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Via Electronic Delivery

Ms. Marlene H. Dortch
Federal Communications Commission
The Portals, TW-A325
445 12th Street SW
Washington, DC 20554

Re: *Application of Comcast Corporation, General Electric Company and NBC Universal, Inc. for Consent to Assign Licenses or Transfer Control of Licensees*, MB Dkt. 10-56

Dear Ms. Dortch:

The attached reply report of Professor Simon Wilkie addresses the responses of Drs. Mark Israel and Michael L. Katz, and Dr. Gregory Rosston to the economic analysis and results presented in Professor Wilkie's September 30, 2010 Supplementary Report filed in this docket. In his reply, Professor Wilkie demonstrates that Drs. Israel and Katz, and Dr. Rosston have presented no substantiated evidence to rebut the findings that the combined Comcast/NBCU will have the economic incentive and the ability to raise the price of standalone broadband.

Professor Wilkie demonstrates that Drs. Israel and Katz have misunderstood his fundamental conclusion that post-merger Comcast will raise the price of standalone broadband in order to incent customers to purchase a bundled package of services, and their criticism of Professor Wilkie's model are insufficient to refute this conclusion. Moreover, Professor Wilkie explains that the counterexample proffered by Drs. Israel and Katz is based on carefully chosen values of marginal costs and not on any sensible range of cost reductions resulting from the merger.

Professor Wilkie also responds to an *ex parte* notice filed in this docket describing several off-the-cuff, speculative comments made by Dr. Rosston on Professor Wilkie's work. Professor Wilkie notes that Dr. Rosston's statements are erroneous and lack any reported basis in economic analysis.

Pursuant to the Commission's rules, one copy of this memorandum is being filed electronically in the above-referenced dockets for inclusion in the public record. Please do not hesitate to contact me directly if you have any questions.

Respectfully submitted,

Jennifer P. Bagg
Counsel for EarthLink, Inc.

RESPONSE OF PROFESSOR SIMON J. WILKIE TO
DRS. MARK ISRAEL, MICHAEL L. KATZ, AND GREGORY ROSSTON

December 22, 2010

I. INTRODUCTION

1. This response reviews the comments of Drs. Mark Israel and Michael L. Katz,[1] and Dr. Gregory Rosston[2] to the economic analysis and results presented in my September 30, 2010 Supplementary Report.[3]

2. My Supplementary Report is a technical addendum to my initial report[4] and the subsequent reply report[5] in which I present an economic model of product bundling. My results demonstrate under very general and realistic conditions that post-transaction Comcast/NBCU will have a strong economic incentive and ability to raise the price of stand-alone broadband. This will directly harm low-income subscribers and thwart both the

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[1] *See* Response to "Letter from Dr. Simon J. Wilkie," Mark Israel and Michael L. Katz, MB Dkt. 10-56 (Nov. 22 2010) ("Israel and Katz").

[2] *See* Letter from Michael H. Hammer, Counsel, Comcast Corporation, to Marlene H. Dortch, Secretary, FCC, MB Dkt. 10-56 (Dec. 10, 2010) ("Rosston").

[3] *See* Supplementary Report of Professor Simon J. Wilkie, *Comcast-NBCU Merger* (Sep. 30, 2010) ("Supplementary Report").

[4] *See* EarthLink Petition, Appendix 2: Report of Professor Simon J. Wilkie, *Consumer Sovereignty, Disintermediation and the Economic Impact of the Proposed Comcast/NBCU Transaction* (Jun. 21, 2010) ("Wilkie Report").

[5] *See* Reply Report of Professor Simon J. Wilkie, *Economic Analysis of the Proposed Comcast-NBCU-GE Transaction* (Aug. 19, 2010).

Administration's and the Commission's broadband goals.[6] None of the often speculative comments offered by Israel, Katz, and Rosston change these findings.

