Indoor Coverage:** T-Mobile estimates approximately [BHC-AEO] [REDACTED] [EHC-AEO] will be covered.
- **Quality:** New T-Mobile will improve signal quality and reliability and increase network capacity to enable data intensive services and improve the overall consumer experience;
- **Speed:** Of the 45.9 million rural residents, T-Mobile estimates approximately [BHC-AEO] [REDACTED] [EHC-AEO] will be covered.
- **In-Home Service:** T-Mobile estimates approximately [BHC-AEO] [REDACTED] [EHC-AEO] will be covered.²⁶⁵

New T-Mobile will provide these benefits by leveraging the merger synergies possible from the combination of uniquely complimentary sites and spectrum portfolio. In particular, New T-Mobile will use T-Mobile's low-band spectrum to provide coverage and Sprint's mid-band spectrum to provide capacity. As Mr. Ray explained, this combination works in rural areas because the propagation of mid-band spectrum is more limited (operating radii of approximately 4 miles around cell sites) and is not optimized for rural area coverage as it requires more sites and, therefore, greater capital expenditures to cover those geographies. However, when coupled with T-Mobile's low-band spectrum, and the scale to spread the costs of expansion to new areas via new cell sites across more subscribers, Sprint's mid-band spectrum will serve a key role in New T-Mobile's rural build-out.²⁶⁶

A. Dr. Selwyn's Rural Mid-Band Deployment Analysis is Fundamentally Flawed

Cal PA's economic witness, Dr. Selwyn, uses severely flawed assumptions and a rudimentary, and fundamentally inaccurate, mapping methodology to attempt to show that New

²⁶⁵ *Id.*

²⁶⁶ Ray Rebuttal Testimony at 39-44.

T-Mobile will be unable to provide the promised level of mid-band service in certain rural areas. Dr. Selwyn then relies upon this erroneous conclusion to argue that “the level of rural 5G coverage that T-Mobile claims it will provide if the merger is approved will require far more capital investment than T-Mobile has projected, and is unlikely to be pursued because it is unlikely to be profitable with or without the merger.”²⁶⁷ Cal PA’s argument that New T-Mobile will either be unable or unwilling to provide the promised level of service in rural areas is based on a deeply flawed analysis.

Cal PA’s economic witness Dr. Selwyn makes incorrect assumptions about the radius (or coverage) of mid-band cell sites. Dr. Selwyn assumes that *all* mid-band cell sites will have a *maximum radius* of four miles because Mr. Ray stated that the operating areas around mid-band sites are *approximately* four miles. Second, Dr. Selwyn assumes that, if two cell sites are closer together than four miles, then their operating radii are, therefore, half the distance between the two sites.²⁶⁸ Both of these assumptions are wholly incorrect.

Dr. Selwyn’s assumptions ignore the realities that (a) the average operating radius of a cell site is not the maximum operating radius of a cell site and, depending on factors such as terrain, buildings, vegetation, and elevation, many sites provide coverage far beyond the average;²⁶⁹ (b) the operating radius of a cell site is not limited to the distance between it and an

²⁶⁷ Selwyn Suppl. Decl. ¶ 46.

²⁶⁸ Selwyn Suppl. Decl. ¶¶ 46-49. He also states “if two cell sites were 3 miles apart, the coverage calculation was based upon a propagation radius of 1.5 miles. For cell sites further than 8 miles apart, I used Mr. Ray’s 4-mile radius, which resulted in coverage gaps.” *Id.* at n.45.

²⁶⁹ See Radio Mobile – RF propagation simulation software webpage (explaining basics of RF propagation software and factors that can affect radio wave propagation), available at http://radiomobile.pe1mew.nl/?Calculations:Propagation_calculation:Radio_propagation; see also Kingsley Obahiagbon & Joseph Isabona, “Measurement-based Statistical Method for Estimating and Verifying Signal Coverage and Coverage Probability in Urban Microcells,” 8(6) INT’L J. ADV. RESEARCH IN COMP. SCI. & SOFTWARE ENGINEERING at 75-76, ISSN: 2277-128X (June 2018) https://www.researchgate.net/profile/Joseph_Isabona2/publication/326182406_Measurement-

adjacent cell site; and (c) cell sites often end up being placed closer together than the maximum effective operating radius would imply and may overlap to enable greater continuity of coverage and capacity.²⁷⁰

Dr. Selwyn then uses these incorrect assumptions of mid-band site radii to crudely map his predicted coverage for Kings County – by plotting cell site locations on a map and drawing circles (or octagons, in this case) around them based on his assumptions about mid-band site radii.²⁷¹ This reflects a staggering disregard for how radio waves travel and how network coverage is mapped. In the real world, companies employ industry-standard methodologies, specialized RF propagation tools designed specifically for the purpose of predicting network coverage, and GIS mapping software to predict spectrum propagation, determine network coverage, and create coverage maps.²⁷² As shown in the record, Joint Applicants employed such a methodology and such tools and software to create their coverage maps, and these maps are

[based Statistical Method for Estimating and Verifying Signal Coverage and Coverage Probability in Urban Microcells/links/5b42226faca2728a0d62b4ab/Measurement-based-Statistical-Method-for-Estimating-and-Verifying-Signal-Coverage-and-Coverage-Probability-in-Urban-Microcells.pdf](https://www.techopedia.com/definition/16851/handoff)

²⁷⁰ See “Handoff,” TECHNOPEdia (describing that cell sites serving user devices sometimes overlap allowing the network to transfer a subscriber from one cell site to another while they are within the overlapping area), available at <https://www.techopedia.com/definition/16851/handoff>; see also Chunyi Peng and Yuanjie Li, DEMYSTIFY UNDESIREd HANDOFF IN CELLULAR NETWORKS (explaining cell handoff and the frequent overlapping of cell coverage areas), available at <https://www.cs.purdue.edu/homes/chunyi/pubs/iccn16-peng.pdf>; see also Markgraf, Bert, *How Far Can a Cell Tower Be for a Cellphone to Pick Up the Signal?*, CHRON, <http://smallbusiness.chron.com/far-can-cell-tower-cellphone-pick-up-signal-32124.html> (last accessed May 9, 2019).

²⁷¹ Selwyn Suppl. Decl. ¶ 47. Applicants must also note that Dr. Selwyn does not actually include his curiously devised “coverage map” in his declaration and simply includes a map of cell site locations with no indication of the hexagonal coverage areas he imagines they would have. Selwyn Suppl. Decl. Figure 11.

²⁷² See T-Mobile’s Response to Cal PA’s data request 10-30, Reed Suppl. Decl. at Attachment 9, 41-42.

accurate.²⁷³ Radio waves do not propagate in perfect circles, or hexagons, any analysis based on Dr. Selwyn's crude model is highly inaccurate and not reliable.²⁷⁴

Using this erroneous site coverage analysis, Dr. Selwyn next attempts to estimate the cost of deploying mid-band 5G across the county, and then uses this estimate to assert that New T-Mobile cannot provide the promised level of mid-band service to rural areas. However, flawed inputs result in flawed outputs and, accordingly his estimates of deployment costs are exaggerated and unpersuasive and cannot be the basis for criticism of the Joint Applicants' mid-band coverage projections.

B. Mr. Reed's Assumptions Regarding the Amount of Available Spectrum and Cell Site Locations for Standalone T-Mobile as Compared to New T-Mobile is Equally Flawed

Mr. Reed similarly relies on flawed assumptions and strained reasoning in an effort to challenge T-Mobile's mid-band 5G deployment plans in rural areas. Mr. Reed incorrectly asserts that, based on their spectrum and sites, standalone T-Mobile and New T-Mobile are similarly capable of deploying in rural areas and that standalone T-Mobile would have similar 5G coverage if it invested in deploying 5G radios to rural areas.²⁷⁵ Mr. Reed bases these assertions on claims that: (a) standalone T-Mobile and New T-Mobile will have the same amount of average low-band spectrum dedicated to 5G by 2024; (b) standalone T-Mobile will have an average of 60 MHz of AWS and PCS spectrum devoted to 5G by 2024; and (c) the cell site locations for stand-alone T-Mobile and New T-Mobile are similar. These claims are all wrong.

²⁷³ *Id.* See T-Mobile's Response to Cal PA's data request 10-30, Reed Suppl. Decl. at Attachment 9, 41-42.

²⁷⁴ As a result, it should come as no surprise that Dr. Selwyn does not actually include his curiously devised "coverage map" in his declaration.

²⁷⁵ Reed Suppl. Decl. ¶ 7.

As with Dr. Selwyn, Mr. Reed completely misunderstands the technological and economic drivers for the merger and ignores the commitments made by T-Mobile in this regard. Standalone T-Mobile will **not** have the same massive capacity as New T-Mobile because New T-Mobile's 600 MHz spectrum cannot support as high a volume of data as 2.5 GHz spectrum and standalone T-Mobile will not have access to 2.5 GHz spectrum. It is only the *combination* of T-Mobile's 600 MHz and Sprint's 2.5 GHz spectrum that provides such substantial benefits. A further advantage of the 2.5 GHz spectrum for New T-Mobile is that its greater capacity will enable the network to carry far greater loads close to the cell site, whereas the 600 MHz spectrum will provide consistent 5G service at greater ranges²⁷⁶ Importantly, this source of additional capacity enables New T-Mobile's in-home broadband plan,²⁷⁷

C. Cal PA Conflates Sites and Coverage in Projecting Rural Coverage for Standalone Sprint and T-Mobile

Cal PA also drastically overstates Sprint and T-Mobile's rural coverage by confusing "cell sites" with "cell coverage." Cal PA repeatedly references the "cell site footprints" of the standalone companies²⁷⁸ and claims that the standalone companies and New T-Mobile have similar "cell site footprints," thereby indicating that they would have similar coverage.²⁷⁹ This is false.

The "cell site footprints" that Cal PA touts are not the same as, and do not reasonably reflect, the cell site *coverage* or *coverage* footprint of a network. As repeatedly explained in

²⁷⁶ See Ray Declaration ¶ 38; Ray Rebuttal Testimony at 43:8-9; Hearing Tr. at 443:18-21 (Ray Cross). Note that New T-Mobile will have access to approximately 140 megahertz of 2.5 GHz spectrum in many markets as compared to between 20 and 30 megahertz of 600 MHz spectrum, making the capacity of 2.5 GHz a far more significant driver of capacity within its coverage range.

²⁷⁷ See Section X.

²⁷⁸ See Reed Suppl. Decl. at 30, 33, and 34.

²⁷⁹ *Id.* at 30 and 34.

great depth, coverage is a function of both cell sites and spectrum, and different spectrum bands propagate differently and have different operational coverages.²⁸⁰ Cal PA, however, fails to take this into account and does no coverage analysis and presents no coverage data. Instead, Cal PA merely plots sites on a map. Here, again, Cal PA does not appear to understand how wireless networks work. This analysis also fails to account for Sprint’s spectrum portfolio. Indeed, standalone Sprint could have all of the same cell sites as standalone T-Mobile or New T-Mobile, it would still have a significantly smaller coverage footprint because of the propagation characteristics of its spectrum.

D. Cal PA Disregards Standalone Sprint’s Lack of Rural Deployment Possibilities

Finally, Cal PA all but ignores standalone Sprint’s rural deployment limitations when, having limited low-band spectrum holdings with which to provide a base layer of coverage, standalone Sprint has no feasible rural deployment options. In fact, given Cal PA’s claim that “[c]overing rural areas with mid-band spectrum will require significant capital build-outs of more cell sites,” and “does not make financial sense,”²⁸¹ Cal PA should conclude that standalone Sprint would have even greater difficulty building-out rural areas in California.

X. IN-HOME BROADBAND IS A SIGNIFICANT MERGER BENEFIT

Mr. Reed claims that New T-Mobile’s proposed in-home broadband service cannot be construed as a merger benefit because the projected cost savings benefits for customers are based on “speculation.”²⁸² Mr. Reed further criticizes that Joint Applicants have not defined projected service areas where they expect to offer the in-home broadband service and accuses Joint

²⁸⁰ Ray Rebuttal Testimony at 13.

²⁸¹ Cal PA Opening Br. at 45.

²⁸² Reed Suppl. Decl. at 4.

Applicants of ‘inflating’ the number of homes they would serve with in-home broadband by including “homes that do not exist.”²⁸³ Finally, Mr. Reed concludes that Sprint and T-Mobile also plan to offer in-home broadband services and devices independent of the merger.²⁸⁴ Cal PA and Mr. Reed’s criticisms are riddled with inaccuracies and inconsistencies.

A. Applicants Claimed Customer Cost Savings for In-home Broadband are Based on Sound Economic Reasoning and Valid Inputs

In demonstrating the public interest benefits of New T-Mobile’s in-home broadband service, Joint Applicants commissioned an economic analysis by respected economist and former FCC Commissioner, Dr. Harold Furchtgott-Roth. Dr. Furchtgott-Roth was asked to quantify the price-related consumer benefits created by New T-Mobile’s in-home broadband and found that the cumulative consumer welfare benefits will be between \$5 billion and \$11 billion in 2024 and annually thereafter. However, Mr. Reed, who is not an economist and has no education or training in the field, begins his critique of in-home broadband by challenging the economic analysis conducted by Dr. Furchtgott-Roth. Mr. Reed claims that Dr. Furchtgott-Roth’s analysis is “based on speculation and assumptions that do not withstand scrutiny,” but he fails to actually apply any economic reasoning in his “critique.”²⁸⁵ Mr. Reed focuses on language in Dr. Furchtgott-Roth’s declaration that acknowledges that future prices are not knowable today and that actual price reductions may ultimately be different as well as language qualifying that the scope of his economic analysis is the effect of the in-home broadband service on prices rather than quality.

²⁸³ *Id.*

²⁸⁴ *Id.* at 5.

²⁸⁵ *Id.* at 7.

With respect to Dr. Furchtgott-Roth's limiting his analysis to price as opposed to quality, the first step in any economic analysis is to define the scope of the examination. Though the analysis could have examined both price and quality effects, Dr. Furchtgott-Roth was asked to consider only price. Accordingly, Mr. Reed's criticizes the analysis for *not* exceeding its intended scope.

With respect to the effect of in-home broadband on consumer prices, noting that future prices are not knowable today and that price reductions may ultimately be different are simply statements of fact, which would be included in any credible economic analysis. An economic analysis is a prediction not a prophesy. Contrary to Mr. Reed's accusation, Dr. Furchtgott-Roth's analysis was not based on speculation but rather the [BHC-AEO] [REDACTED] [EHC-AEO] planned price differential built into the New T-Mobile business plan. This is stated clearly in the footnotes of Dr. Furchtgott-Roth's declaration.²⁸⁶ Dr. Furchtgott-Roth then used this planned price differential to predict direct price effects, consumer savings, and competitive responses by applying fundamental and established economic principles.

B. Joint Applicants' Estimate of Households Eligible for In-home Broadband Service is Accurate and is Based upon Census Data

Joint Applicants also submitted a detailed filing with the FCC providing a thorough description of the in-home broadband service, including a discussion of New T-Mobile's in-home business plan, the in-home broadband equipment, pricing, coverage, speeds, and service features.²⁸⁷ Among other things, this filing explained in granular detail how New T-Mobile

²⁸⁶ See Joint Opposition at App. J (Declaration of Harold Furchtgott-Roth) at 2, n.1.

²⁸⁷ See Letter from Nancy J. Victory to Marlene Dortch, FCC, WT Docket No. 18-197, (Mar. 6, 2019) ("In-Home Broadband Ex Parte") (referenced in Reed Supp. Decl. at 10, footnote 11, available at [https://ecfsapi.fcc.gov/file/10308962711593/\(Public\)%20In-Home%20Ex%20Parte%20with%20CL%20-%20FINAL%20v2.pdf](https://ecfsapi.fcc.gov/file/10308962711593/(Public)%20In-Home%20Ex%20Parte%20with%20CL%20-%20FINAL%20v2.pdf)).

would be able to offer in-home broadband service to [BHC-AEO] [REDACTED] [EHC-AEO] “Eligible Households.”²⁸⁸

Though Joint Applicants’ FCC in-home broadband filing had not previously been part of the record of this proceeding, Mr. Reed references that filing (notably only including a link to the filing but failing to properly include it in his Supplemental Declaration) to assert that “the estimate of potential households eligible for in-home broadband service does not account for the number of households that exist near New T-Mobile’s cell towers.”²⁸⁹ This claim is patently false and has no basis in fact. Mr. Reed’s argument largely appears to be a slightly-adapted recitation of a strikingly similar criticism filed by DISH in the FCC proceeding²⁹⁰ and, like DISH, Mr. Reed seems to fundamentally misunderstand how to analyze how many households are eligible for service or supported by New T-Mobile’s in-home broadband service.

T-Mobile clearly details its methodology in its Home Broadband Ex Parte and the attached Declaration from Mark McDiarmid, T-Mobile’s Senior Vice President of Radio Network Engineering and Development.²⁹¹ In brief, every household within the “In-Home Broadband Coverage Area” (*i.e.*, [BHC-AEO] [REDACTED] [EHC-AEO]) is near a T-Mobile cell tower and receives a sufficiently strong signal to receive in-home broadband service. Among those homes, [BHC-AEO] [REDACTED] [EHC-AEO] are also in sectors of the network with sufficient capacity that New T-Mobile could offer any one of them in-home service.²⁹² New T-Mobile will have unused capacity on its wireless network to serve [BHC-AEO] [REDACTED] [EHC-AEO] million of

²⁸⁸ *Id.*

²⁸⁹ Reed Suppl. Decl. at 9.

²⁹⁰ See Comments of DISH Network, WT Docket No. 18-197, at 18 (filed Mar. 28, 2019).

²⁹¹ In-Home Broadband Ex Parte, Appendix B (“McDiarmid Decl.”) ¶¶2-6.

²⁹² *Id.*

those households at a given time and projects that it could successfully subscribe approximately 9.5 million.²⁹³

C. Joint Applicant’s In-home Broadband Offerings Will be Competitive

Mr. Reed next calls T-Mobile’s planned [BHC-AEO] [REDACTED] [EHC-AEO] price differential “illustrative” and criticizes that, without specific prices for the in-home broadband plans or defined service areas, it cannot be determined whether in-home broadband plans will be competitively priced or offer competitive speeds and data caps. However, T-Mobile’s price differential is not “illustrative,” nor have Applicants or Dr. Furchtgott-Roth referred to it as such.²⁹⁴ Rather, the price differential is derived from T-Mobile’s business plans.²⁹⁵ New T-Mobile’s in-home broadband prices will be [BHC-AEO] [REDACTED] [EHC-AEO] below traditional services and this will ensure that the service is competitively priced. These low prices are possible because the business plan is to use capacity not necessary for mobile service, which carries no marginal cost.

Furthermore, while it is the case that no California-specific maps exist, Mr. Reed is wrong in claiming that “there’s no indication of what areas of California would be eligible for this service.”²⁹⁶ The national-level map included with the FCC filing clearly indicates that in-home broadband will be available across much of California.²⁹⁷ Also, as explained in the

²⁹³ In-Home Broadband Ex Parte at 15.

²⁹⁴ The quote from Dr. Furchtgott-Roth’s Declaration to which Mr. Reed refers is referring to the consumer savings as “illustrative” not the \$10-\$20 price reduction.

²⁹⁵ See Joint Opposition, Att. B, Appx. A (Sievert Reply Decl.) at 4.

²⁹⁶ Reed Suppl. Decl. at 11.

²⁹⁷ See In-Home Broadband Ex Parte at 5, Figure 3.

description of New T-Mobile’s household determination methodology, New T-Mobile will prioritize households in areas that lack competitive choice.²⁹⁸

Finally, Mr. Reed correctly observes that customers in urban areas typically have access to faster speeds than customers in rural areas for similarly priced plans, and he provides several helpful examples.²⁹⁹ It is this very urban/rural disparity that New T-Mobile’s in-home broadband service is intended to help rectify. Accordingly, 20-25 percent of New T-Mobile in-home broadband subscribers will be in rural areas, where there is currently limited broadband availability and competition.³⁰⁰ The New T-Mobile in-home broadband will provide competition in areas where it is lacking and provide valuable choice while driving down prices.

D. Joint Applicant’s In-Home Broadband Offerings Will Have Numerous Advantages Over Incumbent Services

As described in T-Mobile’s filings, its anticipated in-home broadband service would be at least comparable to—and often technically superior to—many of the services with which it would compete, particularly in rural areas. By 2024, in 90 percent of the country, New T-Mobile’s In-home broadband customers will receive an average download speed in excess of 100 Mbps and benefit from a simple and low monthly price [BHC-AEO] [REDACTED] [EHC-AEO] below incumbent providers, with no extra charge for its router, no installation charge, no contract, and service from T-Mobile’s award-winning customer care team.³⁰¹

Mr. Reed repeatedly mischaracterizes other features of the New T-Mobile in-home broadband product, including claiming that there is a “usage allowance” or “data cap” when

²⁹⁸ *Id.* at 6.

²⁹⁹ Reed Suppl. Decl. at 13.

