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REDACTED—FOR PUBLIC INSPECTION

November 19, 2018

BY ECFS

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

Re: **Notice of Ex Parte Meeting, Applications of T-Mobile US, Inc. and Sprint
        Corporation for Consent to Transfer Control of Licenses and Authorizations, WT
        Docket No. 18-197**

Dear Ms. Dortch:

On November 15, 2018, representatives of DISH Network Corporation[1] met with
members of the FCC Transaction Team listed on Attachment A to discuss the Brattle/Harrington
Declarations submitted with DISH's Petition to Deny and Reply in the above-captioned
proceeding.[2] DISH's economists discussed the presentation enclosed as Attachment B.

DISH's economists explained that the proposed transaction would lead to substantial
price increases in a number of markets, as explained further in Attachment B. The supposed
efficiencies and quality improvements claimed by the Applicants are not enough to offset the
upward price pressure and are either vastly overstated or simply non-existent.

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[1] Participating for DISH were Jeffrey Blum, Senior Vice President, Public Policy & Government
Affairs, and Alison Minea, Director & Senior Counsel, Regulatory Affairs (for the public portion
of the discussion only). Also present were Pantelis Michalopoulos and Andrew Golodny of
Steptoe & Johnson, LLP, and William Zarakas, Jeremy Verlinda, and Coleman Bazelon of the
Brattle Group. Joseph Harrington of the University of Pennsylvania and David Sappington of the
University of Florida participated by phone.

[2] *See* Declaration of Joseph Harrington and The Brattle Group (Exhibit B to DISH Petition to
Deny) (Aug. 27, 2018), Reply Declaration of Joseph Harrington and The Brattle Group (Exhibit
1 to DISH Reply) (Oct. 31, 2018).

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DISH's economists also explained that the merger would increase the likelihood of post-merger tacit coordination among the remaining three facilities-based providers of mobile voice/broadband service in the United States: AT&T, Verizon and New T-Mobile will have well-aligned incentives to coordinate pricing, causing even further price increases.

DISH has denoted with **{{BEGIN HCI END HCI}}** information that is deemed to be Highly Confidential Information pursuant to the *Protective Order* and denoted with **{{BEGIN NRUF/LNP HCI END NRUF/LNP HCI}}** information that is deemed to be Highly Confidential Information pursuant to the *NRUF/LNP Protective Order*. A public, redacted version of this filing is being filed with the Commission.[3]

Please contact me with any questions.

Respectfully submitted,

_____/s_____
Pantelis Michalopoulos
Counsel to DISH Network Corporation

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[3] Applications of T-Mobile US, Inc. and Sprint Corporation for Consent to Transfer Control of Licenses and Authorizations, *Protective Order*, WT Docket No. 18-197, DA 18-624 (June 15, 2018) ("*Protective Order*"); Applications of T-Mobile US, Inc. and Sprint Corporation for Consent to Transfer Control of Licenses and Authorizations, *NRUF/LNP Protective Order*, WT Docket No. 18-197, DA 18-777 (July 26, 2018) ("*NRUF/LNP Protective Order*").

Attachment A

Joseph Wyer
Monica Delong
Marcus Maher
Catherine Matraves
David Sibley
David Laurence
Katherine LoPiccalo
Ziad Sleem
Kirk Arner
Chris Smeenk
Aleks Yankelevich
Weiren Wang
Jonathan Campbell
Robert Chen
Patrick Sun
Matthew Collins
Ronald Repasi
Nicholas Copeland
Jim Bird
Joel Rabinovitz
Thuy Tran
Kathy Harris
Charles Mathias
Donald Stockdale
Garnet Hanly
Aalok Mehta
Pramesh Joban Putra

Attachment B

Economic Analysis of the Proposed Sprint/T-Mobile Merger

PRESENTED TO
Federal Communications Commission

PRESENTED BY
Coleman Bazelon
Jeremy Verlinda
William Zarakas

November 15, 2018

THE **Brattle** GROUP

Summary of Conclusions

- Upwards pricing pressure in the Compass model is {{BEGIN HCI   END HCI}} as calculated in the initial Brattle declaration; it is {{BEGIN HCI   END HCI}} when porting data is used as the basis for diversion.

- Compass estimates reflect results on an aggregated level; in their case, "overall" neutral effects on consumer welfare mean that some customers are harmed disproportionately.