3. A *simple*, *low-cost*, and *proven* remedy to this critical problem exists: the Commission should impose the same type of wholesale broadband access condition adopted in the AOL-Time Warner merger.

4. I agree with Rep. Markey's position on these issues as stated in his recent letter to Chairman Genachowski:

> The proposed transaction also increases the likelihood that Comcast could *raise the price for stand-alone broadband service to incent consumers to choose its bundled cable and broadband offering.* With consumers increasingly utilizing their broadband connections to access video content online, control of both the content and the conduit through which it is delivered would provide Comcast the ability to make "cutting the cord" less financially attractive to consumers, undermining competition and choice. The nascent online video market offers the potential to spur innovation and promote diversity and creativity in video content production, and it should be encouraged to flourish in the future. Stifling the rise of online video would thwart Commission efforts to increase broadband adoption consistent with the National Broadband Plan. Accordingly, a merged Comcast-NBCU should be prohibited from favoring or blocking access to lawful content pursuant to the Commission's Internet Policy Statement adopted on August 5, 2005.
>
> The Commission also should address merger-specific, potential public interest harms posed by the transaction. In

[6] *Vice President Biden Kicks Off $7.2 Billion Recovery Act Broadband Program* (Dec. 17, 2009), *available at* http://www.whitehouse.gov/the-press-office/vice-president-biden-kicks-72-billion-recovery-act-broadband-program; and Omnibus Broadband Initiative, *Connecting America: The National Broadband Plan*, GN Dkt. 09-51 (rel. Mar. 16, 2010) ("*National Broadband Plan*").

> doing so, the Commission should learn from experience. For instance, the stand-alone broadband condition requiring a low retail rate previously imposed as part of the AT&T-BellSouth merger has largely failed as an effective remedy. *In sharp contrast, the wholesale broadband access condition adopted for the AOL-Time Warner merger has been an unqualified success, offering consumers both much-needed marketplace choice and lower prices. The Commission should choose to replicate successful remedies whenever possible, and I strongly urge the Commission to impose stand-alone broadband conditions similar to that adopted for AOL-Time Warner if it decides to approve the merger*.[7]

II. ISRAEL AND KATZ'S FUNDAMENTAL MISUNDERSTANDING OF THE ECONOMIC MODEL

5. Israel and Katz claim that my fundamental conclusion (*i.e.,* that Comcast will raise the price of stand-alone broadband service to incent customers to subscribe to its bundled services) "is predicated on a reduction in the cost of stand-alone cable service and cable service bundled with broadband service." Israel and Katz are wrong. In fact, this fundamental conclusion holds even if the merger does not yield any cost savings. Israel and Katz fail to realize that the vertical merger between Comcast and NBCU will result in an increase in the per-video-subscriber advertising revenue earned by Comcast as a result of its ownership interest in NBCU. This increase in the value of a video subscriber is, by itself, sufficient to give Comcast/NBCU an increased incentive to raise the stand-alone price of broadband service. If the merger did lead to cost savings,

[7] Letter from Rep. Edward J. Markey, D-MA, to Julius Genachowski, Chairman. FCC, MB Dkt. 10-56 (Dec. 7, 2010) (emphasis added).

Comcast/NBCU's incentive to raise the stand-alone price of broadband would be even greater. In sum, the use of a cost change in the analysis is for simplicity and the inclusion of an additional revenue variable, as presented in my original report, leads to the same result.

6. It should be pointed out that I never asserted the sign of the net impact of these price changes on welfare, but as the putative gains of the merger are speculative[8] and the harms to particular groups of consumers (those who want to consume stand-alone broadband) readily identified, the proposed remedy ameliorates the harms while preserving any benefits to other classes of consumers. The proposed remedy, thus, is in the public interest.