³⁰⁰ Joint Opposition at 66.

³⁰¹ In-Home Broadband Ex Parte at 7.

there is not.³⁰² As Joint Applicants provided in response to Cal PA’s DR 010-22, “in-home broadband users that use above 500 GB of data per month, may be subject to de-prioritization and may notice reduced speeds during times of network congestion.”³⁰³ De-prioritization in times of high congestion is neither a usage allowance nor a data cap and characterizing it as such is disingenuous. Furthermore, even the cited prioritization threshold is nearly twice the average in-home broadband data use amount that Mr. Reed cites in his declaration.³⁰⁴

Furthermore, in assessing in-home broadband opportunities, Mr. Reed misunderstands the proper comparison in merger review. Mr. Reed asks the Commission to give *no* weight to the New T-Mobile’s planned in-home broadband offering because the Commission has previously concluded that wireline broadband and mobile broadband are not perfect substitutes for one another.³⁰⁵ Cal PA’s bizarre logic would have the Commission protect cable monopolists from increased competition and deny approximately [BHC – AEO] [REDACTED] [EHC – AEO] rural Californians the benefits of greater in-home broadband access because only *some* and not *all* customers would choose the new offering.³⁰⁶ The troubling and anticompetitive implications of this position aside, the relevant comparison is not between New T-Mobile’s in-home broadband service and cable broadband services, as Cal PA’s witness frames it. Rather the

³⁰² Reed Suppl. Decl. at 14-16.

³⁰³ Response to DR 10-22 (as referenced by Mr. Reed).

³⁰⁴ Reed Suppl. Decl. at 15.

³⁰⁵ Reed Suppl. Decl. ¶ 25 (“[T]he Commission concluded that for *most* consumers, residential wireline broadband and mobile broadband services are not substitutes for each other.”) (emphasis added). This analysis also relies on a 2016 decision that does not account for technology gains in the intervening years, let alone the massive improvement 5G represents.

³⁰⁶ Sievert Rebuttal Testimony at 29:21-23.

appropriate question is whether New T-Mobile will provide a better in-home broadband alternative to cable than either standalone company. Without question, the answer is “yes.”³⁰⁷

Ultimately, Cal PA seems to want the Commission to ignore this valuable new opportunity to provide high-speed broadband to households across California at a low price and without the inconvenience and hassle of traditional broadband providers, leaving California’s consumers trapped in the same uncompetitive market.

E. Sprint Does Not Intend to Provide In-Home Broadband on a Standalone Basis

Cal PA exacerbates the errors Mr. Reed made about New T-Mobile’s in-home broadband offering by claiming that expected new 5G standards would enable *both* T-Mobile and Sprint on a standalone basis to offer in-home broadband without the merger.³⁰⁸ The Supplemental Declaration of Cal PA witness Mr. Reed goes even further and states that Sprint “*plan[s]* to offer in-home broadband devices and services independent of the merger.”³⁰⁹ This argument is flatly contradicted by both sworn testimony and responses to discovery *that Cal PA itself requested*, which state that Sprint has neither the plans nor the capability to enter the in-home broadband market on its own. Over six months ago, Cal PA received the Public Interest Statement PIS, which included Mr. Draper’s supporting declaration explaining that Sprint has neither the plans nor the capability to enter the in-home broadband market.³¹⁰ Following the February 2019 evidentiary hearing, Cal PA issued new data requests, asking Sprint to provide additional

³⁰⁷ See Jt. Applicants’ Opening Br. at 43-44.

³⁰⁸ Cal PA Opening Br. at 46.

³⁰⁹ Reed Suppl. Decl. at 5:1-2; 16:8-9 (Emphasis added). In the first instance, there is no citation for his claim. In the second instance, there is a citation to Mr. Sievert’s Rebuttal Testimony, at 33, for the proposition that Sprint intends to launch in-home broadband service. In reality, however, Mr. Sievert’s testimony defers to Sprint’s witness Mr. Draper on this point and takes no position on Sprint’s plans.

³¹⁰ PIS, Appx. F ¶ 35.

information regarding its in-home broadband plans. Sprint's response restated that "[f]or the foreseeable future, as a standalone company, Sprint will not have the ability, nor does it plan, to launch an in-home broadband service similar to the post-transaction offering mentioned in the testimony of T-Mobile witnesses during the recent evidentiary hearings at the Commission."³¹¹ It is entirely improper for Cal PA to ignore Sprint's testimony and discovery responses and mislead the Commission. Joint Applicants request that this assertion regarding Sprint's in-home broadband plans either be stricken from the record or at a minimum be disregarded as wholly unsupported.

XI. CWA CONTINUES TO IGNORE THE EVIDENCE THAT THE MERGER WOULD CREATE NEW JOBS IN CALIFORNIA

Contrary to the repeated claims of CWA, Applicants have exhaustively demonstrated that jobs in California will increase as a result of the merger; CWA's Opening Brief offers nothing new to this issue. To reinforce New T-Mobile's dedication to creating new job opportunities for Californians, Joint Applicants' Opening Brief confirms New T-Mobile's commitment to create new jobs, including approximately 1,000 jobs at a new Customer Experience Center located in California's Central Valley. It will also extend job offers with comparable pay and benefits to all California Sprint and T-Mobile retail employees.³¹² Applicants have additionally committed that the total number of New T-Mobile employees in California three years after the close of the Transaction will be equal to, or greater than, the current total number of Sprint and T-Mobile employees in California.³¹³

³¹¹ Sprint Response to Cal PA DR 11-1.

³¹² See Jt. Applicants' Opening Br. at 6.

³¹³ *Id.*

CWA continues to simply ignore repeated representations and evidence that the merger will be jobs positive from Day One, and it will create thousands of jobs going forward. As noted in Joint Applicants' Opening Brief, there are several significant flaws in CWA's job loss analysis, which predicts a loss of 3,432 retail store jobs in California.³¹⁴ Moreover, CWA's Opening Brief repeats its claim from prior filings and testimony that the merger would result in the "net loss of 1,707 postpaid retail jobs in California" and that T-Mobile's plan to offer jobs to current employees would apply to none of the employees at these authorized dealer stores.³¹⁵ To the contrary, Applicants have publicly and repeatedly committed that New T-Mobile will offer each and every T-Mobile and Sprint retail employee in the state an opportunity to join New T-Mobile on comparable employment terms.³¹⁶ In addition, although Applicants cannot control authorized dealers' employees, testimony confirmed that "New T-Mobile's business plan anticipates that the number of indirect employees; *i.e.*, the dealer employees, will increase."³¹⁷ In sum, the Applicants have provided substantial evidence demonstrating the merger will increase jobs in California, which CWA's deeply flawed analysis fails to rebut.

³¹⁴ Jt. Applicants' Opening Br. at 88 (citing to Hearing Ex. CWA-1 ("Goldman Testimony")) at 48, 52).

³¹⁵ CWA Opening Br. at 27-28. CWA also cited the net loss of 1,707 postpaid retail jobs in opening testimony. Goldman Testimony at 54.

³¹⁶ *See, e.g.*, Jt. Applicants' Opening Br. at 89; Hearing Tr. at 285:26-286:2; John Legere, *Just the Facts on Jobs: The New T-Mobile Will Create Jobs From Day One*, T-MOBILE NEWSROOM (Apr. 4, 2019).

³¹⁷ Jt. Applicants' Opening Br. at 87 (citing Hearing Tr. at 367:5-15) ("We have a model on what to expect of dealer behavior. Our model suggest and very specifically calls for more activations in the new company than in the sum of the standalones and a bigger customer base doing more upgrades in the new company than in the sum of the standalones. And the result will be a need for more labor in retail stores in the new company, including direct external than in the sum of the standalones. That's what I am trying to say.").

CWA reiterates its incorrect claim that T-Mobile has a record of worker's rights violations and that the proposed merger would result in an increase of such violations.³¹⁸ To the contrary, and as Applicants have described in great detail, this is simply not the case. T-Mobile has an impressive history of employee satisfaction and consistently ranks among the best places to work in the United States, according to both third-party reviews and its employees.³¹⁹ For example, in T-Mobile's employee survey last fall, 93 percent of respondents said they "take pride in working for my company;" and 89 percent said they often recommend T-Mobile to others as a great place to work.³²⁰ Outside experts have confirmed employee surveys and recognized T-Mobile as a supportive and stimulating workplace.³²¹ In addition, CWA's claims that T-Mobile does not support unionization are patently untrue.³²² As stated in prior testimony, T-Mobile employees have the choice whether to unionize – in fact one of T-Mobile's stores is unionized.³²³

XII. NEW T-MOBILE IS COMMITTED TO ENSURING NETWORK RESILIENCY

A. New T-Mobile's Network Will Be Even More Resilient than the Standalone Network

As set forth in Joint Applicants' Opening Brief,³²⁴ T-Mobile and Sprint are fully committed to safeguarding the interests of its customers, employees, the public, and first

³¹⁸ CWA Opening Br. at 32. CWA also raised these claims in its Hearing Testimony. *See* Goldman Testimony at 61.

³¹⁹ Sylla Dixon Rebuttal Testimony at 13:5-11.

³²⁰ *Id.*

³²¹ *Id.*

³²² *See* CWA Opening Br. at 32-33.

³²³ Sievert Rebuttal Testimony at 39:19-20.

³²⁴ *See* Jt. Applicants' Opening Br. at 90.

responders during emergencies and other significant service disruptions. The Opening Brief outlines the many steps T-Mobile and Sprint have taken to build resiliency and redundancy into their networks to prevent disruptions to service.³²⁵ Additionally, in light of the heightened risk for natural disasters in California, New T-Mobile has committed to maintain Sprint’s existing fleet of portable generators, Cell on Light Trucks (“COLTs”), and Cell on Wheels (“COWs”), and to expand COLTs and COWs available in California.³²⁶ By making these commitments, New T-Mobile will be better equipped to provide emergency back-up power than either of the standalone companies, the resiliency of the integrated network will be enhanced, and New T-Mobile will have an increased ability to respond to emergency situations.

Despite these incontrovertible facts, both Cal PA and TURN criticize New T-Mobile’s emergency preparedness and response commitments.³²⁷ For example, Cal PA alleges that the commitment to increase mobile cell sites by 50% has no basis in the record.³²⁸ However, given that Joint Parties’ MOU not only meets Cal PA’s recommended condition,³²⁹ it exceeds it by

³²⁵ *Id.* at 90-94.

³²⁶ *Id.* at 90; see also Appendix 1.

³²⁷ See, e.g., TURN Opening Br. at 36-42. As noted above in Section VIII, it appears that TURN and Cal PA decided not to comment on the merits of the CETF MOU in their Opening Briefs, choosing to stand on their procedural objections. However, Cal PA and TURN/Greenlining did offer criticisms of the MOU in their responses to the CETF motion, which were addressed in detail in the Joint Applicants’ and CETF’s replies to those responses.

³²⁸ Cal PA Response at 7.

³²⁹ Hearing Ex. Pub Adv-006C (“Reed Service Quality Testimony”) at 38:5-7 (concluding that “if the Commission fails to deny the merger, it must ensure that Sprint’s inventory of portable generators, COWs and COLTs are maintained so that public safety is not put at risk by decreased emergency readiness”). See also Cal PA Opening Br. at 52 (listing Ca PA proposed commitments, including (f) “[r]equiring T-Mobile retain Sprint’s ... portable generator inventory....”)

committing to add additional COWS and COLTs and portable satellite and microwave links, it is difficult to see how Cal PA can legitimately criticize the commitment.³³⁰

In its Opening Brief, TURN expresses concern that “T-Mobile’s approach results in less robust back-up power than Sprint”³³¹ citing concerns regarding (i) T-Mobile’s fewer number of portable generators and (ii) its allegedly less robust back-up battery policy. TURN’s first concern is more than addressed in New T-Mobile’s commitment to retain Sprint’s generators.³³² With Sprint’s portable generator inventory, the New T-Mobile will have a portable generator fleet [BHC-AEO] [REDACTED] [EHC-AEO] times the size of T-Mobile’s current fleet to service a number of sites that are only [BHC-AEO] [REDACTED] [EHC-AEO] larger than the current number of sites.³³³ Thus, as a result of the merger, the combined company will clearly have more robust back-up power than either standalone company. With respect to back-up battery policy, although T-Mobile’s existing policy is robust and complies with the requirements at the federal

³³⁰ Cal PA also requests that “New T-Mobile construct a dedicated first responder communications network to mitigate the harms of reduced redundancy in cellular infrastructure.” Cal PA Opening Br. at 52, Condition (i). Cal PA’s request is commercially unreasonable and completely duplicative of a network that already exists. As Mr. Ray described in his testimony, AT&T has already constructed dedicated first responder networks, and the State of California has entered into a contract with AT&T to ensure California-based first responders, statewide, can have access to AT&T’s dedicated public safety network. Ray Rebuttal Testimony at 57:1-13. It is completely unreasonable to expect New T-Mobile to build a dedicated first responders network when one already exists in California. New T-Mobile does, however, commit to work closely and collaboratively with CalOES to implement Next Generation 911 throughout its footprint. Furthermore, New T-Mobile commits to provide regular updates to the Commission and the CalOES regarding the status of its network and its efforts to restore service during emergencies and natural disasters. *See* Appendix 1.

³³¹ TURN Opening Br. at 38.

³³² Ray Rebuttal Testimony at 52:10-13; Reed Service Quality Testimony at 37:10-15. In the same request, Cal PA also states that the Commission should require that New T-Mobile retain Sprint’s customer complaint database. Cal PA Opening Br. at 52. However, T-Mobile already maintains a customer complaint database that is equivalent, and perhaps even superior, to Sprint’s customer complaint database. T-Mobile did not expound on the capabilities of its customer complaint database in data requests as Sprint did.

³³³ Ray Rebuttal Testimony at 19:7-10, 53:10-12.

level and existing California guidance, to address TURN's concerns, New T-Mobile commits to retain the Sprint battery back-up policy at all retained Sprint sites, and to implement Sprint's back-up battery design at all newly constructed sites where it is feasible.³³⁴

TURN requests that New T-Mobile make a number of additional emergency preparedness commitments,³³⁵ in light of "the new environmental reality in California" where wildfires are commonplace and commercial power outages are becoming the norm.³³⁶ While T-Mobile has a "robust emergency plan" as described by Cal PA in its testimony,³³⁷ New T-Mobile commits to the following to address TURN's requested conditions:

- New T-Mobile will establish mission critical sites in the rural areas where it extends service following the merger, and where feasible install standard generators at those sites.
- New T-Mobile will use commercially reasonable efforts to install standard generators at any microwave hub towers that it constructs or leases to provide backhaul and middle mile transport to multiple sites where feasible.
- In any negotiations with providers for new middle mile and backhaul facilities in California, New T-Mobile will use commercially reasonable efforts to negotiate the provision of sufficient back-up power to provide continuous service to mission critical sites.
- New T-Mobile will report annually to the Commission about the status of back-up power in areas deemed high fire risk including those instances where a fiber middle-mile or backhaul / middle mile provider refuses to provide back-up power to a level sufficient to ensure uninterrupted service to mission critical sites.

Regardless, by making the additional commitments to establish mission critical sites in rural areas and equip them with generators, New T-Mobile will enhance the resiliency of the

³³⁴ In general, the only places that T-Mobile does not have battery backup on its macro cell sites is where local authorities restrict the provision of battery backup of there are physical limitations at the site that prevent the backup power source. Ray Rebuttal Testimony at 53:15-18; Hearing Tr. at 541:23-542:7 (Ray Cross).

³³⁵ See TURN Opening Br. at 41-42.

³³⁶ *Id.* at 40.

³³⁷ Reed Service Quality Testimony at 36:21-23.

integrated network in rural areas that can be susceptible to widespread power outages that last for extended periods.³³⁸ These commitments, along with those commitments previously made in testimony, the CETF MOU, and both of the standalone companies' existing "robust emergency plans,"³³⁹ demonstrate that the merger will heighten the combined companies' ability to respond to emergency situations throughout New T-Mobile's network footprint.

B. Cal PA's Allegation that the Decommissioning of Sprint's Sites Will Impact Network Resiliency is Based on Flawed Analysis

In his opening testimony, Cal PA witness Reed criticized the planned decommissioning of Sprint's sites as part of the New T-Mobile network integration noting that this action would generally reduce the availability of "geographically diverse sites" and harm public safety.³⁴⁰ Mr. Ray responded to these criticisms in his rebuttal testimony, noting that the decommissioning of certain Sprint cell sites will not affect the resiliency of the New T-Mobile network and that decommissioned sites will generally be sites that are either collocated with existing T-Mobile sites (*i.e.*, on the same tower or rooftop) or located very close to an existing T-Mobile site with extensively overlapping coverage.³⁴¹

Specific data provided to Cal PA in a post hearing response to discovery supported Mr. Ray's testimony demonstrating that of the [BHC-AEO] [REDACTED] [EHC-AEO] decommissioned Sprint sites, [BHC-AEO] [REDACTED] [EHC-AEO] are within a half a mile or less of a Sprint site and

³³⁸ TURN Opening Br. at 41.

³³⁹ Reed Service Quality Testimony at 36:21-23 (stating that Sprint and T-Mobile have robust emergency response plans).

³⁴⁰ Reed Service Quality Testimony at 38:23-39:2.

³⁴¹ Ray Rebuttal Testimony at 52:19-53:2.

[BHC-AEO] [REDACTED] [EHC-AEO] of those are less than 100 meters.³⁴² Not satisfied with these facts, Mr. Reed created his own collocation analysis, reading “collocated” as “less than 3 meters,” (a metric that was fabricated and has no engineering relevance). Using that criteria, Mr. Reed concluded that “Sprint and T-Mobile’s cell sites are generally not collocated,” and expressed concern about the elimination of these sites.³⁴³

However, Cal PA misses the central point, one that Mr. Ray made clear in his testimony. What is critical from a network resiliency perspective is determining if the Sprint sites to be decommissioned have overlapping coverage with a T-Mobile site and not whether they are on the same pole. As described in Mr. Ray’s rebuttal testimony,³⁴⁴ and as acknowledged by Cal PA’s witnesses,³⁴⁵ low-band sites have an operating radius of up to 18 miles and mid-band sites have an operating radius of up to four miles. Therefore, from a network planning perspective, cell site distances of less half-a mile (particularly in rural areas), and certainly of less than 100 meters are operationally immaterial. Moreover, eliminating these unnecessary sites is critical to realizing the projected network synergies from the Transaction, which are essential to making possible the nearly \$40 billion investment in New T-Mobile’s network and business.³⁴⁶

XIII. INTERVENOR COMMENTS ON PRIVACY, ARBITRATION AND DIVERSITY ARE MISGUIDED

³⁴² Reed Suppl. Decl. at Attachment 9, Cal PA DR 10-19. Note that T-Mobile emphasized in its response that no final decisions on site retention or decommissions have been made, but provided information regarding potential decommissioned sites based on geographic location to T-Mobile cell sites

³⁴³ *Id.* at 26.

³⁴⁴ Ray Rebuttal Testimony at 13.

³⁴⁵ Selwyn Suppl. Decl. at 53.

³⁴⁶ Ray Rebuttal Testimony at 52:28-53:2.

A. Privacy Protection is a Critical Concern for T-Mobile

1. T-Mobile Has a Robust Third-Party Risk Management Program

Cal PA asserts that T-Mobile's Third-Party Risk Management Program ("TPRM Program") contains material gaps.³⁴⁷ Cal PA's assertions are unfounded and reflect a lack of familiarity with third-party risk programs rather than any deficiencies in T-Mobile's TPRM Program, which is a centralized, comprehensive program that includes well-defined procedures and controls to identify, assess, prevent, monitor, manage and mitigate risks from third parties, including with respect to T-Mobile customer information. As part of the TPRM Program, T-Mobile evaluates supplier risks and performs extensive due diligence before engagement with any supplier, as well as throughout the supplier engagement.³⁴⁸

As the unrebutted testimony of Susan Brye, Senior Director of T-Mobile's TPRM Program, established, T-Mobile's TPRM program already addresses the alleged gaps identified by Cal PA in that T-Mobile (1) has been and is actively engaged in creating an additional comprehensive inventory specifically of all third-party suppliers and subcontractors who have access to T-Mobile customer data, (2) already considers supplier risk management to be a critical function and important company-wide priority at T-Mobile, (3) provides senior leadership and Board of Directors routine updates regarding the TPRM Program, and (4) requires its third-party

³⁴⁷ Cal PA Opening Br., Attachment C ("Donnelly Suppl. Decl.") at 11–18.