- Compass has calculated marginal cost savings by comparing incremental costs of congestion relief for the Sprint and T-Mobile stand-alone networks versus a combined New T-Mobile network, but their network assumptions include material flaws.
  - The Applicants' 5G models are artificially spectrum constrained; modestly relaxing the spectrum constraint significantly reduces the merger related offered capacity increases and also reduces marginal cost savings.
  - Adjustments in spectral efficiency and 5G refarming for stand-alone Sprint, congestion relief, and cost and usage assumptions also reduce claimed marginal cost savings.

Summary of Conclusions

- Correcting the network modeling assumptions:
  - Marginal cost savings are just a fraction of those claimed by the Applicants
  - Prices increase for all Sprint and T-Mobile subscribers
  - Improvements in network quality are insufficient to offset harm from price increases

- The merger will likely cause significant increases in wholesale prices paid by MVNOs and resellers, and marginal cost efficiencies will not offset these.

- The merger increases the likelihood that the three leading firms – AT&T, Verizon and New T-Mobile – will have higher incentives to coordinate pricing than exist absent the merger; New T-Mobile will almost assuredly abandon its maverick strategy.

- The Applicants' revised network model, which underlies Compass' calculated marginal cost savings, indicates that the stand-alone networks will have sufficient capacity to meet customer 5G demand, and that each stand-alone company will not experience almost any congestion.

Retail Market Price Effects

Unilateral Effects - Retail

- Under Compass' model, the retail price effects are {{BEGIN HCI
      END HCI}} than those estimated in the initial Brattle declaration.
    - Relative to the Brattle declaration, where segments are considered independently and market shares were used for some diversion calculations, the combination of all segments into Compass' merger simulations and the use of Harris data causes price effects to {{BEGIN HCI   END HCI}}
    - If IKK had used porting data for diversion, the price effects would be {{BEGIN HCI
          END HCI}} than in the Brattle declaration

- Before consideration of efficiencies, the Compass model predicts significant price increases for all of the Applicants' products

- Even including claimed marginal costs efficiencies, the Compass model predicts that Sprint subscribers pay higher prices due to the merger

Retail Price Increases and Compensating Marginal Cost Reductions Based on Porting Data

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END NRUF/LNP HCI}}

Retail Price Increases Under the Compass Model and Inputs

The Compass merger simulation model and inputs predict large price increases *before* consideration of marginal cost efficiencies

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The Compass model, including *claimed* marginal cost efficiencies, predicts that Sprint subscribers pay higher prices due to merger

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Wholesale Market Price Effects

Unilateral Effects - Wholesale

- Salop and Sarafidis' discussion of the vertical upward pricing pressure on wholesale prices mischaracterizes the likely effect on MVNO and reseller input costs as "de minimis," but their own data shows that the merger creates significant upward pricing pressure on the wholesale prices of the Applicants' MVNO and reseller affiliates.

- Furthermore, the Applicants' claimed marginal cost efficiencies are insufficient to offset the vertical upward pricing pressure induced by the merger, indicating that the merger would cause wholesale prices to increase even when efficiencies are accounted for.

Wholesale Prices Increase Under the Compass Model and Inputs

The Compass merger simulation model and inputs predict large wholesale price increases before consideration of marginal cost efficiencies

- Input substitution reflects the ability of an MVNO to switch suppliers in response to a wholesale price increase

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- Compass notes that Sprint resellers may not be able to switch wholesale affiliates
  - ➔ Sprint & "with input substitution" scenario less relevant

Wholesale Price Increases Under the Compass Model and Inputs, Including Claimed Efficiencies

The Compass model, including claimed marginal cost efficiencies, predicts that MVNO & reseller affiliates will face higher input costs

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Coordinated Effects

The Merger Increases Coordination Risk

- The merger will substantially increase the incentive of the three leading firms – AT&T, Verizon and New T-Mobile – to engage in coordinated pricing.

- New T-Mobile would be expected to abandon T-Mobile's historical maverick strategy (to gain market share) and instead exploit the increased market power from the merger to focus on short-term profits (given that it will have a market share in line with AT&T and Verizon).

- The CPPI is a relevant tool for assessing the potential increase in incentives to collude resulting from the merger.

- Even if merger efficiencies were sufficiently large so as to neutralize the (unilateral) upward pricing pressure induced by the merger, the merger would still significantly increase the incentives for collusion in the market for mobile voice/broadband services.