III. ISRAEL AND KATZ'S CLAIMS REGARDING THE ASSUMPTIONS OF THE MODEL

7. My analysis relies on standard economic modeling tools and assumptions. In particular, my analysis assumes customers' valuations of services are distributed in the manner normally used by economists in demand estimation, *i.e.*, demand functions that satisfy "Marshall's Second Law of Demand." In contrast, and with no empirical evidence, Israel and Katz assume a non-standard "multi-peaked" distribution to argue that some circumstance may exist, however unrealistic, in which my results do not hold. Keeping in this same spirit, Israel and Katz then produce an artificial

[8] See in particular the critique of Professor William Rogerson regarding the pass through of any efficiencies to consumers. William P. Rogerson, "A Further Economic Analysis of the Competitive Harms of the Proposed Comcast-NBCU Transaction," August 19, 2010.

numerical example to argue that there exists some extreme circumstance in which my results do not hold.

8. Far from refuting my conclusion, the analysis of Israel and Katz is demonstrably non robust and so it actually proves my point. That is, under a broad set of standard and realistic circumstances, my fundamental conclusion holds—Comcast/NBCU will have an increased incentive and ability to raise the price of stand-alone broadband service.

IV. ISRAEL AND KATZ'S CONTRIVED COUNTEREXAMPLE

9. Israel and Katz offer a slightly modified numerical counterexample to one they provided in a prior report in an effort to refute my fundamental finding that Comcast will raise the price of stand-alone broadband service to incent customers to subscribe to its bundled services. Just like their earlier version, the result demonstrated by their modified counterexample is a consequence of carefully chosen values of marginal cost. I demonstrate that for an open interval of a sensible range of cost reductions (efficiencies) my fundamental result holds and, thus, is formally "robust." In contrast, to obtain the Israel and Katz result, one must assume extreme cost reductions.

TABLE 1
CONSUMER VALUATIONS IN ISRAEL AND KATZ

Type	Number of Consumers	Valuation of Broadband	Valuation of Cable
I	5	6	0
II	5	6	10
III	50	8	6
IV	10	6	6
V	200	0	10

10. The specific values of the marginal costs are critical to Israel and Katz's results. Suppose that the finest price increment ε equals 0.01. Let price vector $\mathbf{p_1}$ = (8-ε, 10-ε, 16-2ε) = (7.99, 9.99, 15.98) and price vector $\mathbf{p_2}$ = (6-ε, 10-ε, 12-2ε) = (5.99, 9.99, 11.98). Here, the first entry in the vector represents the price of broadband (good A), the second entry represents the price of cable (good B), and the third entry represents the price of the bundle. If the pre-merger marginal cost of cable, c_B, equals 7, then $\mathbf{p_1}$ is the pre-merger, profit-maximizing price vector. Similarly, if the post-merger marginal cost of cable equals 0, then $\mathbf{p_2}$ is the post-merger, profit-maximizing price vector.

11. Let $F(c_B)$ denote the expression for the monopolist's profit, as a function of the marginal cost of cable (all other values are as in Israel and Katz). Now, let $\mathbf{p_3}(\theta)$ = (7.99 + θ, 9.99, 13.99). Then, *ceteris paribus*, we can