³⁴⁸ As part of its TPRM Program, T-Mobile conducts many different types of supplier assessments, depending upon the nature of the engagement, including the "Cyber Assessment" referred to by Cal PA, which is required of all suppliers that will have access to restricted or confidential T-Mobile data or access to any T-Mobile network. TPRM questionnaires are programmed into a customized Governance Risk & Compliance tool that is dynamic and responses are automatically scored, based on T-Mobile's established risk-ranking methodology. Certain responses and risk levels will trigger further assessments and escalations, which are handled through established procedures. Hearing Ex. Jt Appl.-10C (Brye Rebuttal Testimony) at 4–5.

suppliers to contact T-Mobile immediately in the event of a data breach (including by their subcontractors) that could involve T-Mobile confidential or customer information.³⁴⁹

2. T-Mobile Fully Complies with COPPA

While conceding that Children’s Online Privacy Protection Act (“COPPA”) and implementing regulations (collectively “COPPA”) only apply to T-Mobile if it has “actual knowledge” that a particular user “is under 13,” Cal PA then goes on to assert that T-Mobile “take[s] insufficient steps to discover the users[sic] age,” for purposes of determining whether COPPA protections should apply.³⁵⁰ However, as explained in the unrefuted Rebuttal Testimony of Travis Dodd, the Senior Privacy Director for T-Mobile, COPPA very clearly does not require T-Mobile to take steps to determine the age of device users that are not account holders.³⁵¹ In fact, the Federal Trade Commission explicitly explains this in its COPPA Guidance, stating that “[the COPPA] Rule does not require operators of general audience sites to investigate the ages of visitors to their sites or services.”³⁵² Thus, while Cal PA requests that the Commission require T-Mobile to discover the age of device users pursuant to COPPA, doing so would directly contravene COPPA. Furthermore, as explained by Mr. Dodd, collecting the age of all device

³⁴⁹ Brye Rebuttal Testimony at 1–9. See Appendix 1 for T-Mobile’s privacy commitments.

³⁵⁰ Cal PA Opening Br. at 20–21.

³⁵¹ Hearing Ex. Jt Appl.-11 (Dodd Rebuttal Testimony) at 7. It is also important to note that, as explained in Mr. Dodd’s unrefuted Rebuttal Testimony, COPPA does not apply to T-Mobile in its role as an online access provider (e.g., a provider of wireless internet access). Dodd Rebuttal Testimony at 5. In its original COPPA rulemaking the FTC clearly explained that “ISPs and cable operators that merely offer Internet access would not be considered operators under the Rule.” Children’s Online Privacy Protection Rule; Final Rule (Statement of Basis and Purpose), 64 Fed. Reg. 59,888, 59,891 at n.52 (Nov. 3, 1999). Even so, to the extent COPPA applies to T-Mobile, as an operator of general audience sites and services it is not required to establish the age of all users under COPPA.

³⁵² Dodd Rebuttal Testimony at 4. See “Complying with COPPA: Frequently Asked Questions,” A.1., available at <https://www.ftc.gov/tips-advice/business-center/guidance/complying-coppa-frequently-asked-questions>.

users in order to identify child users creates additional privacy risks for all users, including children.³⁵³

3. Location Data

Cal PA also makes unsupported claims that T-Mobile’s policy “seems to suggest that T-Mobile, and T-Mobile’s suppliers, may use the highly-accurate customer location information in ways the FCC expressly forbids” in the FCC’s 2015 E911 Order, and that “T-Mobile’s written policy governing the use of customer location information is deficient in ways that could put customers at risk.”³⁵⁴ Cal PA seems to come to this conclusion by (1) misrepresenting the requirements of the 2015 E911 Order and ignoring that the location information database the FCC endorsed creating in the Order is still under development and not yet in use, and (2) twisting the pro-privacy language of T-Mobile’s Customer Location Policy – which requires the same comprehensive notice and consent requirements for less precise (i.e., course) location information as it applies to more precise (i.e., GPS) location information.

T-Mobile could not possibly use the “highly accurate customer location information” from the National Emergency Address Database (NEAD) “in ways the FCC expressly forbids,” because the NEAD is still under development and not currently operational.³⁵⁵ When and if the NEAD becomes operational, T-Mobile will employ technical measures (rather than relying on policy statements) to ensure it is only accessible for E911 purposes and not for other commercial purposes. Further, T-Mobile’s Customer Location Policy does and will continue to reflect that notice and choice principles are applied to both precise and general location data.

³⁵³ Dodd Rebuttal Testimony at 8.

³⁵⁴ Donnelly Suppl. Decl. at 20; Cal PA Opening Br. at 30.

³⁵⁵ See CTIA Letter Re: Wireless E-9-1-1 Location Accuracy Requirements (PS Docket no. 07-114) Dispatchable Location Test Bed Report (April 26, 2019).

4. T-Mobile's Commitments to Privacy

As explained above, Cal PA's assertions that T-Mobile's TPRM Program contains important gaps that put customers at risk and that neither T-Mobile nor Sprint's policies provides adequate protection of children's information are unfounded.³⁵⁶ In order to address these alleged gaps, Cal PA proposes several privacy related conditions that it urges the CPUC to adopt if it fails to deny the merger.³⁵⁷ The conditions Cal PA proposes are not merger related, and, as explained above, are not necessary given T-Mobile's current policies and practices. Even so, to affirm its commitment to privacy and security, New T-Mobile has offered several privacy commitments designed to address Cal PA's requested conditions.³⁵⁸

B. Intervenor's Proposed Conditions Regarding T-Mobile's Arbitration Provisions Should Be Rejected.

Both Cal PA and TURN propose that the Commission impose conditions related to T-Mobile's existing arbitration provision.³⁵⁹ In addition to the jurisdiction obstacles to mandatory conditions, as a threshold matter, the arbitration provisions are not even theoretically merger-related. As Cal PA admits, both T-Mobile and Sprint have arbitration clauses today and as Cal

³⁵⁶ Cal PA Opening Br. at 30 and 32.

³⁵⁷ Cal PA Opening Br. at 53-54 Conditions (l) – (p).

³⁵⁸ See Appendix 1.

³⁵⁹ The proposed arbitration conditions clearly relate to New T-Mobile's wireless business. Cal PA's argument seems to rest on the misconception that the Commission may require approval for the wireless transactions contemplated by the merger (or, conversely, that the Commission may impose conditions as a prerequisite to granting approval for such transfers). As explained above, the law is to the contrary. See Section II, *supra*.

PA admits, both companies will continue to use arbitration clauses whether the merger occurs or not.³⁶⁰

Nor should the Commission require discontinuance of arbitration provisions by New T-Mobile, as Cal PA proposes for several important reasons.³⁶¹ First, such a step would be unprecedented. Although Cal PA's predecessor ORA has raised the issue of elimination of arbitration in prior merger proceedings,³⁶² the Commission has not required removal of arbitration clauses in connection with those mergers.³⁶³

Second, such a step would be contrary to federal law. The Federal Arbitration Act, 9 U.S.C. § 2, makes arbitration agreements "valid, irrevocable, and enforceable, save upon such grounds as exist at law or in equity for the revocation of any contract."³⁶⁴ In fact, the U.S. Supreme court has affirmatively struck down a California policy disfavoring arbitration, stating that arbitration "allow[s] for efficient, streamlined procedures tailored to the type of dispute."³⁶⁵

Third, the record demonstrates that T-Mobile's arbitration clause is unique among major wireless providers including an opt-out provision that expressly allows customers to resolve any

³⁶⁰ Hearing Ex. Pub Adv.-002C (Selwyn) 184:21-23 (noting that Joint Applicants will presumably continue to utilize arbitrations provision in the consumer contracts whether the merger goes forward or not).

³⁶¹ As discussed above, Joint Applicants respectfully maintain that the Commission lacks authority to mandate any conditions in connection with a *wireless* (as opposed to *wireline*) transfer of control.

³⁶² See, e.g., A.15-07-009 Charter/Time Warner Cable, Brief of the Office of Ratepayer Advocate at 48 (Mar. 1, 2016).

³⁶³ See, e.g., D.16-05-007 (granting application to transfer control subject to conditions in Charter proceeding A.15-07-009 with no discussion of ORA's proposed event included in the decision); D.16-12-070 (order modifying D.16-05-007 and denying rehearing of decision, as modified in Charter proceeding A.15-07-009 with no discussion of ORA's proposed event included in the decision); D.17-03-028 (order modifying D.16-12-070, and denying rehearing of decision, as modified in Charter proceeding A.15-07-009 with no discussion of ORA's proposed event included in the decision).

³⁶⁴ See 9 U.S.C. § 2.

³⁶⁵ *AT&T Mobility LLC v. Concepcion et ux.*, 563 U.S. 333, 344. (2011).

disputes with T-Mobile in court (including class-action litigation) if they choose to do so.³⁶⁶

T-Mobile also provides all customers – *whether they opt-out or not* – other options for resolving disputes with T-Mobile including by pursuing their claim in small claims court and bringing complaints to federal, state and local agencies, including the Commission.³⁶⁷ Further in contrast to its competitors,³⁶⁸ T-Mobile takes responsibility for all costs for all arbitrations.³⁶⁹

The Commission should also reject TURN’s proposed modifications of T-Mobile customer service practices relating to the opt-out provision. Contrary to the picture that TURN tries to paint, the process T-Mobile uses to inform customers of the opt-out option is clear, transparent and customer friendly. As Ms. Sylla Dixon clearly testified, the information about the arbitration opt-out rights is included in the Service Agreement,³⁷⁰ which is a short 1 1/2 page document provided to the customer at the time they initiate service,³⁷¹ as well as in the Terms and Conditions.³⁷² Moreover, the arbitration opt-out

³⁶⁶ See Sylla Dixon Rebuttal Testimony at 18:5-7. See AT&T, “Service Agreement” available at https://www.att.com/equipment/legal/service-agreement.jsp?q_termsKey=postpaidServiceAgreement&q_termsName=Service+Agreementand “Resolve a dispute with AT&T via arbitration,” available at <https://www.att.com/esupport/article.html#!/wireless/KM1045585?gsi=d3H0VfNh>; Verizon Wireless, “Customer Agreement,” available at <https://www.verizonwireless.com/legal/notices/customer-agreement/> and “Arbitration and Mediation FAQs,” available at <https://www.verizonwireless.com/support/arbitration-and-mediation-faqs/>; Sprint Terms and Conditions, available at <https://www.sprint.com/en/legal/terms-and-conditions.html>.

³⁶⁷ See Sylla Dixon Rebuttal Testimony at 20:3-10.

³⁶⁸ See note 14 *supra*.

³⁶⁹ See Sylla Dixon Rebuttal Testimony at 18:7-8.

³⁷⁰ Sylla Dixon Rebuttal Testimony at 18:19-34.

³⁷¹ Sylla Dixon Rebuttal Testimony at 18:16-31. The Service Agreement is either presented to the customer to read (in store or on the web) or is read to the customers who call in to initiate service. See https://www.t-mobile.com/content/dam/tmo/Company/assets/pdf/English_Watson%20SA.pdf.

right is presented in bold type on the both the Service Agreement and on the cover of the Terms and Condition, not buried at the end of some long document in tiny typeface as the Intervenor suggest. Customers are also given additional opportunities to opt-out including when they change service.³⁷³

And far from being “almost impossible” as TURN asserts, it is in fact quite easy and painless for customers to opt-out of the mandatory arbitration clause.³⁷⁴ Customers can opt out over the phone or on the web.³⁷⁵ Thus there is no need for the company to revise its customer service practices relating to the opt-out process as TURN proposes. Nor is there a need to provide a follow up notice 2 days later – much less by text, email **and** phone call³⁷⁶ – especially since with T-Mobile’s “UnCarrier approach,” the customer is not locked in to any contract; if they are dissatisfied with their arbitration election, they can simply restart service at any time and opt-out.³⁷⁷

Nevertheless to provide further assurance that T- Mobile’s customer-friendly practices will continue in the New T-Mobile, T- Mobile makes the following arbitration commitment. New T-Mobile will continue to provide customers with the option of pursuing claims in small claims courts and to allow customers to opt out of individual arbitration and class action waivers so that they may pursue claims in court. Customers may opt out of arbitration by notifying New

³⁷² Sylla Dixon Rebuttal Testimony at 18:19-19:13. This is in contrast to the Terms and Conditions document which as Cal PA correctly notes is much longer. Cal PA Opening Br. at 33. See https://www.t-mobile.com/templates/popup.aspx?PAAsset=Ftr_Ftr_TermsAndConditions.

³⁷³ Sylla Dixon Rebuttal Testimony at 19:5-13.

³⁷⁴ TURN Opening Br. at 15.

³⁷⁵ Sylla Dixon Rebuttal Testimony at 18:13-15.

³⁷⁶ TURN Opening Br. at 17.

³⁷⁷ Sievert Rebuttal Testimony at 6:4-5.

T-Mobile by phone or online. New T-Mobile will provide customers the following notice, or one substantially similar, in its terms and conditions, customer service agreement, product receipt, and/or other customer communications:

YOU MAY CHOOSE TO PURSUE YOUR CLAIM IN COURT AND NOT BY ARBITRATION IF YOU OPT OUT OF THESE ARBITRATION PROCEDURES WITHIN 30 DAYS FROM THE EARLIER OF THE DATE YOU PURCHASED A DEVICE FROM US OR THE DATE YOU ACTIVATED A NEW LINE OF SERVICE.

C. New T-Mobile’s Commitment to Diversity and Inclusion is Unquestionable.

Greenlining makes a series of unsubstantiated attacks on: (i) T-Mobile’s strong record of diversity; (ii) T-Mobile’s witness; and (iii) commitments of New T-Mobile to expand upon T-Mobile’s diversity and inclusion efforts through the National Diversity Coalition Memorandum of Understanding (“NDC MOU”). These attacks should be disregarded.

As an initial matter, Greenlining makes the somewhat staggering claim that “T-Mobile has acted like a company that does not take diversity and inclusion seriously” and goes so far as to assert “T-Mobile has demonstrated its disregard for diversity and inclusion.”³⁷⁸ The speciousness of Greenlining’s claims is demonstrated by the uncontested record evidence of New T-Mobile’s broad and deep commitment to diversity and notably its diverse workforce. The record evidence demonstrates that approximately 62 percent of T-Mobile’s workforce is identified as ethnically diverse and approximately 40 percent are women; well above the industry average.³⁷⁹ The company has also received numerous accolades for its diversity and inclusion efforts, including being named a “Best-of-the-Best” company for diversity and inclusion by a

³⁷⁸ Greenlining Opening Br. at 3.

³⁷⁹ Sylla Dixon Rebuttal Testimony at 7:10-11.

consortium whose members include notable champions of supplier diversity.³⁸⁰ With good reason, since 2011, when it first began to formally track this information, T-Mobile's diverse spend in California with certified suppliers has increased more than ten-fold, from \$69.6 million to \$740.7 million in 2018.³⁸¹ The company's commitment to diversity is further demonstrated by the T-Mobile's employees who offered moving firsthand accounts of T-Mobile's inclusive and supportive environment at the PPHs,³⁸² and the many diverse organizations who have supported this merger.³⁸³

Given this unassailable evidence of the company's stellar track record on diversity and inclusion, Greenlining resorts to *ad hominem* attacks against T-Mobile's witness, Ms. Sylla Dixon.³⁸⁴ Such attacks of a first-time witness who was clearly nervous on the stand (and presented with a muddled line of questioning) are not only unfounded but also unprofessional and distasteful.³⁸⁵ Additionally, Ms. Sylla Dixon was asked to testify about T-Mobile's commitment to New T-Mobile's participation in the Commission's supplier diversity program after the merger, which she did quite competently. The witness was *not* put on the stand to testify on the line questioning that veered far out of scope, including the intricacies of T-

³⁸⁰ Sylla Dixon Rebuttal Testimony at 7:18-8:7.

³⁸¹ In the last year alone, its diversity procurement increased by over \$84 million and it exceeded the Commission's goals for Minority Business Enterprise and Women Business Enterprise procurement and increased its overall diversity procurement to 21.2%. *See Utility Supplier Diversity Program*, available at <http://www.cpuc.ca.gov/supplierdiversity/>.

³⁸² *See, e.g.*, Public Participation Hearing Tr. at 150-156 (Jan. 16, 2019).

³⁸³ The Commission has received letters of support from dozens of organization, ranging from California Asian Pacific Chamber of Commerce (Feb. 8, 2019), to Women Veterans Alliance (Mar. 12, 2019).

³⁸⁴ *See* Greenlining Opening Br. at 3-4.

³⁸⁵ While Greenlining's brief attacked Ms. Sylla for allegedly failing to properly respond to questions on cross examination, counsel for Greenlining acknowledged at the hearing that some of his questioning was less than clear. *See* Hearing Tr. at 902, 905 (apologizing for the imprecise phrasing of several questions).

Mobile's participation in, or the regulation of, the Commission's supplier diversity program.³⁸⁶

Nor was her testimony focused on Sprint's pre-merger supplier diversity practice, which, as even Greenlining admits,³⁸⁷ it would have been inappropriate for Ms. Sylla Dixon to be knowledgeable about.

Greenlining also wrongly criticizes T-Mobile's NDC MOU, which seeks to expand and strengthen existing efforts to promote a more diverse and inclusive practices.³⁸⁸ Greenlining generally criticizes the NDC MOU commitments as vague and aspirational. Greenlining then offers more particularized criticisms of the new national diversity and inclusion council ("Diversity Council"), New T-Mobile's supplier diversity goals, and its workplace and board diversity commitments.

As an initial matter, Greenlining's criticism of the New T-Mobile's aspirational goals are disingenuous at best. Notably, Greenlining has entered into a number of MOUs containing similar aspirational goals, in other merger proceedings, and the Commission has found those to be in the public interest.³⁸⁹ Even more directly on point, the Commission has approved similar MOUs between NDC and other merging parties including Frontier Communications and Charter

³⁸⁶ Greenlining previously argued in this proceeding that Joint Applicants affirmative testimony went beyond the proper scope of rebuttal, (*see Joint Response in Support of the Motion of the Public Advocates Office to Amend and Supplement Testimony and for Additional Hearings* (February 11, 2019)), yet on cross examination asked witnesses about numerous topics beyond the scope of their rebuttal testimony, and then harshly, and unfairly, criticize those witnesses for their inability to answer those questions.

³⁸⁷ *See* Greenlining Opening Br. at 4 (critiquing Ms. Sylla Dixon for her lack of knowledge regarding Sprint's supplier diversity practice while acknowledging that she had any knowledge that could have risen to an antitrust violation).

³⁸⁸ Jt. Applicants' Opening Br. at 7.

³⁸⁹ *See In re Frontier*, D.15-12-005, Appendix C, Section 3 ("Frontier will set an aspirational goal of 25% MBE supplier diversity hiring by 2019, which is consistent with Verizon California's 2014 MBE supplier diversity spend. Greenlining and Frontier agree, however, that there is no commitment or obligation to attainment of a specific MBE supplier diversity percentage.").

Communications, similarly finding them to be in the public interest and incorporating them into the decision and ordering compliance.³⁹⁰ Greenlining’s specific criticisms are equally unmeritorious:

Diversity Council. Greenlining argues that the commitment to a Diversity Council is ineffective because it would be easily influenced by the combined company, emphasizing that only New T-Mobile appoints members to the Diversity Council.³⁹¹ Greenlining’s criticisms lack merit. As discussed above, T-Mobile already has a strong diversity and inclusion culture, and the Diversity Council serves to take New T-Mobile to the next level with outside expertise for best practices.³⁹² The NDC MOU sets forth specific criteria for the Diversity Council members including that they must be non-employees, “highly esteemed, regarded as pillars in their respective communities” and represent a constituencies from diverse groups.³⁹³ Moreover, while New T-Mobile has final authority to make appointments to the Diversity Council, NDC can nominate appointees.³⁹⁴

Supplier Diversity. Greenlining alleges that the NDC MOU’s supplier diversity commitments are aspirational and too weak to be considered public interest benefits.³⁹⁵ Greenlining is wrong on both counts. As an initial matter, Greenlining’s criticism regarding the *aspirational nature* of the goals should be rejected out of hand because (i) the Commission’s

³⁹⁰ See *In re Frontier*, D.15-12-005, Appendix G; *In re Charter*, D.16-05-007 at 16 (“...ALJ granted the joint motion of Applicants and the National Diversity Coalition to reflect a change in the latter’s position regarding the Transaction in view of the MOU and accepted the MOU into the record.”).

³⁹¹ See Greenlining Opening Br. at 5.

³⁹² See NDC MOU at 2-3.

³⁹³ See NDC MOU at 2.

³⁹⁴ See NDC MOU at 3.

³⁹⁵ See Greenlining Opening Br. at 11-12.

supplemental diversity goals, which guide the NDC commitments, are aspirational by design,³⁹⁶ and (ii) as discussed above, Greenlining itself has entered MOUs with other merging parties which similar include aspirational supplier diversity goals.³⁹⁷ Greenlining also criticizes the NDC MOU for setting a 21.5% goal for diverse spending, alleging that this goal is lower than the goal set forth in T-Mobile’s 2017 supplier diversity report,³⁹⁸ but Greenlining is comparing apples and oranges. The goal in the T-Mobile 2017 report (21.99%) included an additional LGBT goal of .49%,³⁹⁹ which is a distinct approach from the Commission-designated 21.5% goal that does not include LGBT spend.⁴⁰⁰ In fact, the subsequent T-Mobile 2018 report aligns with the Commissions goal (21.5%),⁴⁰¹ which the NDC MOU adopts—which also consistent with the goal of other service providers (e.g. AT&T, Verizon, Sprint, and Charter).⁴⁰² So, in fact, the NDC MOU does not set forth a lower goal as Greenlining alleges.