The Merger Increases the Risk of Coordinated Behavior

Even accounting for efficiencies, the CPPI increases by {{BEGIN HCI END HCI}}

- Conservatively assumes that the merger can achieve Compensating Marginal Cost Reductions (CMCRs) for both brands

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Marginal Cost Efficiencies

The Applicants Overstate the Marginal Cost Savings of the Merger

- Compass' calculated marginal cost savings are derived by comparing incremental costs of congestion relief for the Sprint and T-Mobile stand-alone networks versus a combined New T-Mobile network, but their network assumptions include material flaws
  - Most notable is the omission of reasonable amounts of millimeter wave spectrum in the Sprint and T-Mobile networks
  - Other inputs are also misstated (spectral efficiency, 2.5 GHz refarming and the cost of 5G upgrades)

- Compass considers alternative, lower network usage projections vs Ray model. Putting much less pressure on the network than the level it was apparently designed for significantly reduces the networks' marginal cost estimates, and generally boosts marginal cost savings.

- Correcting the network modeling assumptions:
  - Marginal cost savings are just a fraction of those claimed by the Applicants
  - Prices increase for all Sprint and T-Mobile subscribers
  - Improvements in network quality are insufficient to offset harm from price increases
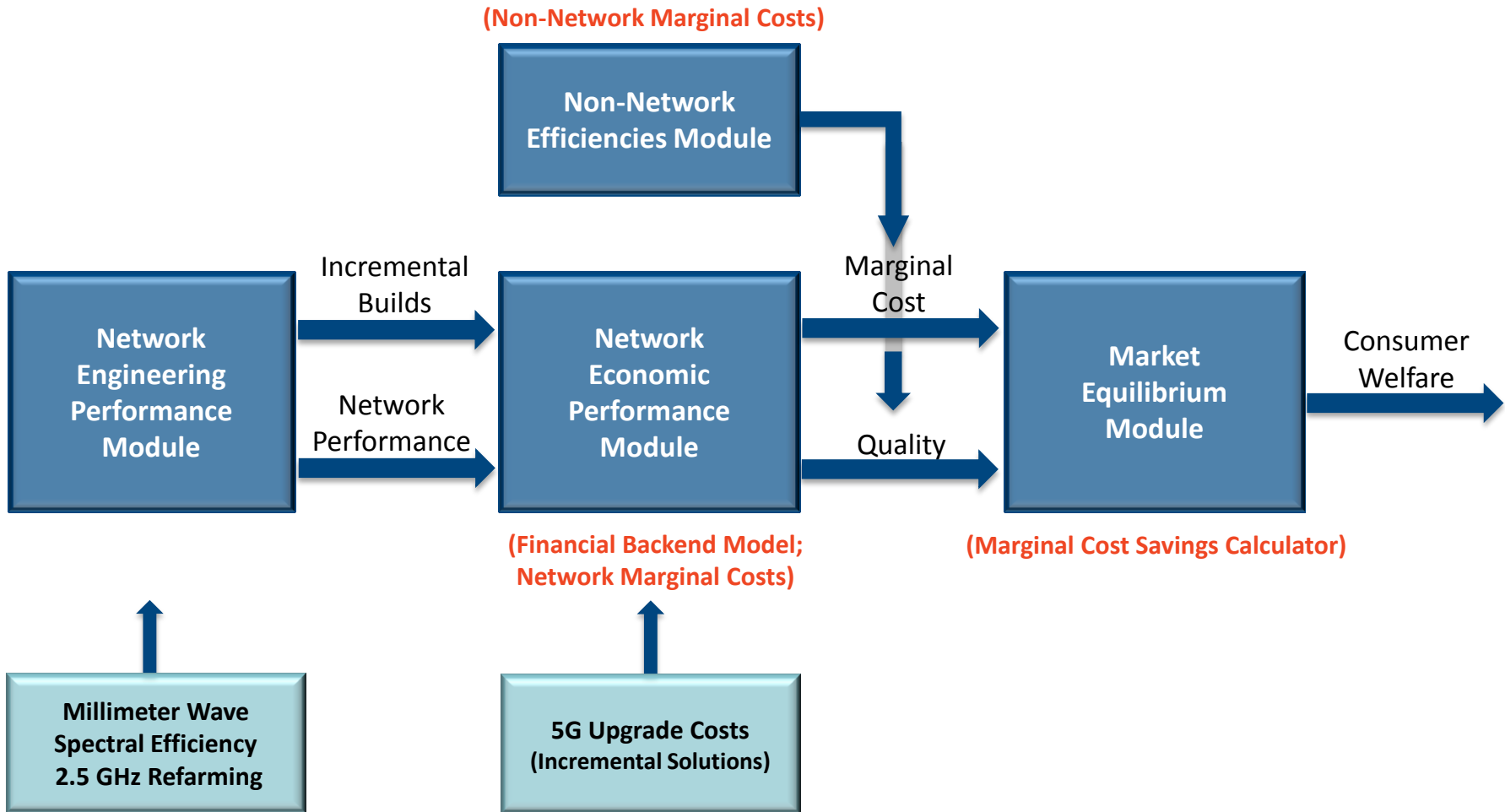
The Compass Analysis Contemplates Cross Subsidies Among Consumers