Workplace/Board Diversity. Greenlining offers similar criticisms of the workplace diversity and inclusion measures.⁴⁰³ First, these types of workforce commitments are similar to

³⁹⁶ See General Order 156, Section 8.

³⁹⁷ See, e.g., *In re Frontier*, D.15-12-005, Appendix C (“Frontier will set an aspirational goal of 25% MBE supplier diversity hiring by 2019....”)

³⁹⁸ Greenlining Opening Br. at 11.

³⁹⁹ See 2017 Annual Report and 2018 Plan, available at http://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/BusinessCommunityOutreach/GO156ProcurementPlans/2017/T-Mobile.MetroPCS.GO156.Report.Final.w.Attachments.030118.pdf.

⁴⁰⁰ GO 156, Paragraph 8.2.

⁴⁰¹ See 2018 Annual Report and 2019 Plan, available at http://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/BusinessCommunityOutreach/GO156ProcurementPlans/2018/T-Mobile.MetroPCS.GO156.Report.Final.w.Attachments.030119.pdf.

⁴⁰² Moreover, the goal of 21.5% will be a stretch in the coming years given that during 5G buildout New T-Mobile will be focusing its expenditures on network OEM and handsets for which there are no diverse suppliers.

⁴⁰³ *Id.*

those the Commission has found to be in the public interest in other merger proceeding.⁴⁰⁴ Second, these commitments only support T-Mobile's already strong employee diversity track record, which is significantly above the technology industry averages,⁴⁰⁵ and impressive board diversity.⁴⁰⁶ Finally, because board members are appointed by shareholders (as Greenlining admits), New T-Mobile is not in a position to make a firm commitment prior to the close of the transaction.⁴⁰⁷

XIV. CONCLUSION

The Joint Applicants respectfully submit that the Commission has sufficient information to conclude its review of the Wireless Notification and that this proceeding should be closed without further delay.

⁴⁰⁴ See, e.g., *In re Frontier*, D.15-12-005, Appendix G (Joint Minority Parties MOU).

⁴⁰⁵ Sylla Dixon Rebuttal Testimony at 7:3-12; Hearing Tr. at 902:19-23 (Sylla Dixon Cross).

⁴⁰⁶ See *Management & Board of Directors*, available at <https://investor.t-mobile.com/corporate-governance/management-and-board-of-directors/default.aspx>.

⁴⁰⁷ Greenlining Opening Br. at 9 (“...shareholders generally have the sole responsibility of selecting board members....”).

Respectfully submitted this 10th day of May, 2019.

/s/

Dave Conn
Susan Lipper
T-Mobile USA, Inc.
12920 SE 38th St.
Bellevue, WA 98006
Telephone: 425.378.4000
Facsimile: 425.378.4040
Email: dave.conn@t-mobile.com
Email: susan.lipper@t-mobile.com

Suzanne Toller
Davis Wright Tremaine LLP
505 Montgomery, Suite 800
San Francisco, CA 94111
Telephone: 415.276.6500
Email: suzannetoller@dwt.com

Leon M. Bloomfield
Law Offices of Leon M. Bloomfield
1901 Harrison St., Suite 1400
Oakland, CA 94612
Telephone: 510.625.1164
Email: lmb@wblaw.net

Attorneys for T-Mobile USA, Inc.

/s/

Stephen H. Kukta
Sprint
900 7th Street, NW, Suite 700
Washington, DC 20001
Telephone: 415.572.8358
Email: stephen.h.kukta@sprint.com

Earl Nicholas Selby
Law Offices of Earl Nicholas Selby
530 Lytton Avenue, 2nd Floor
Palo Alto, CA 94301
Telephone: 650.323.0990
Facsimile: 650.325.9041
Email: selbytelecom@gmail.com

Attorneys for Sprint Spectrum L.P. (U-3062-C),
and Virgin Mobile USA, L.P. (U-4327-C)

Appendix 1

**Joint Applicants' Commitments and Intervenor Requested
Conditions**

APPENDIX 1

JOINT APPLICANTS’ COMMITMENTS AND INTERVENOR REQUESTED CONDITIONS¹

	<u>Voluntary Commitments Made²</u>	<u>Related Intervenor Requested Condition(s)</u> (as set forth in Opening Briefs)
	PRICING	
1	New T-Mobile will make available the same or better rate plans as those offered by T-Mobile or Sprint as of February 4, 2019 (the Reference Date), for three (3) years following the close of the transaction. <i>See</i> FCC Pricing Commitment, Jt. Appl. Opening Brief § VI.C; CETF MOU § I.A., Appx. A.	<i>Cal PA Proposed Condition (a):</i> Requiring that the Joint Applicants' adhere to its commitments made related to prepaid pricing, in order to mitigate harm to low-income consumers. Cal PA Opening Brief at 52. <i>TURN Proposed Condition:</i> The current three-year pricing commitment must be clarified to include that plans, not just per unit pricing, remain in place. TURN Opening Brief at 20.
2	Within 60 days of close, New T-Mobile shall provide to CETF and the Commission a list of rate plans offered to new customers as of the Reference Date. New T-Mobile will provide to CETF and Commission Staff an Annual Compliance Report detailing New T-Mobile’s compliance with the CETF MOU, which will include a report on Rate Plans that were offered in the past calendar year. CETF MOU §§ I.A, X.	<i>TURN Proposed Condition:</i> Commission must include enforceable and verifiable commitments including a reporting requirement every 180 days with pricing for NTM’s plans offered in California, including explanations of the available handsets and terms identifying the plan as prepaid or postpaid. TURN Opening Brief at 19.
	LIFELINE	
3	New T-Mobile shall offer LifeLine services (pursuant to both federal FCC Lifeline and state Commission LifeLine programs) indefinitely in California. To provide assurance of its commitment, New T-Mobile guarantees the provision of LifeLine in California through the end of 2024 at a minimum. New T-Mobile agrees to continue to offer LifeLine services in California to both current and new eligible customers under rates (i.e., free), terms, and conditions (including free wireless handsets) no less favorable to eligible consumers than those offered under the Virgin Mobile/Assurance Wireless brand as of the date of close of the Transaction. CETF MOU § II.A.	<i>Cal PA Proposed Condition (c):</i> Requiring that New T-Mobile continue and expand participation in the LifeLine program indefinitely, at terms equal to or better than the terms currently offered by Assurance by Virgin Mobile. Cal PA Opening Brief at 52.
4	New T-Mobile shall provide all new LifeLine customers a minimum of 3 gigabytes (GB) per month of data and will upgrade all existing Assurance LifeLine customers to a minimum of 3 GB per month of data without the	N/A

¹ The Joint Applicants have attempted to capture all proposed conditions and commitments, paraphrasing or summarizing where possible for the Commission’s convenience. All commitments are for a 5- year duration unless otherwise specified in the relevant MOU or text of the commitment.

² The commitments in this chart are *voluntary* commitments – which are distinct from *mandatory* conditions, which the Commission has no authority to impose. *See* Jt. Appl. Opening Brief § III; Jt. Appl. Reply Brief § II. In proposing these voluntary commitments, the Joint Applicants expressly preserve all of their arguments concerning the Commission’s lack of authority to mandate *any* conditions. *See id.* Beyond this general prohibition on mandatory conditions, particular mandatory conditions, such as rate regulation, would be unlawful for additional reasons. *See, e.g.,* Jt. Appl. Reply Br. § II (discussing federal preemption of rate regulation).

	need for a customer to request the upgrade. New T-Mobile shall re-assess every 2 years the data allotment to determine its adequacy consistent with FCC guidelines and shall make adjustments to align with FCC guidelines. CETF MOU § II.A.	
5	New T-Mobile commits to offering Assurance Wireless customers access to T-Mobile's larger network footprint. Jt. Appl. Opening Brief § VII.A.2. CETF MOU § II.B.	N/A
6	New T-Mobile will strive to increase Lifeline adoption in California over five (5) years by achieving at least 332,500 new (additional) LifeLine / low-income households for a total of no less than 675,000 enrolled LifeLine / low-income households at the end of five (5) years. To help achieve these adoptions, New T-Mobile commits to expend a minimum of \$1 million per year for 5 years for a total of at least \$5 million to promote LifeLine adoption. Jt. Appl. Opening Brief §§ I, VII.A, CETF MOU §§ III.A, IV.B.	<i>Cal PA Proposed Condition (c):</i> Requiring that New T-Mobile continue and expand participation in the LifeLine program indefinitely, at terms equal to or better than the terms currently offered by Assurance by Virgin Mobile. Cal PA Opening Brief at 52.
7	New T-Mobile shall prepare a Promotion Investment Schedule generally describing the activities New T-Mobile will undertake to promote the LifeLine offers and enroll eligible California LifeLine and Low-Income customers, including but not limited to community based direct marketing and use of media. New T-Mobile shall place an appropriate share of the promotion investment with community media to ensure sufficient information in-language and in-culture. Jt. Appl. Opening Brief §§ I, VII.A., CETF MOU § IV.A.	<i>TURN Proposed Condition:</i> NTM must commit to a robust consumer education and marketing campaign that is culturally sensitive, in-language and based on the communities they serve. TURN Opening Brief at 28.
8	New T-Mobile commits to continue Sprint Spectrum L.P.'s participation in the Boost Pilot. <i>Note: New T-Mobile is committed to continue participation in the LifeLine program through Assurance Wireless and to continue Sprint Spectrum L.P.'s participation in the Boost Mobile Pilot Program. No further ETC designations are required to for such participation. Jt. Appl. Opening Brief § VII.A.</i>	<i>TURN Proposed Condition:</i> T-Mobile and Boost should be required to apply for their ETC designation in CA. TURN Opening Brief at 28.
9	New T-Mobile shall provide to CETF and the Commission a LifeLine / low-income Report, ³ which shall include LifeLine activations. See also Rate Plan Report (commitment 2). CETF MOU § X.B.	<i>TURN Proposed Condition:</i> TURN T-Mobile, Boost, Metro, and Assurance Wireless brands should report to the LifeLine staff to demonstrate their participation in the LifeLine program, including plans and customer response rates. TURN Opening Brief at 28.
10	New T-Mobile has committed to provide \$4.5 million for grants to CBOs, schools, and libraries to provide digital literacy training for up to 75,000 new LifeLine	N/A

³ The CETF MOU provides that certain portions of the Annual Compliance Report may be submitted confidentially to the Commission under G.O. 66-D to CETF subject to a non-disclosure agreement between CETF and New T-Mobile. See e.g. CETF MOU § X.

	and low-income households enrolled by New T-Mobile. CETF MOU § VI.B.	
N/A	<i>No new commitment: Assurance Wireless customer service agents are already trained to work with LifeLine participants.</i>	<i>TURN Proposed Condition: NTM should be required to train its customer service agents to work with LifeLine participants to meet the participation of other carriers in the program. TURN Opening Brief at 28</i>
WHOLESALE/MVNO		
11	New T-Mobile will honor all of T-Mobile’s and Sprint’s existing MVNO contracts, and any MVNO agreement in effect at the closing date of the transaction with either T-Mobile or Sprint will be extended by New T-Mobile to December 31, 2021. Any existing agreement that is effective beyond December 31, 2021, will continue for the full duration specified in the agreement. Jt. Appl. Opening Brief § I.	<i>Cal PA Proposed Condition (b):</i> Requiring that New T-Mobile honor all existing wholesale agreements and to commit to offering existing wholesale partners the best wholesale terms and conditions that are offered individually by each of the Joint Applicants to their wholesale partners on a non-discriminatory basis. Cal PA Opening Brief at 52. <i>Not commercially reasonable to require New T-Mobile to offer each MVNO the best terms available because: (i) each MVNO agreement is individually negotiated; (ii) the agreements require two-way commitments.</i>
12	New T-Mobile will provide annually to the Commission a confidential report (submitted under seal) that lists the MVNOs with which New T-Mobile contracts and which provides average volume of network traffic attributed to MVNO activity as measured on a national basis. Jt. Appl. Reply Brief § V.E.	<i>TURN Proposed Condition: T-Mobile must report on MVNO contract movement and traffic volumes annually. TURN Opening Brief at 17.</i>
NETWORK BUILDOUT/RURAL		
13	<i>Network Buildout:</i> New T-Mobile commits to deploy 5G technology at 90% of the cell site locations included in its network plan for California (or geographically comparable locations) by 2025. Jt. Appl. Opening Br. § V.B, CETF MOU § VII.C	<i>Cal PA Proposed Condition (d):</i> Requiring that New T-Mobile adhere to its commitments to offer in-home broadband services and to expand and improve service in rural California. Cal PA Opening Brief at 52. <i>Cal PA Proposed Condition (e):</i> Requiring that New T-Mobile adhere to its commitments to provide wireless speeds in excess of 100 Megabits per second by 2021 and 400 Megabits per second by 2024. Cal PA Opening Brief at 52. ⁴ <i>TURN Proposed Condition:</i> Commission must require a detailed plan for network enhancements and timeframes plus reporting to the Commission to monitor progress, especially in rural areas. TURN Opening Brief at 36.
14	New T-Mobile will commit to achieve the average (mean) speed tier (per the measurement protocol discussed infra) across all sites a specified speed	<i>Cal PA Proposed Condition (d):</i> Requiring that New T-Mobile adhere to its commitments to offer in-home

⁴ Cal PA’s requested commitment appears to include a typo when referencing 400 Mbps in 2024. New T-Mobile’s stated that it will deliver data rates greater than 100 Mbps to 99 percent of the California population and greater than 300 Mbps to 93 percent of the California population by 2024. New T-Mobile also includes statements about service at 500 Mbps but not statement about 400 Mbps.
4843-0847-8870v.1 0048172-001059

	category in the applicable year. For sites that are designated to achieve both speed tiers (100 Mbps and 300 Mbps), there will be two speed tests: (i) one in the year when spectrum and equipment are deployed that allow a site to reach the first speed tier (i.e. 100 Mbps); and (ii) a second in the year when the spectrum is deployed to allow the site to meet its second speed tier (e.g. 300 Mbps). Jt. Appl. Opening Br. § V.B, CETF MOU § VII.C	<p>broadband services and to expand and improve service in rural California. Cal PA Opening Brief at 52.</p> <p><i>Cal PA Proposed Condition (e):</i> Requiring that New T-Mobile adhere to its commitments to provide wireless speeds in excess of 100 Megabits per second by 2021 and 400 Megabits per second by 2024. Cal PA Opening Brief at 52.⁵</p> <p><i>TURN Proposed Condition:</i> Commission must require a detailed plan for network enhancements and timeframes plus reporting to the Commission to monitor progress, especially in rural areas. TURN Opening Brief at 36.</p>
15	<p>In addition, New T-Mobile will commit to achieve a minimum of 80% of the specified speed tier category at each site (per the measurement protocol discussed infra). To the extent that a site does not achieve 80% of the established speed tier at a particular site, New T-Mobile will promptly use good faith efforts to achieve the designated speed tier at that site.</p> <p>Furthermore, to verify coverage and speeds, New T-Mobile has committed to site-specific speed tests and to provide coverage maps. Jt. Appl. Opening Br. § V.B, CETF MOU § VII.C</p>	<p><i>Cal PA Proposed Condition (d):</i> Requiring that New T-Mobile adhere to its commitments to offer in-home broadband services and to expand and improve service in rural California. Cal PA Opening Brief at 52.</p> <p><i>Cal PA Proposed Condition (e):</i> Requiring that New T-Mobile adhere to its commitments to provide wireless speeds in excess of 100 Megabits per second by 2021 and 400 Megabits per second by 2024. Cal PA Opening Brief at 52.⁶</p> <p><i>TURN Proposed Condition:</i> Commission must require a detailed plan for network enhancements and timeframes plus reporting to the Commission to monitor progress, especially in rural areas. TURN Opening Brief at 36.</p>
16	<p>New T-Mobile commits to at least \$7.8 billion in network capital expenditure in California within six years from closing of the merger with the right to defer \$1.2 billion of those planned capital expenditures for an additional seventh year. Jt. Appl. Opening Brief § V.B, CETF MOU § VII.C.</p>	<p><i>Cal PA Proposed Condition (d):</i> Requiring that New T-Mobile adhere to its commitments to offer in-home broadband services and to expand and improve service in rural California. Cal PA Opening Brief at 52</p> <p><i>Cal PA Proposed Condition (j):</i> Requiring that New T-Mobile complete the California-specific capital investments that the Joint Applicants claim the merger will produce. Cal PA Opening Brief at 53</p> <p><i>TURN Proposed Condition:</i> Commission must require a detailed plan for network enhancements and timeframes plus reporting to the Commission to monitor progress, especially in rural areas. TURN Opening Brief at 36.</p>
17	<p>New T-Mobile has committed to provide CETF and the Commission with an Annual Compliance Report detailing New T-Mobile capital expenditures, its buildout progress, speed tests results and coverage maps. Jt. Appl. Opening Brief § V.B.</p>	<p><i>Cal PA Proposed Condition (k):</i> Requiring that New T-Mobile submit annual reports on its capital investments in California and include detailed information. Cal PA Opening Brief at 53.</p> <p><i>TURN Proposed Condition:</i> Commission must require a detailed plan for network enhancements and timeframes plus reporting to the Commission to monitor progress, especially in rural areas. TURN Opening Brief at 36.</p> <p><i>TURN Proposed Condition:</i> T-Mobile must report on rural deployment, as defined by the Commission, every</p>

⁵ *Id.*

⁶ *Id.*

		180 days with specific geographic locations of the work being done. TURN Opening Brief at 17.
18	New T-Mobile shall prioritize its planned 5G network improvements in 10 unserved and underserved California areas. The 10 unserved/underserved areas for prioritization shall be selected by New T-Mobile after consultation with CETF and the Rural Regional Consortia. CETF MOU § VII.C.	N/A
PUBLIC SAFETY/EMERGENCY PREPAREDNESS/NETWORK RESILIENCY		
19	New T-Mobile shall retain the number of Sprint and T-Mobile COWs and COLTs that each company has in California as of the close of the Transaction and, by 2021, shall expand by 50% the number of COWs and COLTS available to assist in emergencies. CETF MOU § VIII.B.	<i>Cal PA Proposed Condition (f)</i> : Requiring that New T-Mobile retain Sprint's customer complaint database, <i>portable generator inventory</i> , and back-up battery policy to help maintain quality of service. Cal PA Opening Brief at 52.
20	New T-Mobile commits to establishing 6 additional microwave links and 6 additional satellite links for emergency backhaul connectivity in California. Jt. Appl. Opening Brief § VII.C.	<i>Cal PA Proposed Condition (f)</i> : Requiring that New T-Mobile retain Sprint's customer complaint database, <i>portable generator inventory</i> , and back-up battery policy to help maintain quality of service. Cal PA Opening Brief at 52.
21	New T-Mobile shall continue the practice of offering community support to those impacted during an emergency, with concessions such as free wireless service, charging stations for devices, and other support, which is determined by the severity of the event. CETF MOU § VIII.B.	N/A
22	New T-Mobile will retain the Sprint battery back-up policy at all retained Sprint sites, and New T-Mobile will implement Sprint's back-up battery design at all newly constructed sites where it is feasible. ⁷ Jt. Appl. Reply Brief § XII.A.	<i>Cal PA Proposed Condition (f)</i> : Requiring that New T-Mobile retain Sprint's customer complaint database, <i>portable generator inventory</i> , and <i>back-up battery policy</i> to help maintain quality of service. Cal PA Opening Brief at 52.
23	New T-Mobile will establish mission critical sites in the rural areas where it extends service following the merger and install standard generators at those sites. Jt. Appl. Reply Brief § XII.A.	TURN Proposed Condition: The Commission should require T-Mobile to establish mission critical sites in the rural areas where it would be extending service following a merger, and to install standard generators at those sites. TURN Opening Brief at 41.
24	New T-Mobile will use commercially reasonable efforts to install standard generators at any microwave hub towers that it constructs or leases to provide backhaul and middle mile transport to multiple sites to the extent it is permitted to do so consistent with relevant federal, state and local laws and regulations. Jt. Appl. Reply Brief § XII.A.	<i>TURN Proposed Condition</i> : The Commission should require T-Mobile to install standard generators at any microwave towers that is constructs to provide backhaul and middle mile transport. TURN Opening Brief at 41.
25	In any negotiations with providers for new middle mile and backhaul facilities in California, New T-Mobile will use commercially reasonable efforts to negotiate the provision of sufficient back-up power to provide continuous service to mission critical sites. <i>See</i>	<i>TURN Proposed Condition</i> : The Commission should require T-Mobile to negotiate with the providers from whom it leases middle mile and backhaul to ensure that those facilities have sufficient back-up power to provide

⁷ T-Mobile already maintains a customer complaint database that is equivalent to, and perhaps even more robust than, Sprint's customer complaint database.

	<i>reporting requirement below for commitment to report on backhaul / middle mile providers who refuse to provide the requested backup power. Jt. Appl. Reply Brief § XII.A.</i>	continuous service to mission critical sites. TURN Opening Brief at 42.
26	<p>New T-Mobile will report annually to the Commission about the status of back-up power in areas deemed high fire risk. T-Mobile will include in these reports instances where a fiber middle-mile or backhaul provider refuses to provide back-up power to a level sufficient to ensure uninterrupted service to mission critical sites.</p> <p>For the purpose of this commitment, areas deemed high fire risk are defined as those areas in Tier 3 of the High Fire Threat District (See GO 95 Rule 21.2.D) Jt. Appl. Reply Brief § XII.A.</p>	<i>TURN Proposed Condition:</i> The Commission should require T-Mobile to report to the Commission about the status of back-up power in areas deemed high fire risk. T-Mobile should include in these reports instances where a fiber middle-mile or backhaul providers refuses to consider increasing the back-up power to a level sufficient to ensure uninterrupted service to mission critical sites. TURN Opening Brief at 42.
27	<p>Within 5 years of the date of the close of the Transaction, New T-Mobile shall deploy 5G wireless service that supports continuous service at 10 County Fairgrounds in rural counties, at least 3 of which shall be installed in the first 3 years. The fairgrounds will be selected from ones that currently have coverage below 25 Mbps with priority consideration given to the rural Fairgrounds most frequently used in the last decade to stage emergency response and support recovery activities. The 10 Fairgrounds shall be selected by New T-Mobile after consultation with CETF and the Rural Regional Consortia. Jt. Appl. Opening Brief § VII.C, CETF MOU § VIII.A</p>	N/A
PUBLIC SAFETY/FIRST RESPONDER		
28	<p>New T-Mobile commits to work closely and collaboratively with CalOES to implement Next Generation 911 throughout its footprint. Jt. Appl. Reply Brief § XII.</p>	<i>Cal PA Proposed Condition (h):</i> Requiring that New T-Mobile work closely and collaboratively with the California Office of Emergency Services (CalOES) to implement wireless Next Generation 9-1-1 services across its service territory and notify the Commission, CalOES and the Public Advocates Office of 9-1-1 outages. Cal PA Opening Brief at 53.
29	<p>In addition to submitting NORS reports to the Commission in compliance with the rules that require provision of such reports, New T-Mobile commits to provide regular updates to the Commission and the CalOES regarding the status of its network and its efforts to restore service during emergencies and natural disasters. Jt. Appl. Reply Brief § XII.</p>	<i>Cal PA Proposed Condition (h):</i> Requiring that New T-Mobile work closely and collaboratively with the California Office of Emergency Services (CalOES) to implement wireless Next Generation 9-1-1 services across its service territory and notify the Commission, CalOES and the Public Advocates Office of 9-1-1 outages. Cal PA Opening Brief at 53.
N/A	<p><i>No commitment: Cal PA's request is commercially unreasonable and completely duplicative of a network that already exists. AT&T has already constructed dedicated first responder networks, and the State of California has entered into a contract with AT&T for that network.</i></p>	<i>Cal PA Proposed Condition (i):</i> Requiring that New T-Mobile construct a dedicated first responder communications network to mitigate the harms of reduced redundancy in cellular infrastructure. Cal PA Opening Brief at 53
DIVERSITY		

30	<p>Within ninety (90) days after the close of the Transaction, New T-Mobile will establish a national diversity and inclusion council (the “Council”) (sponsored by New T-Mobile’s Government Affairs and Diversity and Inclusion teams) and a California focused diversity and inclusion SubCouncil. The Council shall be the main external advisory group to New T-Mobile, regarding the development and implementation of a “Diversity Strategic Plan.” Jt. Appl. Opening Brief § VII.F.1, NDC MOU § 3.d.i.</p>	N/A
31	<p>New T-Mobile shall strive to increase the diversity of its workforce in California at all levels to reflect the diversity of the communities in which it operates. New T-Mobile will work with the Council to establish plans in this area, and will consider recommendations submitted by NDC to expand and improve the quality of potential candidates. Jt. Appl. Opening Brief § VII.F.1, NDC MOU § 4.</p>	N/A
32	<p>New T-Mobile is committed to the diversity of its Board of Directors and will continue to evaluate the makeup of its Board on an ongoing basis and encourage its stockholders to consider a diverse pool of Board candidates to fill vacancies as they occur. NDC MOU § 3.a.</p>	N/A
33	<p>New T-Mobile will partner with NDC and the Council to improve diversity in its procurement of goods and services by through a number of actions designed to increase its diverse supplier spending in California.</p> <p>Within five (5) years following the close of the Transaction, New T-Mobile’s aspirational goal for all annual diverse spend in California will be the Commission’s General Order 156 goal of 21.5%. Within three (3) years of the close of the Transaction, New T-Mobile’s aspirational goal for annual diverse spend in California excluding spend with handset and network OEMs will be 40%. Jt. Appl. Opening Brief § VII.F.3, NDC MOU § 5</p>	N/A
34	<p>New T-Mobile commits to continuing and improving its involvement in and commitment to organizations in California that are mission-driven to improve the socioeconomic conditions facing people of color, women, disabled persons, and veterans, realizing that investing in these peoples ultimately improves New T-Mobile’s bottom line. New T-Mobile will develop a “Community Investment Plan” that will outline its Philanthropy and Community Investment for the three years following the close of the Transaction for California. Jt. Appl. Opening Brief § VII.F.4, NDC MOU § 7.</p>	N/A
DIGITAL DIVIDE		

35	New T-Mobile shall continue to expand T-Mobile's current EmpowerED Program and Sprint's 1Million Project (which may be rebranded) (together the New T-Mobile School-Based Programs) to reach an additional 52,000 low-income California families with K-12 school age children within 5 years of the close of the Transaction for a total of 112,000 families. For the additional 52,000 families, the New T-Mobile School-Based Programs will provide at least 3 GB of free high-speed Internet service and unlimited (non-high speed) Internet service thereafter and free Internet-enabled devices, such as Chromebooks or other Internet-enabled tablets or other wireless devices that may be used as hot spots if the school also provides a companion notebook or tablet to work with the hotspot. Jt. Appl. Opening Brief § VII.E, CETF MOU § VI.A.	N/A
36	New T-Mobile shall provide \$12.5 million to assist districts and schools participating in the New T-Mobile School-Based Programs (and representing up to 25,000 students) to implement School2Home to incorporate technology into teaching and learning with significant parent engagement. CETF MOU § VI.B.	N/A
37	New T-Mobile shall provide up to \$1 million over 5 years for School Leadership Teams from the districts and schools in the New T-Mobile School-Based Programs selected to participate in the School2Home Partnership to attend the annual School2Home Leadership Academy. Jt. Appl. Opening Brief § VII.E, CETF MOU § VI.A.	N/A
38	New T-Mobile commits to work with NDC and its members to launch a Community Wireless Initiative that will seek to expand and improve wireless capabilities within New T-Mobile's coverage area throughout low-income communities, to low income Californians, to underserved minority populations, and to organizations serving these underserved communities. New T-Mobile makes several specific commitments in furtherance of this overall commitment. These specifics are laid out in the NDC MOU. Jt. Appl. Opening Brief § VII.F.2, NDC MOU § 6.	N/A
JOBS		
39	New T-Mobile commits to extending job offers with comparable pay and benefits to all California Sprint and T-Mobile retail employees. Jt. Appl. Opening Brief VII.B.	N/A
40	New T-Mobile commits that the total number of New T-Mobile employees in California three years after the close of the Transaction will be equal to, or greater than, the current total number of Sprint and T-Mobile	N/A

	employees in California. Jt. Appl. Opening Brief §§ I, VII.B.	
41	New T-Mobile commits to opening a new Customer Experience Center located in Kingsburg, California in California's Central Valley that will create approximately 1,000 jobs. Jt. Appl. Opening Brief §§ I, VII.D.	N/A
PRIVACY/DATA SECURITY		
42	<p>Within 12 months of closing, New T-Mobile will:</p> <ul style="list-style-type: none"> a. Complete and maintain an inventory of third-party suppliers and subcontractors to whom New T-Mobile has authorized access to New T-Mobile customer data; and b. Maintain a process to conduct regular, periodic reviews of the data security policies and programs for third-party suppliers to whom New T-Mobile has authorized access to New T-Mobile customer data; and c. Require third-party suppliers to whom New T-Mobile has authorized access to New T-Mobile customer data to notify and receive approval from New T-Mobile before providing subcontractors access to New T-Mobile customer data. Where an existing contract with a third-party supplier does not require such notice and approval, New T-Mobile will use commercially reasonable efforts to migrate the third-party supplier to a new agreement that requires such notice and approval. Jt. Appl. Reply Brief § XIII. 	<p><i>Cal PA Proposed Commitment (l):</i> Requiring that New T-Mobile create an inventory of all third-party suppliers and subcontractors who have or will have access to New T-Mobile customer data. New T-Mobile should use this inventory to conduct regular, periodic reviews of suppliers' and subcontractors' data security and risk management policies and programs. New T-Mobile should require third parties notify and receive approval from New T-Mobile when providing subcontractors access to customer data. Cal PA Opening Brief at 53.</p>
43	<p>Immediately upon closing, New T-Mobile will ensure that third party risk management remains a company-wide priority, and that senior leadership and the Board of Directors or applicable committee receive periodic updates from staff about the status of the company's third-party risk management program.</p> <p>Within 6 months of closing, New T-Mobile will:</p> <ul style="list-style-type: none"> a. Ensure that New T-Mobile staff, within 21 days of confirming a breach of customer data, report to senior leadership any breach affecting the personal information of 500 or more California residents; and b. Contemporaneously provide the Commission and the Public Advocate's Office a copy of the notice and supporting documents filed with the California Attorney General's Office pursuant to Cal. Civ. Code § 1798.80 et seq., for any breach of personal information affecting more than 500 California residents. Jt. Appl. Reply Brief § XIII. 	<p><i>Cal PA Proposed Commitment (m):</i> Requiring that New T-Mobile ensure that third party risk management is a company-wide priority. New T-Mobile should ensure the Board of Directors and other senior leadership receive periodic updates from staff about the status of the company's third-party risk management programs. New T-Mobile should require staff to report to the board and senior leadership whenever a data breach occurs. The Commission and the Public Advocates Office should be notified when a breach occurs, with subsequent notification of the root cause analysis and remediation actions. Cal PA Opening Brief at 53</p>

44	<p>Within 9 months of closing, New T-Mobile will:</p> <ol style="list-style-type: none"> Require third-party suppliers to whom New T-Mobile has authorized access to New T-Mobile customer data to notify New T-Mobile staff as soon as practicable, but in no event no more than twenty-four (24) hours after discovery, of a breach or suspected breach of New T-Mobile customer data, whether the breach originates with the third-party supplier or its subcontractor; and Specify for third-party suppliers the New T-Mobile contact to whom the foregoing breach notices shall be provided and require that third-party suppliers provide New T-Mobile periodic reports and updates describing the supplier's breach investigation and all corrective or remedial actions taken. Jt. Appl. Reply Brief § XIII. 	<p><i>Cal PA Proposed Commitment (n):</i> Requiring that New T-Mobile should require third parties to notify New T-Mobile staff within 24 hours of a data breach or suspected breach, whether the breach originates with the third party or their subcontractor. Supplier contracts should clearly state how suppliers must notify New T-Mobile in the event of a data breach and should require suppliers provide periodic reports and updates describing the breach investigation and all corrective or remedial actions taken. Cal PA Opening Brief at 54</p>
45	<p>Within 12 months of closing, New T-Mobile will:</p> <ol style="list-style-type: none"> Ensure that the account owner of any New T-Mobile multi-line consumer account can manage all available New T-Mobile account settings (e.g., marketing preferences) for all lines on the account; and Ensure that the account owner of any New T-Mobile multi-line, post-paid consumer account has access to an optional tool(s) allowing control over data content (e.g., content filtering) for all lines on the account. Jt. Appl. Reply Brief § XIII. 	<p><i>Cal PA Proposed Commitment (o):</i> Requiring that New T-Mobile allow customers to identify devices that belong to children and establish a program that would give primary account holders increased control over the data generated by devices that belong to children. This increased control should include the ability for the primary account holder to control what data are collected and to have New T-Mobile delete the data that are collected. In addition, New T-Mobile should not collect or store any information from these devices, beyond what is necessary to provide service. New T-Mobile should also not use the data, even if the data are de-identified, for any purpose other than providing service to that device. New T-Mobile should automatically preclude children's devices from inclusion in any interest-based advertising program, even if other types of customers must "opt-out." Cal PA Opening Brief at 54.</p>
N/A	<p><i>No new commitment: Privacy policies are legally mandated communications that must withstand legal scrutiny, comply with specified legal standards, and are often the subject of litigation and regulatory examination. As such, they are not appropriately evaluated by customer satisfaction surveys, but instead are generally crafted to comply with legal analysis and advice. Moreover, a customer survey is not likely to generate useful information on several of the topics identified in this request, including customer notifications following data breaches, because breaches happen too rarely to be reliably assessed in a survey, and opt in/opt out policies, which are likely far too complex to be meaningfully evaluated in a consumer survey.</i></p>	<p><i>Cal PA Proposed Condition (p):</i> Requiring that New T-Mobile employ an independent consultant to conduct a customer satisfaction survey on their respective company's data privacy policies including customer notice and understanding of those privacy standards, customer ability, and accessibility to opt-in/opt-out of carriers' data collection, and customer notification and recourse when data are compromised or breached. The independent consultant should work with the Public Advocates Office and other consumer groups that are parties in this proceeding on the survey methodology and design, and it should share the results of the survey with them and the Commission. Cal PA Opening Brief at 54.</p>
ARBITRATION/CLASS ACTION CLAUSES		
46	<p>New T-Mobile will continue to provide customers with the option of pursuing claims in small claims courts and to allow customers to opt out of individual arbitration and class action waivers so that they may pursue claims in court. Jt. Appl. Reply Brief § XIII.B.</p>	<p><i>Cal PA Proposed Condition (q):</i> Requiring that New T-Mobile delete all mandatory arbitration/class action waiver provisions from the post-merger New T-Mobile's customer service adhesion contracts, both for new as well</p>

	<p><i>T-Mobile's arbitration clause is unique among major wireless providers because it includes an opt-out provision which is clearly communicated to customers when they sign up for service. Customers can also pursue their claims in small claims court and with federal, state and local regulatory agencies, including the Commission.</i></p>	<p>as for pre-existing customers. Cal PA Opening Brief at 54.</p> <p><i>TURN Proposed Commitment:</i> Commission must require New T-Mobile to revise customer service practices to more fully support the opt-out of mandatory arbitration and a ban on class action during point of purchase and provide follow up notice within two days of purchase via text, email, and phone call. TURN Opening Brief at 17.</p>
REPORTING		
47	<p>New T-Mobile commits to provide annual reports on network build out which will include cell site level information regarding broadband speeds. Jt. Appl. Opening Hearing Brief § V.B.</p> <p><i>Existing Commission rules require submission of NORS (outage) reports to the Commission per GO 128. The Commission obtains customer complaints through the normal course. Requests for latency reporting are not explained and/or supported by Cal PA testimony and evidence.</i></p>	<p><i>Cal PA Proposed Commitment (g):</i> Requiring that New T-Mobile report on customer complaints, service outages, broadband speeds, and latency following the merger. Cal PA Opening Brief at 53.</p>

Appendix 2

Analysis of Topics Identified in Amended Scoping Memo

APPENDIX 2

ANALYSIS OF TOPICS IDENTIFIED IN AMENDED SCOPING MEMO¹

No.	Topics Identified in Amended Scoping Memo	Analysis of Topics	Where Topic is Addressed in Briefs (or testimony, if not in addressed in briefs)
1	How would the merger impact competition for services currently provided by Sprint or T-Mobile in any metropolitan area or other geographically distinct market?	The merger will enhance competition in the market for wireless services currently provided by Sprint and T-Mobile. The proposed merger will lower New T-Mobile's costs and provide the New T-Mobile with the combination of network and spectrum assets to massively increase its capacity over the two standalone companies. This will put the New T-Mobile in a position to challenge industry giants Verizon and AT&T.	Opening Brief, Sections VI.D and V.E; Reply Brief, Section V
2	What new services, if any, that are not currently provided by T-Mobile or Sprint, are contemplated to be provided by the merged entity? How would the merger impact competition for such services in any metropolitan area or other geographically distinct market?	<p><i>New Services:</i> New T-Mobile will leverage a unique combination of complementary assets to build the first world-leading nationwide 5G Network to ensure high-capacity 5G service for the overwhelming majority of Californians. (Opening Brief, Section IV.A.) Fixed wireless in-home broadband will be the primary new service provided as a result of the merger. (Opening Brief, Sections V.D and V.F.)</p> <p><i>Impact on Competition for New Services:</i> New T-Mobile's in-home broadband service will increase competitive pressure on incumbent wired in-home broadband providers. New T-Mobile's 5G network will also enable vastly expanded opportunities for IoT solutions. (Opening Brief Section V.D; Reply Brief, Section X.)</p>	Opening Brief, Sections IV.A, V.D, and V.F; Reply Brief, Section X
3	What are the relevant markets to consider?	The merger simulation presented in Joint Applicants testimony is <i>not</i> dependent on a precise delineation of relevant markets, but to the extent useful, the relevant market is the national mobile telephony/broadband services market.	Israel Rebuttal Testimony at 42-49.

¹ An overview of where Scoping Memo topics are addressed in Joint Applicants' testimony is found in Joint Applicants' Executive Summary of Rebuttal Testimony at 9-11.

No.	Topics Identified in Amended Scoping Memo	Analysis of Topics	Where Topic is Addressed in Briefs (or testimony, if not in addressed in briefs)
4	Would the merger give the merged company monopsony power or increase the tendency to exercise monopsony power, including market power over equipment suppliers?	The intervenors never raised any claims regarding alleged development monopsony power, which, in any event, does not and will not exist.	n/a
5	What merger-specific and verifiable efficiencies would be realized by the merger?	Efficiencies realized by the merger include combining the complementary spectrum and cell sites of the standalone companies, thereby increasing network capacity, coverage, and density, as well as achieving higher spectral efficiencies even sooner from faster refarming of spectrum from LTE to 5G. (Opening Brief, Section IV.A) In addition to the significant cost savings achieved through the above efficiencies, cost savings from decommissioning duplicative sites and lower operating expenses from spectrum and scale efficiencies will collectively lower marginal costs, leading to lower prices for consumers. (Opening Brief, Section VI.B.)	Opening Brief, Sections IV.A and VI.B; <i>see also</i> Reply Brief, Section III.B
6	How would the merger affect innovation?	New T-Mobile’s transformative 5G network will significantly expand access to mobile broadband and will deliver unprecedented speeds and quality, empowering the creation of innovative new products and services. These products include remote medical surgery, smart farming, and “smart communities” to connect, manage, and optimize community infrastructure in ways that more limited 5G networks would be unable to effectively support. (Section V.F.) Additionally, see discussion of Topic #2, above (new services). (Sections IV.A and V.D.)	Opening Brief, Sections IV, V.D, and V.F.

No.	Topics Identified in Amended Scoping Memo	Analysis of Topics	Where Topic is Addressed in Briefs (or testimony, if not in addressed in briefs)
7	How would the merger affect the market for special access services, including backhaul services?	It would have no effect. Sprint Wireline does not provide special access or backhaul services to any wireless providers in California. (Wireline Opening Brief, Section I.A.)	Wireline Opening Brief, Section I.A.
8	How would the merger affect the ability of independent competitive wireless carriers to obtain backhaul services?	It would have no effect. Sprint Wireline does not provide special access or backhaul services to any wireless providers in California. (Wireline Opening Brief, Section I.A.)	Wireline Opening Brief , Section I.A.
9	Would the merger increase the market power of the incumbent local exchange carriers and their wireless affiliates?	No. To the contrary, the combination of T-Mobile's and Sprint's subscriber bases will give New T-Mobile the spectrum assets and economies of scale necessary to effectively compete against AT&T and Verizon Wireless. (Opening Brief, Section VI.B.) Increases in network quality and declines in marginal costs that are dependent upon the merger as compared to the standalone entities will allow New T-Mobile to more effectively compete for customers of AT&T. All consumers will benefit from New T-Mobile's lower prices, as AT&T and Verizon will be forced to respond by lowering their prices to maintain share. (Opening Brief, Section IV.D.)	Opening Brief, Section VI.B and IV.D; <i>see also</i> Reply Brief, Section V

No.	Topics Identified in Amended Scoping Memo	Analysis of Topics	Where Topic is Addressed in Briefs (or testimony, if not in addressed in briefs)
10	How would the merger impact the quality of, and access to, service to California consumers in metropolitan areas, rural areas, or other geographically distinct markets? What services would be affected?	<p><i>All California:</i> The merger will improve service quality for all customers both immediately through access to T-Mobile’s larger footprint (a particular benefit to LifeLine customers but also to Sprint customers relying on roaming agreements) and ultimately through the faster speeds and greater capacity of the combined company’s deployment of 5G. (Section VI.C.)</p> <p><i>Rural:</i> Significantly more non-urban and rural communities will get broad and deep 5G coverage relative to the standalone world, helping to bridge the urban-rural digital divide. (Opening Brief, Section V; Reply Brief, Section IX.)</p> <p><i>Affected Services:</i> wireless, fixed broadband</p>	Opening Brief, Section V and Section VI.C; Reply Brief, Section IX
11	How would the merger impact the LifeLine program?	The merger will benefit the LifeLine program both directly by expanding Assurance Wireless’s current wireless footprint, as well as indirectly through New T-Mobile’s increased incentives and ability to win the business of MVNOs. New T-Mobile has also committed to continue Sprint Spectrum L.P.’s participation in the Boost Pilot program.	Opening Brief, Section VII.A; Reply Brief, Section VIII and Appendix 1.
12	Which California utilities would operate the merged properties in the state?	Sprint Spectrum L.P. (U-3062-C) and Virgin Mobile USA, L.P. (U-4327-C) will become wholly-owned indirect subsidiaries, controlled by T-Mobile USA but will otherwise continue to exist as separate carriers registered with the Commission and licensed by the FCC with no change in operational structure.	Opening Brief, Section II.A.
13	Would the merger preserve the jurisdiction of the Commission to effectively regulate those utilities and their operations in California?	Yes. See Topic #12, above.	Opening Brief, Section II.A.