- Compass' discussion of aggregate welfare neutrality masks underlying price increases for Sprint and certain T-Mobile subscribers

- Even under the hypothetical "welfare neutral" cost efficiencies:
  - Retail prices would increase for all Sprint segments and T-Mobile Prepaid
  - Only T-Mobile post-paid customers are expected to realize a price decrease

Summary of Compass' Sequential Argument for Assessing Merger Harm

1) Diversion x Margin = UPP

2) If Cost Efficiencies > UPP, then the merger is beneficial

3) If Cost Efficiencies < UPP, then the merger *may* be harmful (higher prices), but

4) Quality Improvements can offset higher prices

5) If Value of Quality Improvements > Harm from Price Increases, then the merger is beneficial

Marginal Cost Savings Schematic

(Non-Network Marginal Costs)

Non-Network Efficiencies Module

Incremental Builds

Network Engineering Performance Module

Network Performance

Network Economic Performance Module

Marginal Cost

Quality

Market Equilibrium Module

Consumer Welfare

(Financial Backend Model; Network Marginal Costs)

(Marginal Cost Savings Calculator)

Millimeter Wave Spectral Efficiency 2.5 GHz Refarming

5G Upgrade Costs (Incremental Solutions)

The Compass model inputs (margins, diversion) show that large marginal cost efficiencies are required to prevent price increases

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Compass Significantly Overstates Marginal Cost Efficiencies

Adjusting the Applicants' network model to account for the stand-alone acquisition of millimeter wave spectrum reduces marginal cost efficiencies to just a fraction of the values claimed by Compass

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After Adjusting Compass' Marginal Cost Efficiencies Estimates, Retail Prices Increase for Both Sprint and T-Mobile Subscribers

Adjusting the Applicants' network model to account for the stand-alone acquisition of millimeter wave spectrum means that the merger causes price increases across the board

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Network Quality Improvements

Network Quality Improvements are Overstated by the Applicants

- The Applicants' revised network model shows that each stand-alone company will have significantly more capacity than the Applicants had originally estimated, and also shows that neither stand-alone company will experience congestion in any of the years estimated by the model except in a very small percentage of sectors.

- Refarming just an additional 20 MHz of 2.5 GHz spectrum in the standalone Sprint network model reduces the offered capacity increase from combining the networks and reduces marginal cost savings.

- The Applicants' 5G models are artificially spectrum constrained. Modestly relaxing the spectrum constraint significantly reduces the merger-related offered capacity.

The Ray Network Model

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The Applicants Overstate the Improvements in Network Quality

The Applicants' own revised network models show that the stand-alone carriers can successfully deploy 5G levels of throughput

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The Applicants Overstate New T-Mobile's Rural Coverage

- The Applicants' claims about improved rural coverage are not supported by the incremental sites added to the New T-Mobile network.
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    END HCI}}

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The Applicants Overstate the Improvements in Network Quality

The Applicants' estimated increases in offered capacity due to the merger are overstated by nearly {{BEGIN HCI   END HCI}} by 2024 after accounting for additional millimeter wave frequencies

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Compass Adjustments to Network Models

Compass adjusts New T-Mobile's network model such that the 5G usage per subscriber is roughly half that of the Applicants' network model

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Compass Adjustments to Network Models

Compass adjustments result in New T-Mobile having roughly the same carried traffic as the sum of the two standalones.

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The Applicants' Claimed Quality Improvements Do Not Offset Harm to Sprint Subscribers from Higher Prices

Even accepting all claimed marginal cost efficiencies and willingness-to-pay for claimed quality improvements, Sprint subscribers are harmed

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The Applicants' Claimed Quality Improvements Do Not Offset Harm Higher Prices

After adjusting for overstated marginal cost efficiencies, both Sprint and T-Mobile prices increase – and the claimed quality improvements do not offset the harm from these price increases

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Nevo Quality Improvement
Willingness to Pay Calculations

How Does Compass Calculate Willingness to Pay for Network Improvements?

Nevo et al. estimates of preferences for speed of wireline customers are the basis of Compass' WTP calculations

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The "Adjusted" Results from IKK

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