No.	Topics Identified in Amended Scoping Memo	Analysis of Topics	Where Topic is Addressed in Briefs (or testimony, if not in addressed in briefs)
14	Would the benefits of the merger likely exceed any detrimental effects?	Yes. New T-Mobile’s business plan and rigorous economic analysis demonstrate that the merger will promote – not reduce – competition on every level (including increasing pressure on rival service providers) and enhance consumer welfare as quality increases and prices decrease across the industry.	Opening Brief, Section VI; <i>see also</i> Reply Brief, Section III through V.
15	Should the Commission impose conditions or mitigation measures to prevent significant adverse consequences and, if so, what should those conditions or measures be?	The Commission has no jurisdiction to impose conditions on the wireless transfer of control, and in any event, no mitigation measures are necessary, as there will be no significant adverse consequences. ² However, T-Mobile has made a number of voluntary commitments which T-Mobile has agreed be (i) made conditions to the Commission decision in this matter and (ii) made enforceable by the Commission.	Opening Brief, Section I, Appendices 1 and 2; Reply Brief, Appendix 1.

² Joint Applicants continue to respectfully maintain that the Wireline Approval Application and Wireless Notification raise fundamentally distinct factual and issues (including the distinct jurisdictional standards applicable to each), and therefore should be considered separately. *See, e.g.*, Wireline Approval Application at 19-20; Joint Applicants’ Wireline Br. at 9-10; Joint Applicants’ Wireless Br. at 14-16; Joint Applicants’ Motion for Immediate Approval at 2, 4-5; Joint Applicants’ Wireless Reply Br. at 11-16.

ANALYSIS OF FACTUAL ISSUES PRESENTED IN AMENDED SCOPING MEMO

Factual Issues Identified in Amended Scoping Memo	Analysis of Factual Issue	Where Factual Issue is Addressed in Briefs
Innovation	See analysis of Topics #2 and #6, above.	
Service Quality	See analysis of Topics #10, above.	
Customer Satisfaction	New T-Mobile customers in California will benefit from T-Mobile’s award-winning customer care model.	Opening Brief, Section VII.D
Pricing Policies	Joint Applicants have committed to making available the same or better rate plans as those offered by T-Mobile or Sprint as of February 4, 2019 (the Reference Date), for three (3) years following the close of the transaction. <i>See also</i> , Topic #5, above.	Opening Brief, Section IV.C. Reply Brief, Appendix 1, Commitment 1 an 2.
Pre-paid Services	First, prepaid plans do not constitute a separate market, as shown by customers moving between plan types by choice. Second, New T-Mobile has no incentive to raise the rates for prepaid customers, especially in light of its enhanced capacity and competition from all AT&T, Verizon, and MVNOs like TracFone. <i>See also</i> , Topic #1, above.	Opening Brief, Section VI.G
Wholesale Markets	See Topics #7 and #8, above.	
Roll-Out of 5G services (Particularly in Rural Markets),	See Topics #2 and #10, above.	
System Integration	The intervenors raised no claims regarding system integration issues, and there are otherwise none to consider.	
Device Compatibility	Most Sprint customers can have their existing devices updated through over-the-air software to allow almost immediate access to the New T-Mobile network. The remaining Sprint customers will require handset change outs. The majority of these will be accomplished through the natural upgrade cycle, but New T-Mobile will also offer promotions to expedite upgrades to compatible devices, similar to what T-Mobile did during the MetroPCS transition.	Opening Brief, Section V.G
Customer Migration	Customer migration to the New T-Mobile network will be seamless and no customer will be left behind, as demonstrated by T-Mobile’s previous successful integration of MetroPCS network. There will be no degradation of	Opening Brief, Section V.G

	service for Sprint customers.	
Net Neutrality	The intervenors have not pursued raised any claims regarding New Neutrality issues should be part of this proceeding.	n/a
Customer Privacy	Privacy protection is critical for T-Mobile, as demonstrated by robust third-party risk management program, compliance with COPPA, and comprehensive notice and consent requirements for location information.	Reply Brief, Section VIII and Appendix 1 Commitments 42-45.
Mandatory Arbitration Clauses	T- Mobile's current arbitration provision (which is not mandatory since it includes an opt-out and ability to go to small claims court or regulatory agency) will be maintained by New T-Mobile, and T-Mobile.	Reply Brief, Section VIII.B

Appendix 3

**Explanation of Flaws in Supplemental Economic Testimony of
Dr. Lee Selwyn**

PUBLIC VERSION

TABLE OF CONTENTS

I. OVERVIEW OF APPENDIX.....	1
II. DR. SELWYN MISREPRESENTS THE IKK MODEL RESULTS.....	3
III. DR. SELWYN MISREPRESENTS THE IKK QUALITY ANALYSIS.....	11
A. DR. SELWYN’S CLAIM THAT SPRINT AND T-MOBILE PAY “LITTLE TO NO ATTENTION” TO DOWNLOAD SPEEDS IS INCORRECT.....	13
B. DR. SELWYN’S CRITIQUES OF THE NEVO <i>ET AL.</i> ARTICLE ARE INCORRECT	17
IV. DR. SELWYN’S CLAIMS REGARDING MARGINAL COST ARE INCORRECT	24
V. DR. SELWYN’S CLAIMS REGARDING 5G COVERAGE ARE IRRELEVANT.....	27

I. OVERVIEW OF APPENDIX

1. Dr. Lee L. Selwyn filed a Supplemental Declaration dated April 26, 2019 purporting to address the merger simulation results discussed in the declaration and prior filings of Dr. Mark Israel.¹ Dr. Selwyn refers to this merger simulation as the “IKK Model.”²

2. A summary of Dr. Selwyn’s criticisms and proper responses follow below.

- Dr. Selwyn claims that the IKK Model “concluded that, post-merger, prices for both postpaid and prepaid services will be higher, both AT&T and Verizon would also increase their prices, New T-Mobile’s market share would be less than the combined market shares of the two companies standing alone, and that consumer surplus would be diminished.”³ Every one of these claims by Dr. Selwyn is false. For each one, the IKK Model reaches the opposite conclusion to what Dr. Selwyn claims.
- Dr. Selwyn claims that Dr. Israel concludes prices would be lower post-merger only because of certain quality improvements such as “increases in download speeds,” but he contends that “this particular service attribute receives little to no attention in any of Sprint’s or T-Mobile’s marketing and advertising.”⁴ Dr. Selwyn’s claim that Dr. Israel’s conclusions depend upon

¹ Rebuttal Testimony of Mark A. Israel, January 29, 2019 (“Israel Rebuttal Testimony”).

² Dr. Israel refers in his declaration to the “IKK merger simulation.” To avoid confusion, this appendix will use the term “IKK Model” based on Dr. Selwyn’s Supplemental Declaration. Supplemental Declaration of Lee L. Selwyn, April 26, 2019 (“Selwyn Supp. Decl.”).

³ Selwyn Supp. Decl., ¶ 6.

⁴ Selwyn Supp. Decl. at 29.

quality adjustments is false, and Dr. Selwyn misrepresents the marketing materials he discusses, which again actually demonstrate the opposite of what he claims.

- Dr. Selwyn claims that Dr. Israel’s review of quality improvements to consumers is “based upon an inapposite study” rather than alternative “[w]idely-accepted scientific methods for quantifying or ‘monetizing’ the value that consumers ascribe” to quality improvements.⁵ In addition to completely ignoring the analysis of Dr. Bresnahan and his colleagues (together “ABH”) that uses just such “widely-accepted scientific methods,” Dr. Selwyn ignores Dr. Israel’s discussion of multiple materials, several of which use a method for which Dr. Selwyn advocates. He also misrepresents the quality improvement study cited by IKK, a study published in *Econometrica*, one of the (if not *the*) premier economic journals devoted to cutting edge empirical methods and analysis. Nor does Dr. Selwyn present any analysis of his own or any basis to dispute that consumers value quality improvements to wireless networks.
- Dr. Selwyn’s discussions of marginal costs and the impact of quality improvements on pricing are not only incorrect, they are economically nonsensical. Dr. Selwyn claims that, if “there were any merit to Dr. Israel’s contention that the purportedly lower marginal costs that New T-Mobile will experience post-merger will create incentives for New T-Mobile to cut prices and expand output, then AT&T and Verizon, which already enjoy lower

⁵ Selwyn Supp. Decl. at 32, 40.

marginal costs, would already be doing just that – except that they are not.”⁶

He further claims that if “service quality gains . . . were actually to materialize . . . the nominal *dollar* prices of New T-Mobile’s services will be higher than what standalone Sprint and T-Mobile would charge”⁷ As explained below, these claims are totally unsupported.

- Dr. Selwyn claims that “county-level 5G deployment projections provided by Mr. Ray are not credible” and that the “level of rural 5G coverage . . . is unlikely to be pursued because it is unlikely to be profitable with or without the merger.”⁸ Dr. Selwyn’s discussion of deployment projections, though off-base,⁹ are irrelevant to the conclusions that Dr. Israel reaches.

II. DR. SELWYN MISREPRESENTS THE IKK MODEL RESULTS

3. Dr. Selwyn claims that, if quality adjustments are taken out of the IKK Model, the model predicts that “post-merger, prices for both postpaid and prepaid services will be higher, both AT&T and Verizon would also increase their prices, New T-Mobile’s market share would be less than the combined market shares of the two companies standing alone, and [] consumer surplus would be diminished.”¹⁰

⁶ Selwyn Supp. Decl. at 10-11.

⁷ Selwyn Supp. Decl., ¶ 16 (emphasis in original).

⁸ Selwyn Supp. Decl. at 41, 50.

⁹ See *Joint Applicants’ Reply Brief on the Joint Application for Review of Wireless Transfer Notification per Commission Decision 95-10-032*, Section IX.

¹⁰ Selwyn Supp. Decl., ¶ 6.

4. Dr. Selwyn completely misrepresents the results of the IKK Model. Each and every one of Dr. Selwyn's claims is false.

- The IKK Model shows that both nominal and quality-adjusted prices will be lower post-merger, not higher.
- The IKK Model shows that both AT&T and Verizon would decrease their prices, not increase them.
- The IKK Model shows that New T-Mobile's share will be greater than the combined share of the two standalone companies, not less.
- The IKK Model shows that consumer surplus would increase, not be diminished.

5. Dr. Selwyn presents tables from IKK's backup materials to support his claims about the IKK Model results.¹¹ However, Dr. Selwyn made a fundamental error that invalidates all of his claims concerning the IKK Model: He relied on the wrong model.

6. As Dr. Selwyn notes, economists from Brattle Group (hired by Intervenor DISH), which he and Dr. Israel refer to as "HBVZ" based on the initials of the authors, submitted results from *their own model* on behalf of DISH that purported to find the merger would result in price increases. Dr. Israel responded to that flawed analysis in his testimony.¹² What Dr. Selwyn does not appear to have understood is that, as explained in IKK's September 17, 2018 declaration attached to Dr. Israel's January 29, 2019 rebuttal testimony, HBVZ did not provide backup materials, so IKK had to reverse engineer

¹¹ For example, Selwyn Supplemental Declaration, Figures 2 and 3, which Dr. Selwyn claims "reproduce IKK model output."

¹² Selwyn Supp. Decl., ¶¶ 4-5.

HBVZ’s model based on their description of their methodology and their reported results. IKK reported the results of this replication and compared them to the results reported by HBVZ to establish that the reverse-engineered version of their model was close to what they were actually using. *Critically, the only reason IKK replicated the HBVZ model was in order to critique it.*¹³ IKK has never agreed with or endorsed HBVZ’s results. To the contrary, Dr. Israel stated clearly and repeatedly that he disagreed with the results presented by HBVZ.¹⁴ *The tables that Dr. Selwyn presents and that he claims represent the IKK Model are, in fact, from IKK’s replication of the HBVZ model. They are not the IKK Model.*

7. This misunderstanding by Dr. Selwyn should be immediately clear from the materials that he shows in his declaration. Reproduced below is Dr. Selwyn’s Figure 2, which he claims “reproduce IKK model output.”¹⁵ The highlighted headings show “Merger Simulation Results As Reported by HBVZ” and “Replication of HBVZ Merger Simulation Results.” As just explained, IKK’s replication of the HBVZ model yields very similar results to what HBVZ reported. That is the point of a replication. But these results are not the IKK Model, and Dr. Israel does not agree with them.

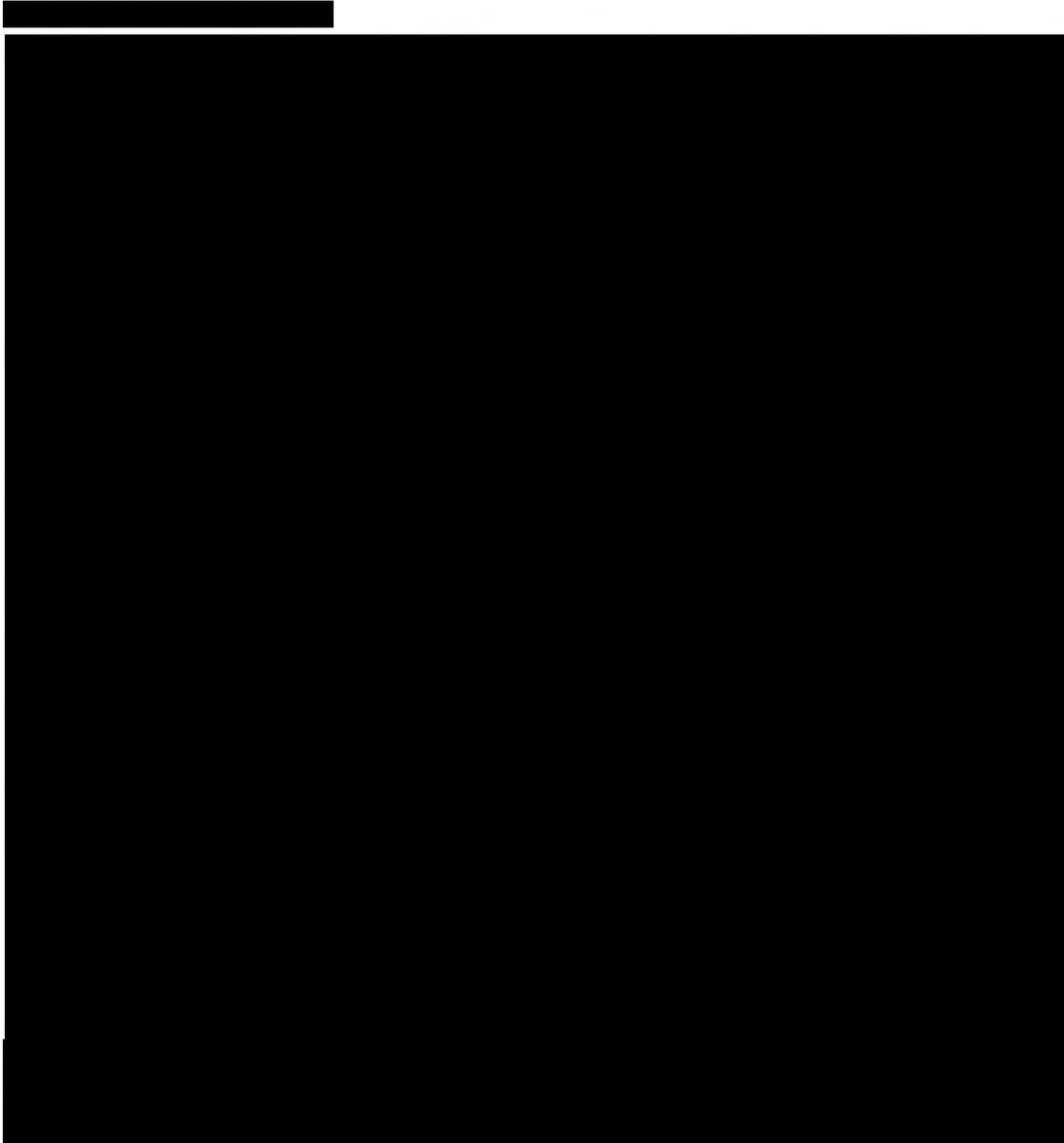
¹³ See, for example, IKK Declaration, September 17, 2018, n.47, attached to Israel Rebuttal Testimony (“IKK Declaration”) (“As noted above, because HBVZ did not provide backup materials with their declaration, we have had to reverse engineer their results based on the information contained in the declaration. We are able to replicate HBVZ’s predicted post-merger prices within 0.2 percent in HBVZ’s ALM prepaid and postpaid models and HBVZ’s PC-AIDS postpaid model. We have been able to replicate HBVZ’s predicted post-merger prices within 2.0 percent in HBVZ’s PC-AIDS prepaid model. The results that we report below are based on our reverse engineered version of HBVZ’s merger simulation models.”).

¹⁴ A large part of the IKK Declaration is devoted to responding to the HBVZ analysis, and Dr. Israel also discusses his critique of the HBVZ analysis in the Israel Rebuttal Testimony at 40:13-41:3.

¹⁵ Selwyn Supp. Decl., ¶ 27 and Figure 2.

Figure 1

[Begin Highly Confidential – Attorneys’ Eyes Only (“BHC-AEO”)]



[End Highly Confidential – Attorneys’ Eyes Only (“EHC-AEO”)]

8. This error by Dr. Selwyn is readily apparent in each of his summary tables purporting to represent the “post-merger IKK Model” results. In each table, Dr. Selwyn

claims that “the IKK model . . . actually projects price *increases*”.¹⁶ However, all of Dr. Selwyn’s tables purporting to represent IKK Model results are sourced to “Replication of HBVZ ALM.xlsx”¹⁷—in other words, the numbers are not IKK’s numbers, they are HBVZ’s numbers, the very numbers rebutted in Dr. Israel’s prior testimony.¹⁸

9. Dr. Israel summarized in prior testimony his criticisms of, and his conclusions with respect to, the HBVZ model, as reproduced below.

Going into more detail, I found that ‘HBVZ’s simulation analyses suffer from several weaknesses. By far the biggest one is that it does not consider the beneficial effects that the merger’s efficiencies will have on competition and consumer welfare. Other weaknesses arise from certain methodological choices made by HBVZ and their use of poor estimates of parameter values that are critical to their models’ results.’

I further concluded, even ignoring the other deficiencies in the HBVZ analysis, that:

‘The HBVZ merger simulation analysis demonstrates that the merger is procompetitive once modified to account for efficiencies. HBVZ merger simulation analysis ignores the efficiencies that will arise from the merger. Because it ignores the beneficial aspects of the merger for consumers, HBVZ’s analysis, without further modification, would necessarily find that any merger of firms competing for the same customers harms competition and consumers and, thus, this analysis cannot support any conclusions about the net effect of the proposed transaction on competition and consumer welfare. Incorporating the merger-specific efficiencies projected by the Parties’ network plans and their Network Build Model into the HBVZ merger simulation model leads to the conclusion that the merger will strengthen competition and raise consumer welfare. Specifically, all of HBVZ’s merger simulations require less than \$3/subscriber/month of efficiencies for the proposed merger to be procompetitive, and the Parties’ projected marginal cost savings alone exceed this threshold. Accounting for the quality benefits of the merger

¹⁶ Selwyn Supp. Decl., ¶ 24 (emphasis in original).

¹⁷ Selwyn Supp. Decl., Table 1, Table 2 and Table 3.

¹⁸ A large part of the IKK Declaration is devoted to responding to the HBVZ analysis, and Dr. Israel also discusses his critique of the HBVZ analysis in the Israel Rebuttal Testimony at 40:13-41:3.

strengthens the conclusion that the proposed merger will benefit consumers.’¹⁹

10. In summary, IKK found that the HBVZ analysis had failed to account for marginal cost savings (which are distinct from quality improvement adjustments), and that simply accounting for marginal cost savings meant that even the HBVZ model predicted lower prices and increased consumer welfare from the merger. Further, IKK found that, even without accounting for the impact of improvements in the quality of service due to the merger, the IKK model shows the merger is procompetitive. As stated in Dr. Israel’s prior testimony:²⁰

Even if one maintains conservative assumptions (beginning in many cases with assumptions made by parties challenging the merger and generally erring on the side of being conservative) the projected merger efficiencies will, on average, outweigh any adverse competitive effects from the loss of a competitor. Specifically, the projected merger efficiencies are large enough that the net present value (‘NPV’) of the consumer welfare effects of the proposed merger will be substantially greater than zero. . . . Under a range of different model specifications, my analysis shows that the merger enhances consumer welfare.

11. Dr. Selwyn’s claims that the IKK Model shows “consumer surplus would be diminished”²¹ is false. Dr. Selwyn is correct that consumer surplus is “a key indicator of consumer welfare.”²² Yet he ignores Dr. Israel’s testimony that the IKK Model shows [BHC-AEO] [REDACTED] [EHC-AEO] in incremental consumer surplus for California customers. As Table 1 indicates, the IKK Model demonstrates that consumer

¹⁹ Israel Rebuttal Testimony at 40:13-41:3.

²⁰ Israel Rebuttal Testimony at 36:4-9, 36:13-14.

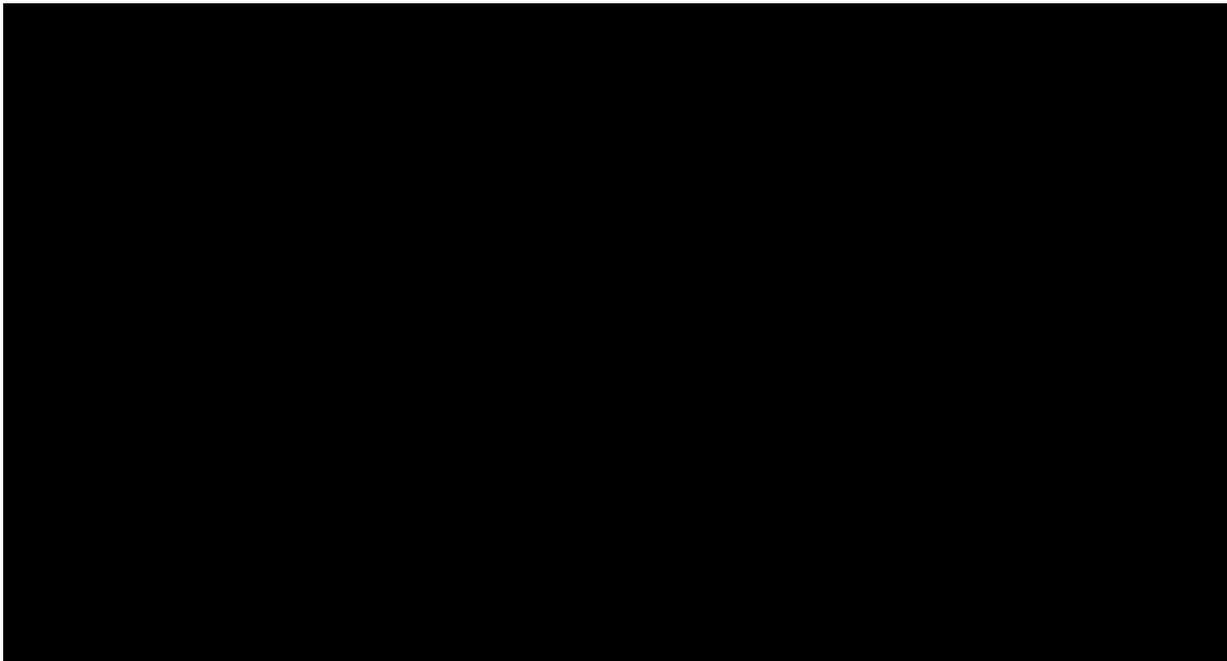
²¹ Selwyn Supp. Decl., ¶ 6.

²² Selwyn Supp. Decl., ¶ 5.

welfare is positive for a broad array of assumptions and scenarios. The model shows that California consumers will be significantly better off after the Transaction.

Table 1: NPV of Consumer Welfare in California (\$ billions)²³

[BHC-AEO]



[EHC-AEO]

12. The IKK Declaration also shows how nominal prices will be lower after the merger, despite Dr. Selwyn’s erroneous claims that the IKK Model shows otherwise.²⁴ As is shown in the IKK Declaration, the marginal cost savings alone are enough to show the merger is good for consumers, before quality adjustments are factored in.²⁵ IKK

²³ Israel Rebuttal Testimony, Table 6. The same substantive conclusions hold based on the most current version of the model.

²⁴ Selwyn Supp. Decl., ¶ 6.

²⁵ The IKK Declaration demonstrates how this is true for all years after the networks are fully integrated (2021). In 2021, it is true so long as quality improvements are valued at just [BHC-AEO] [EHC-AEO] per month, a threshold that is surely met.

calculated figures called “critical efficiencies.” Critical efficiencies show the dollar amount of efficiencies that must be achieved for the merger to benefit consumers. Table 2 demonstrates critical quality efficiencies—the value of quality improvement necessary for the merger to benefit consumers *after* accounting for marginal cost savings. These negative critical quality efficiencies demonstrate that estimated marginal cost savings alone are sufficient for the merger to benefit consumers and, if consumers placed zero value on quality improvements, that the merger would still lower nominal prices, contrary to Dr. Selwyn’s assertions.

Table 2: Critical Quality Efficiencies²⁶

[BHC-AEO]



[BHC-AEO]

²⁶ IKK Declaration, Table 16.

13. Negative critical efficiency figures also refute Dr. Selwyn's points concerning market share and the prices competitors will charge following the Transaction. The IKK Model demonstrates that New T-Mobile will be offering a more attractive product at a lower price (both in nominal value and in quality-adjusted terms) than would the standalone firms. This more attractive offering will take share from AT&T and Verizon. AT&T and Verizon will therefore find it profit maximizing to lower their prices to mitigate this share loss. Dr. Selwyn's claim that the IKK Model shows that "both AT&T and Verizon would also increase their prices, [and] New T-Mobile's market share would be less than the combined market shares of the two companies standing alone" is a complete falsehood based on his analysis not of the IKK Model but rather of the flawed HBVZ model. In fact, IKK's model, by showing New T-Mobile's incentive and ability to charge lower prices, demonstrates how New T-Mobile will take share and force AT&T and Verizon to respond with lower prices.

III. DR. SELWYN MISREPRESENTS THE IKK QUALITY ANALYSIS

14. Dr. Selwyn claims that Dr. Israel's contention that post-merger prices will be lower "is driven by the notion that certain 'quality adjustments' will be viewed by consumers as overcoming the actual increase in the dollar amounts they will be required to pay for mobile wireless services post-merger."²⁷ That claim is false.

15. As summarized above, both the HBVZ model, once efficiencies are accounted for, and the IKK Model find that post-merger prices will be lower than prices without the merger, even without accounting for the value of quality improvements to consumers. To

²⁷ Selwyn Supp. Decl. at 5.

be clear, IKK’s conclusions that the merger will benefit consumers hold even if one completely ignores the impact on quality-adjusted prices from quality improvements that will be made possible by the Transaction.

16. This is an important point that undermines all of Dr. Selwyn’s criticisms. Consumers clearly would benefit, to at least some degree, from improvements in network quality generally and improvements in download speed specifically, and Dr. Selwyn cannot credibly claim otherwise.²⁸ Dr. Israel presented evidence from a wide range of sources, all establishing that consumers in fact attach *substantial* value to quality improvements generally and speed improvements specifically.²⁹ Dr. Selwyn discusses only a single one of those sources, the article by Nevo *et al.* published in *Econometrica*, and responses to Dr. Selwyn’s criticisms of that article are below. However, Dr. Selwyn does not critique the other sources Dr. Israel discusses, including sources using the methodologies that he proposes using, nor does he discuss in his rebuttal declaration the quality analyses put forward by Cornerstone (the “ABH” testimony).³⁰

²⁸ Although Dr. Selwyn does, in fact, suggest that consumers may not care about quality changes. Dr. Selwyn gives an example of a Hershey bar being reduced in size from 5 oz. to 4 oz. and claims that that reduction “would have no effect upon a consumer, and would not be perceived as a price increase by a consumer, who did not intend to eat more than 4 oz. of chocolate in the first place.” Selwyn Supp. Decl. at n.6. On its face, Dr. Selwyn’s claim that giving the consumer a smaller chocolate bar at the same price “would have no effect upon a consumer” is nonsensical. *Id.* Of course consumers care about getting a 20% smaller chocolate bar and still being charged the same amount. There is a reason why grocery stores post both the total price and the price per ounce. Nor does it seem likely that consumers throwing away 20% of each chocolate bar they bought prior to the size reduction because “they did not intend to eat more than 4 oz. of chocolate in the first place.” *Id.*

²⁹ See, for example, IKK Declaration §VI.B.

³⁰ See generally Rebuttal Testimony of Timothy F. Bresnahan, January 29, 2019.

17. In any event, as explained above, precise estimation of the value to consumers of quality improvements is not necessary for Dr. Israel's conclusions. Dr. Selwyn has mistakenly claimed that quality adjustments are necessary to conclude that prices will fall. That is not true. Thus, the only relevance of quantifying the quality adjustments is to obtain some estimate of the additional consumer benefits from the merger, but since the net effect of the merger is to benefit consumers *with or without accounting for quality improvements' impact* on quality-adjusted prices, Dr. Selwyn's critiques about the precision of those estimates are completely irrelevant. Dr. Selwyn provides no alternative estimates of quality valuations and no basis to believe that quality improvements are without value. Thus, there can be no debate about *whether* the merger will benefit consumers; all that can be debated is *how much* it will benefit them.

18. The following section discusses each of Dr. Selwyn's criticisms of Dr. Israel's review of the importance of quality.

A. DR. SELWYN'S CLAIM THAT SPRINT AND T-MOBILE PAY "LITTLE TO NO ATTENTION" TO DOWNLOAD SPEEDS IS INCORRECT

19. Dr. Selwyn states that IKK focuses on "increases in download speeds, yet this particular service attribute receives little to no attention in any of Sprint's or T-Mobile's marketing and advertising."³¹ This claim is false: it is simply not true that Sprint and T-Mobile pay "little to no attention" to download speeds in their marketing and advertising. Dr. Israel previously explained that carriers advertise based on speed, engage in internal

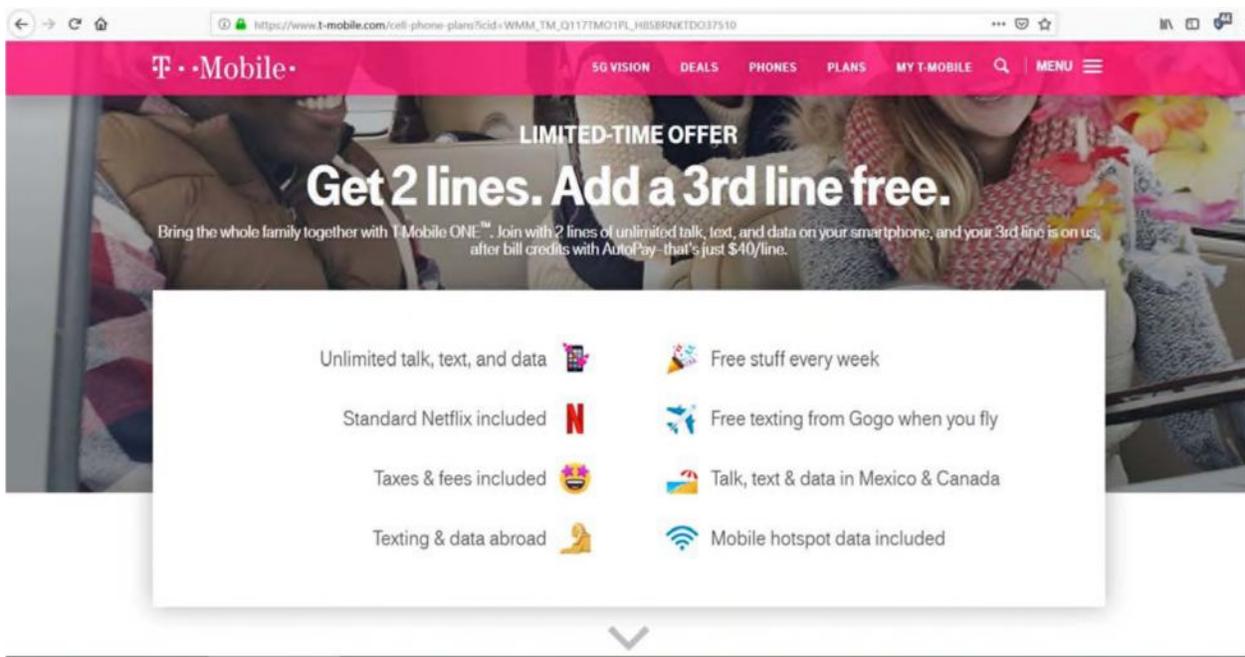
³¹ Selwyn Supp. Decl. at 29.

studies on consumer perceptions of speed, and price differently based on speed.³²

Furthermore, Dr. Selwyn misrepresents the materials he cites to support his claim.

20. In support of his claim, Dr. Selwyn presents a screenshot that he titles “T-MobileONE service features.” He claims that “*download transmission speed (data rate) . . . is not even included in the feature list for T-Mobile ONE service.*”³³ However, that screenshot is not from the T-Mobile ONE plan page describing the service features at all, but instead is from a page about a special offer for an additional line, as the title in the screen shot itself makes clear. See below, replicating Dr. Selwyn’s Figure 6.

Figure 2



³² IKK Declaration §VI.B.

³³ Selwyn Supp. Decl., ¶ 34 (referencing https://www.t-mobile.com/cell-phone-plans?icid=WMM_TM_DEVITO_T7OK1SN9U14432) (emphasis in original).

21. On the actual plan page, “high-speed data on your phone” and “Mobile hotspot data at max 3G speeds” are in the feature list, and “high-speed data on your phone” is in fact the first feature listed.³⁴ See below.

Figure 3

What's included with T-Mobile ONE™

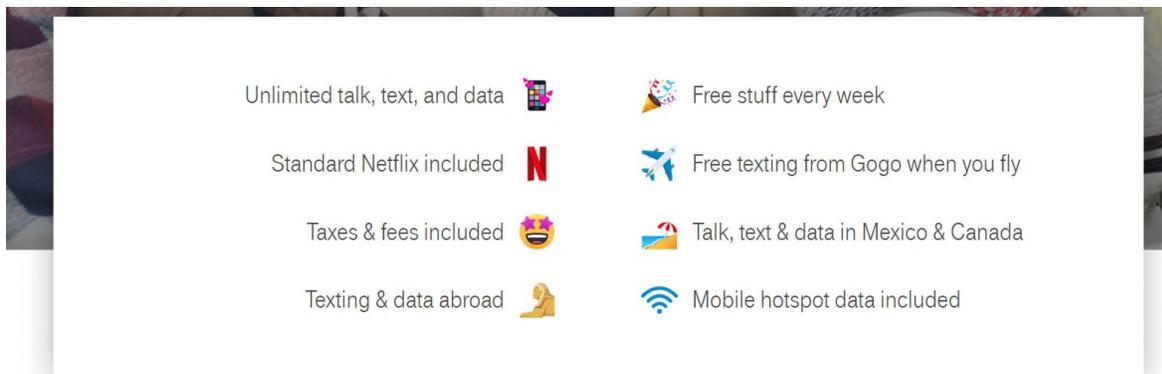
T-Mobile ONE for your **phone** includes:

- ✓ Unlimited talk, text, & high-speed data on your phone
- ✓ Monthly regulatory fees and sales taxes on your service plan included in the price (*see in-store materials for specifics in your state*)
- ✓ Netflix Standard 2-screen plan (*up to \$10.99/mo. value*) at no extra charge with 2+ qualifying lines
- ✓ Stream unlimited video at DVD-quality, 480p
- ✓ Texting & data (up to 128 kbps) abroad in 210+ countries & destinations
- ✓ In-flight texting + 1 hour of Wi-Fi on Gogo®-enabled flights to, from, or within the U.S.
- ✓ Unlimited in Mexico & Canada - Talk, text, & up to 5 GB of 4G LTE data
- ✓ Mobile hotspot data at max 3G speeds

22. Furthermore, Dr. Selwyn’s screenshot was trimmed and omitted multiple discussions of speed. Immediately below the part he showed is a footnote discussing data speeds that was cut off,³⁵ and immediately below that is a comparison to other carriers

³⁴ *T-Mobile ONE™ for Phones*, T-Mobile, <https://support.t-mobile.com/docs/DOC-36931> (last accessed May 8, 2019).

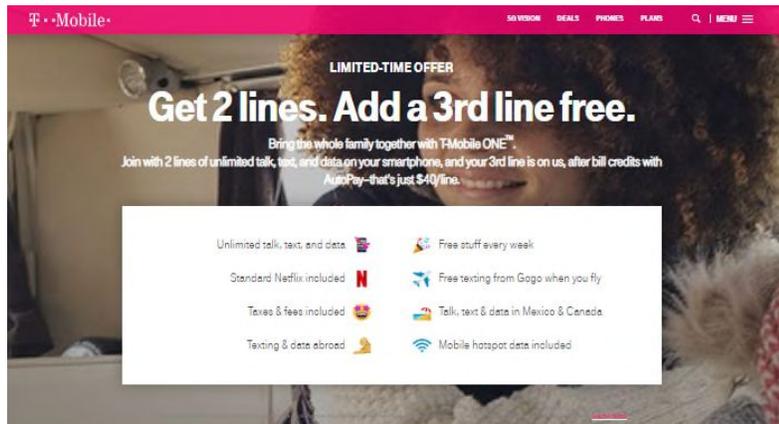
³⁵ Selwyn Supp. Decl., Figure 6 (referencing https://www.t-mobile.com/cell-phone-plans?icid=WMM_TM_DEVITO_T7OK1SN9U14432). The footnote reads “During congestion, the small fraction of customers using >50GB/mo may notice reduced speeds until next bill cycle due to data prioritization.” See below for a larger screenshot containing the footnote omitted by Dr. Selwyn.



Click each benefit for details. During congestion, the small fraction of customers using >50GB/mo. may notice reduced speeds until next bill cycle due to data prioritization. [See full terms](#)

that was also cut off. The very first feature compared has to do with download speed: Verizon and AT&T are criticized because “Things could get slow after 22GB.” See below for a larger screen shot showing the discussion that Dr. Selwyn omitted.³⁶

Figure 4



Compare T-Mobile ONE to the other guys

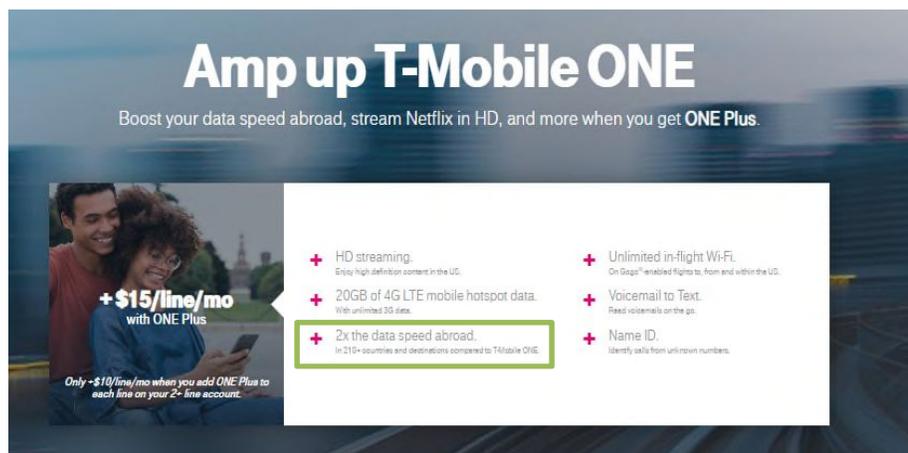
	T-Mobile	Verizon	AT&T
Unlimited 4G LTE data.	✓ 4G LTE on your smartphone, with a prioritization point of 50GB.	✗ Things could get slow after 22GB.	✗ Ditto.
Taxes & fees included.	✓ No surprises on your monthly service bill. Just ONE flat price.	✗ Prepare for taxes & fees on top of your rate.	✗ Have you been practicing your #faceface lately?
Texting & data abroad.	✓ Unlimited in 210+ countries and destinations.	✗ Sending a selfie from Paris? It'll cost you.	✗ Say "ou" to extra charges.

© 2014 T-Mobile. All rights reserved. All other trademarks are the property of their respective owners. All other trademarks are the property of their respective owners. All other trademarks are the property of their respective owners. All other trademarks are the property of their respective owners.

23. Further down the page, there is another discussion about an upgrade that will increase data speeds for international travel: “2x the data speed abroad.”

³⁶ *Get 2 lines. Add a 3rd line free.*, T-Mobile, https://www.t-mobile.com/cell-phone-plans?icid=WMM_TM_DEVITO_T7OK1SN9U14432 (last accessed May 8, 2019). Note that the web page goes on further.

Figure 5



B. DR. SELWYN’S CRITIQUES OF THE NEVO *ET AL.* ARTICLE ARE INCORRECT

24. Dr. Israel explained that the Nevo *et al.*³⁷ paper was a relevant source used in quantifying the value consumers place on throughput (speed).³⁸ Dr. Israel cited many sources as to the value consumers place on throughput, and used estimates in the Nevo *et al.* paper as one quantification of that value.³⁹ Dr. Selwyn claims that IKK’s analysis of quality effects is flawed because it cites that particular paper which Dr. Selwyn claims is fundamentally flawed. As an initial matter, the authors of the Nevo *et al* article are all highly respected economists, and the article was published in one of the premier peer-reviewed economic journals, perhaps the leading economic journal devoted to cutting-edge empirical techniques. This pedigree must be kept in mind when considering Dr. Selwyn’s critiques of the article.

³⁷ Aviv Nevo, John L. Turner, and Jonathan W. Williams, “Usage-Based Pricing and Demand for Residential Broadband,” *Econometrica*, Vol. 84, No. 2 (March 2016) (“Nevo *et al.*”).

³⁸ Israel Rebuttal Testimony 31:9-32:3.

³⁹ See Israel Rebuttal Testimony 31 n.47.

25. To begin with, Dr. Selwyn claims that Nevo *et al.*'s data are not representative because, as he explains:⁴⁰

Nevo et al. state that 80% of the subscribers whose data they analyzed incurred overage charges, whereas [based on an article from *Ars Technica*], Comcast – the largest ISP in the US – says that less than 1% of its customers incur overage charges. ... [T]he notion that some 80% or more of broadband customers exceed their monthly data caps compels a strong conclusion that either the authors' analysis of their data is erroneous or that the data set is grossly unrepresentative of reality.

Dr. Selwyn misrepresents both the *Ars Technica* and the *Nevo et al.* articles. As explained below, the *Ars Technica* discussion of overages actually states that overages are much higher than 1% across the industry, and the overage rates in the *Nevo et al.* data are actually much lower than Dr. Selwyn states and, in fact, are entirely consistent with those reported in the *Ars Technica* article.

26. With respect to the *Ars Technica* article, Dr. Selwyn omits half of the sentence he quotes. He leaves out the part stating that industry-wide estimates of overages are “much higher” than what Comcast is reporting at that time. The full sentence is as follows, with the portion quoted by Dr. Selwyn highlighted:

But while **Comcast says that ‘more than 99 percent of our customers do not use 1 terabyte of data,’** OpenVault’s research found a much higher percentage of customers exceeding 1TB.⁴¹

27. *Ars Technica* also notes that caps differ substantially across ISPs, with major ISPs like AT&T having caps as low as 150 GB even in 2019, so overages can occur at other

⁴⁰ Selwyn Supp. Decl., ¶ 38.

⁴¹ Jon Brodtkin, *Terabyte-using Cable Customers Double, Increasing Risk of Data Cap Fees*, *Ars Technica* (Jan. 23, 2019), <https://arstechnica.com/information-technology/2019/01/terabyte-using-cable-customers-double-increasing-risk-of-data-cap-fees/> (“But while Comcast says that ‘more than 99 percent of our customers do not use 1 terabyte of data,’ OpenVault’s research found a much higher percentage of customers exceeding 1TB.”).

ISPs at much lower levels of usage than at Comcast.⁴² Furthermore, even at Comcast, Ars Technica reports that Comcast's overage rates have varied substantially over time, with 8% of its customers having overages in 2015.⁴³

28. Dr. Selwyn's claim that Nevo *et al.* found that 80% of the subscribers whose data they analyzed incurred overage charges is also incorrect. The 80% number to which Dr. Selwyn refers is not the actual fraction of customers with overages in the time period covered by the data, but rather is an estimate of what fraction of a hypothetical distribution of customers might have an overage in some month, *i.e.*, customers that have a non-zero possibility, however small, that they might trigger an overage in at least one month in the future, given the vagaries of month to month data consumption.⁴⁴

29. Most tellingly, the *actual* overage rate in the Nevo *et al.* data is 7.3%,⁴⁵ which is slightly lower than the Comcast overage rate of 8% in 2015. That is, contrary to Dr.

⁴² *Id.* ("But Comcast isn't the only major home Internet provider imposing caps and overage fees. AT&T, the third-largest home Internet provider, imposes caps ranging from 150GB to 1TB a month and charges overage fees of \$10 for each additional 50GB.").

⁴³ Jon Brodtkin, *Comcast Usage Soars 34% to 200GB a Month, Pushing Users Closer to Data Cap*, Ars Technica (Apr. 26, 2019), <https://arstechnica.com/information-technology/2019/04/comcast-usage-soars-34-to-200gb-a-month-pushing-users-closer-to-data-cap/>.

⁴⁴ Nevo *et al.* at 432-434.

⁴⁵ For the 42,485 subscribers with capped plans, the overage rate was 9.45%, and for the 12,316 subscribers with unlimited plans, the overage rate was 0%. The overall overage rate for

Selwyn’s claim, the overage rate in the Nevo *et al.* data is entirely consistent with the overage rates discussed in the Ars Technica article.

30. Dr. Selwyn also claims that Nevo *et al.* is inapposite because wired broadband services:⁴⁶

[have multiple users in the household] concurrently engaged . . . [which] would frequently result in deterioration in the user experience, as interruptions and ‘buffering’ messages would occur when bandwidth was not sufficient to support total combined household demand. In the case of mobile services, while family members may share the total usage allowance for the family plan, they do not compete with each other for concurrent download capacity.

Dr. Selwyn seems to be suggesting that quality improvements may be more important for wired broadband because households have multiple users competing for bandwidth than for wireless. But Dr. Selwyn seems to forget that wireless users compete for bandwidth with other wireless users—a cell tower has limited bandwidth just as a household has

the data set then is $42,485 / (42,485 + 12,316) \times 9.45\% = 7.3\%$. See the table below from Nevo *et al.* providing summary statistics for their data.

TABLE II
DESCRIPTIVE STATISTICS OF SUBSCRIBER PLAN CHOICES AND
USAGE, MAY–JUNE 2012^a

	Unlimited Plans	Usage-Based Plans
<i>Number of Subscribers</i>	12,316	42,485
<i>Plan Characteristics</i>		
Mean Access Fee (\$)	44.33	74.20
Mean Download Speed (Mb/s)	6.40	14.68
Mean Allowance (GB)	∞	92.84
Mean Overage Price (\$/GB)	–	3.28
<i>Usage</i>		
Mean (GB)	50.39	43.39
Median (GB)	25.60	23.63
Median Price per GB (\$)	1.68	3.02
<i>Overages</i>		
Mean Share of Allowance Used (%)	–	49.02
Subscribers Over Allowance (%)	–	9.45
Median Overage (GB)	–	17.03
Median Overage Charges (\$)	–	51.19

^aThese statistics reflect characteristics of plans chosen and usage by subscribers to a single ISP, in four markets during May–June 2012. Usage is based upon Internet Protocol Detail Record (IPDR) data, captured in 15-minute intervals and aggregated to the monthly level. Means and medians are at the subscriber level.

⁴⁶ Selwyn Supp. Decl., ¶ 38.

limited bandwidth. And personal experience, as well as advertising and surveys previously discussed, all establish that interruptions and buffering are of great concern to wireless users, just as they are to wired users. That is, it is clearly the case that wireless users are engaging in activities on their phones that would benefit from increased download speeds. This conclusion is also supported by data, the ABH analysis shows that real-world consumers place substantial value on the quality of their wireless network experience as measured by, among other things, service interruptions, dropped calls, and speed.⁴⁷

31. Dr. Selwyn also claims that fixed broadband services “are used most heavily for streaming video-on-demand” onto “large flat-screen TVs” but that “[m]obile handsets – even the largest ones such as the iPhone XS Max with a screen size of just under 16 square inches – are a miniscule fraction of the size of a flat screen TV.”⁴⁸ However, Dr. Selwyn fails to consider that the amount of data used to stream video is based on the number of pixels on the screen, not the size of the screen. A 50-inch television with 1080p (HD) resolution has 1920x1080 pixels, while the iPhone XS Max referenced by Dr. Selwyn has a resolution of 2688x1242,⁴⁹ and an iPad Pro has a 2732x2048 resolution.⁵⁰ Dr. Selwyn also fails to consider that optimal resolution for a given size screen is related closely to distance from the screen—the closer to the screen, the higher the desirable resolution. A phone or tablet is typically held at no more than arm’s length

⁴⁷ See Bresnhan Rebuttal Testimony at 17:4-10.

⁴⁸ Selwyn Supp. Decl., ¶ 38.

⁴⁹ *iPhone XS*, Apple, <https://www.apple.com/iphone-xs/specs/> (last accessed May 8, 2019).

⁵⁰ *Compare iPad Models*, Apple, <https://www.apple.com/ipad/compare/> (last accessed May 8, 2019).

when watching video, where high resolution can readily be perceived. Thus, someone watching *Game of Thrones* on their iPhone may care as much or more about the resolution of the video stream than the same person watching on a television from their sofa, since the differences in resolution may be more easily perceivable on the iPhone than on the television, contrary to what Dr. Selwyn suggests. Indeed, phones and tablets presumably have such high resolutions precisely because users care about the quality of the pictures and video being shown on their mobile devices.

32. Dr. Selwyn also claims that fixed broadband services “perform decidedly different – and complementary – functions for their users” and so “[u]sers have no expectation . . . that their mobile broadband provide download speeds that are comparable to what is available with fixed wired broadband.”⁵¹ However, as explained previously, the difference in usage in 2012 is a reason why the analysis is conservative when applied to mobile service today. In 2012, video streaming occurred primarily using fixed broadband services at home—it was relatively uncommon on mobile devices.⁵² Today, it is ubiquitous on mobile devices, so the question of how much consumers valued some improvement in download speeds in 2012—based on how much it might improve their streaming experience—is highly relevant to the industry today. Indeed, as explained in Dr. Israel’s prior testimony, the Nevo *et al.* figures are *conservative* when applied to valuation of speed today because new applications are continuously developed that take

⁵¹ Selwyn Supp. Decl., ¶ 38.

⁵² For example, Consumer Reports’ 2012 analysis of video streaming services did not even discuss using a cellular network for video streaming. The only wireless option discussed was home Wi-Fi based on a wireline connection. *Best Streaming Video Services*, Consumer Reports Magazine (Sept. 2012), <https://www.consumerreports.org/cro/magazine/2012/09/best-streaming-video-services/index.htm>.

advantage of network improvements.⁵³ Back in the days of dial-up modems, the incremental value of moving to a 1.44 Mbps service from a 56 Kbps service would have been based on making services like e-mail and web browsing faster, but streaming video had not yet been launched. As networks improved to offer ever-faster speeds, services appeared to take advantage of the speed, with streaming video being a prominent example. Thus, it is important to bear in mind the forward-looking nature of the exercise. The move from 56 Kbps to 5 Mbps, for example, allowed entirely new classes of services to be made available, including streaming video. That is an ongoing trend. More and more services keep appearing for use on mobile devices that are designed to take advantage of network improvements as they appear, and that process will continue. Thus, using estimates based on the types of services available in 2012 is conservative.

33. Dr. Selwyn also claims that:⁵⁴

[w]idely-accepted scientific methods [conjoint analysis and hedonic regression analysis] for quantifying or ‘monetizing’ the value that consumers ascribe to individual product or service attributes do exist, but were not used by IKK in supporting their contention that post-merger increases in download speeds will be perceived by consumers as being greater in value than the dollar increases in price that they will be required to pay.

This claim has no bearing on Dr. Israel’s findings for several reasons. First, Dr. Israel’s testimony discusses a wide range of evidence on the value of quality improvements to consumers, including conjoint analyses, which Dr. Selwyn fails to mention.⁵⁵ Second, the conjoint analysis and hedonic price regressions that Dr. Selwyn recommends (but

⁵³ See, for example, IKK Declaration, ¶ 134.

⁵⁴ Selwyn Supp. Decl. at 40.

⁵⁵ See, for example, IKK Declaration, nn.140 & 143.

does not attempt to implement himself) have shortcomings and do not represent the state of the art in antitrust economics, whereas Nevo *et al.* does use state-of-the-art methods, as evidenced by its publication in the leading economic journal for state-of-the-art methods (Econometrica). Third, the existence of multiple techniques for estimating the value of quality does not invalidate the application of any particular one of those techniques. Finally, Dr. Selwyn does not implement any methodology to quantify the value of quality improvements to consumers or provide any basis to dispute that that value is substantial. In addition to missing the mark on responding to Dr. Israel's testimony, Dr. Selwyn ignores the ABH testimony, which presents a robust econometric model of demand that allows precise estimation of consumers' valuation of network quality, including how they value network speed. This analysis was based on real-world consumer data—exactly the type of analysis that Dr. Selwyn claims is required—and concludes that the merger is procompetitive and increases consumer welfare under a wide variety of assumptions.⁵⁶

IV. DR. SELWYN'S CLAIMS REGARDING MARGINAL COST ARE INCORRECT⁵⁷

34. Dr. Selwyn claims that:⁵⁸

even if one were to accept the IKK Model's projection of the merger-driven drop in both Sprint's and T-Mobile's marginal cost, the notion that the merged company's reduced marginal cost would actually 'creat[e] incentives to cut prices and expand output' is critically dependent upon IKK's attempt to monetize the 'service quality' improvements that the Joint Applicants, and not IKK themselves, ascribe to the merger.

⁵⁶ See, e.g., Bresnahan Rebuttal Testimony at 5:2-6, 6:11-7:4, 16:13-17:2.

⁵⁷ See Section IV below for an explanation of how marginal cost reduction lead to lower prices.

⁵⁸ Selwyn Supp. Decl., ¶ 23.

This claim is false. The network and non-network marginal cost efficiencies do not depend on the methodology for valuing quality improvements. As described in Dr. Israel's initial testimony:⁵⁹

I consider three primary types of merger-specific efficiencies that will be realized by the merger: Non-network marginal cost efficiencies that create incentives to lower prices; Network efficiencies, expressed as reductions in marginal cost, which create incentives to lower prices; and Network efficiencies expressed as improvements in quality, which create a more valuable product for consumers.

Only the third category depends on the valuation of quality and, as described above, the first two categories are sufficient to conclude that the merger will lower prices and enhance consumer welfare.⁶⁰

35. Dr. Selwyn also claims that:⁶¹

[if] there were any merit to Dr. Israel's contention that the purportedly lower marginal costs that New T-Mobile will experience post-merger will create incentives for New T-Mobile to cut prices and expand output, then AT&T and Verizon, which already enjoy lower marginal costs, would already be doing just that – except that they are not.

Dr. Selwyn's claim is not only incorrect but economically nonsensical. The relevant analysis for merger assessment is between prices before and after the merger, which is what the IKK Model analyzes. Comparisons of prices across companies at a single point in time, which are influenced by many factors (including market power that AT&T and Verizon have today), are not relevant to such an analysis. That is, firms with similar marginal costs may be at very different price points depending on other factors in the

⁵⁹ Israel Rebuttal Testimony at 17:5-13.

⁶⁰ For a description of the marginal cost efficiencies, which arise primarily from the fact that New T-Mobile can operate its network at much lower cost than can either standalone company, *see* Israel Rebuttal Testimony, § V.

⁶¹ Selwyn Supp. Decl., at 10-11.

marketplace. However, a fundamental premise of economics is that, whatever level prices are at under a beginning set of conditions, a reduction in marginal cost for a particular firm will be reflected in a reduction in price for that particular firm (and, likely, a reduction in price for competing firms as well). Merger simulation accounts for various industry factors and asks how the merger—including any induced changes in marginal cost for particular firms—will affect prices. Dr. Selwyn’s claim that lower marginal costs will not “create incentives for New T-Mobile to cut prices and expand output” is flatly inconsistent with basic economics and antitrust practice.

36. Dr. Selwyn also claims that:⁶²

[if the] service quality gains . . . were actually to materialize, we are compelled to conclude, with near-certainty, that the nominal *dollar* prices of New T-Mobile’s services will be higher than what standalone Sprint and T-Mobile would charge if the merger is not allowed to go forward. And that conclusion is supported by the results of both the HBVZ and IKK models: *If the merger happens, dollar prices will rise.*

Again, Dr. Selwyn misrepresents the results of the HBVZ and IKK models. As explained above, the HBVZ model (once efficiencies are included) and the IKK model both predict that dollar prices will fall, not rise, with or without looking at quality-adjusted prices. That is, the models contradict Dr. Selwyn’s claim that quality improvements will result in nominal price increases post-merger.

37. There is absolutely no basis in economics to support Dr. Selwyn’s claim that quality improvements resulting from the merger would mean that nominal prices post-merger would increase with “near-certainty.” Merger simulations are used precisely because factors interact with one another, so that viewing them in isolation can be

⁶² Selwyn Supp. Decl., ¶¶ 14, 16 (emphasis in original).

misleading. Here, three primary factors are 1) eliminating a competitor, 2) reducing the marginal cost of the merged firm relative to the stand-alone firms, and 3) improving the network quality of the merged firm relative to the stand-alone firms. The net impact on consumers depends on how those interact. The intuition behind this is straightforward. If one considered only factor 1 (eliminating a competitor), then antitrust policy would prohibit all mergers. However, mergers do create efficiencies of various types (factors 2 and 3), so antitrust enforcers evaluate how factor 1 interacts with factors 2 and 3. Mergers are allowed when, on balance, consumers will benefit, and are frequently allowed between competitors despite the fact that every merger of competitors by definition eliminates a competitor.

V. DR. SELWYN'S CLAIMS REGARDING 5G COVERAGE ARE IRRELEVANT TO IKK'S MERGER ANALYSIS

38. Dr. Selwyn claims “county-level 5G deployment projections provided by Mr. Ray are not credible” and that the “level of rural 5G coverage . . . is unlikely to be pursued because it is unlikely to be profitable with or without the merger.”⁶³ The conclusions of IKK’s merger analysis do not depend on the specific 5G deployment projections or on any specific rural coverage projections. Dr. Selwyn’s critique on this point is thus irrelevant to Dr. Israel’s analysis.

VI. MARGINAL COSTS AND LOWER PRICES

39. Dr. Selwyn’s analysis seems to deny that reduced marginal cost creates downward pricing pressure. As a matter of elementary economics, lower marginal costs incentivize

⁶³ Selwyn Supp. Decl. at 41, 50.

firms to lower prices.⁶⁴ Marginal cost is the cost of providing a product or service to an incremental customer. Each firm faces a demand curve for its product that reflects the rate at which lowering prices increases the quantity of its products sold. A firm must determine the optimal price point on this curve, trading off higher margins per customer that might be achieved by raising prices with the increased revenue achieved by lowering prices and attracting more customers served (at lower margins). Firms maximize profits by finding a point where either raising prices or lowering prices results in lower profits. These lower profits would be due to lost customers (and associated margins earned on those customers) as a result of raising prices or reduced margins on existing customers as a result of lowering prices. Put simply, the optimal price is at the top of the profit “hill” and deviating in either direction goes down the hill.

40. If a firm that has achieved this balance lowers its marginal costs, for example by realizing merger efficiencies, each new customer attracted now contributes a higher margin than before, making it more profitable to attract new customers by lowering price to achieve a new optimal outcome. In short, it becomes more profitable to lower prices and expand output than to keep prices high and sacrifice the additional margins that lower prices make possible.

41. This fundamental economic principle can be thought about in the following way (with reference to Figure 6): First, a firm sets an optimal, profit-maximizing price (Price 1) where the additional revenue from an additional sale (marginal revenue) exactly equals the additional cost incurred in making that sale (marginal cost). Then, if the firm

⁶⁴ See Israel Rebuttal Testimony at n.4. For a general discussion of how the incentives from lower costs are thought of by firms like T-Mobile and Sprint, see Sievert Rebuttal Testimony at 23-25.

becomes more efficient, the cost to produce an additional unit drops (Marginal Cost 1 to Marginal Cost 2). Now, the firm maximizes profits by increasing production from Quantity 1 to Quantity 2, the point where its marginal revenue again matches the new marginal cost (i.e., the point where it is no longer profit-maximizing to produce one more unit). Maintaining the previous profit-maximizing price despite reduced costs would now leave money on the table because the firm can sell more units at a greater profit than it could previously. All else equal, any firm that lowers its marginal costs will have this incentive to lower its price relative to its previous price. Even a monopolist would find it profit maximizing to lower prices and sell more units under these circumstances; this can be seen in the fact that monopolists do not charge infinite prices, which means that *something* is constraining those prices, and when marginal costs fall, those constraints change and the optimal price becomes lower.

Figure 6

Lower Marginal Costs and Downward Pricing Pressure