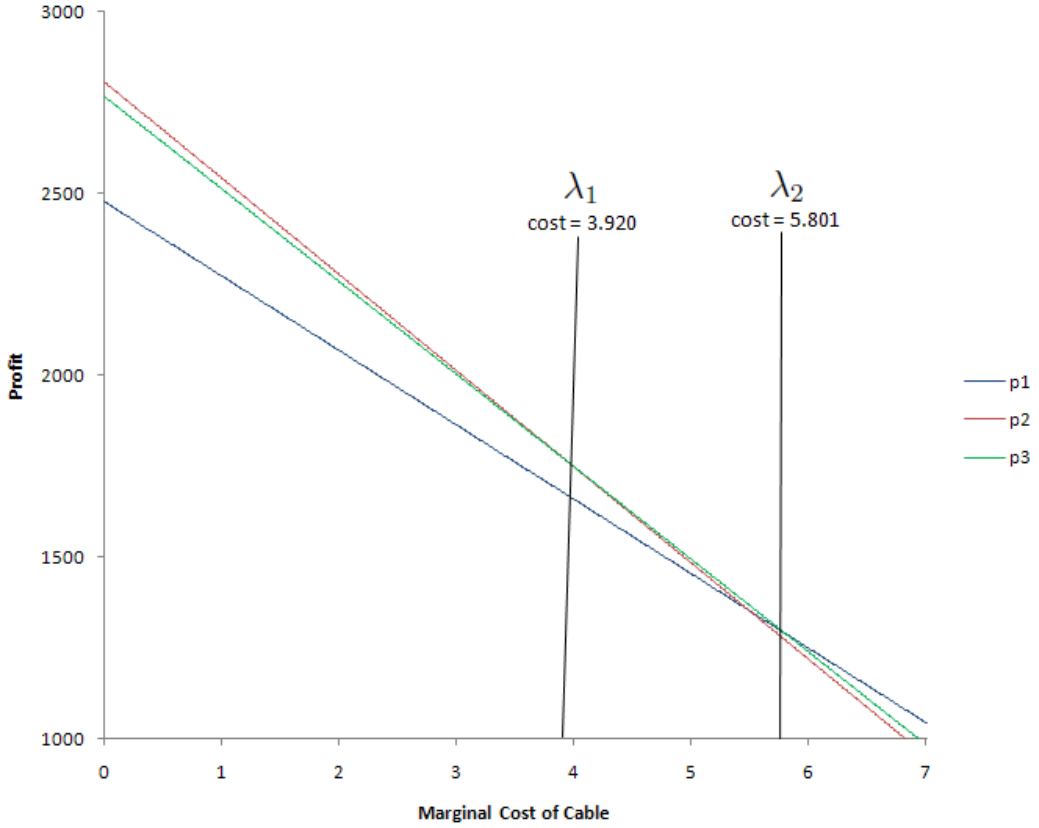
show[9] that there exist cutoffs $\lambda_1 = 3.920$ and $\lambda_2 = 5.801$ such that (1) $\mathbf{p_1}$ maximizes $F(c_B)$ when $\lambda_2 < c_B < 7$; (2) $\mathbf{p_3}(\theta)$ maximizes $F(c_B)$ for all $\theta > 0$ when $\lambda_1 < c_B < \lambda_2$; and (3) $\mathbf{p_2}$ maximizes $F(c_B)$ when $0 < c_B < \lambda_3$.

12. Figure 1 shows how profits vary (calculated with different price vectors) with the marginal cost of cable. The blue line represents profits calculated with $\mathbf{p_1}$; the red line represents profits calculated with $\mathbf{p_2}$; and the green line represents profits calculated with $\mathbf{p_3}$.[10] We allow the marginal cost of cable to vary from 0 to 7.

[9] This approximation was calculated by means of simulations carried out using MATLAB.

[10] The specific value of θ here does not matter, since in equilibrium no consumer purchases stand-alone broadband. It only matters that θ be strictly positive.

FIGURE 1
VARIATION OF PROFITS WITH THE MARGINAL COST OF CABLE



13. When $c_B = 7$, the monopolist induces the pivotal type III consumers to buy broadband. As we decrease c_B to just below λ_2, the monopolist gains an incentive to induce the 50 type-III consumers to buy the bundle by charging a lower price of the bundle. This is because the decrease in the markup is not large enough, and the new markup on the bundle is still more than the markup the monopolist could post on stand-alone broadband. That is, the markup on the bundle decreases, but the decrease is small enough to recover lost profits from the consumers who have stopped buying stand-alone broadband. Thus, the monopolist now imposes on consumers the profit-maximizing price vector $\mathbf{p_3}$, and the price of

stand-alone broadband increases. Therefore, this "counterexample" in fact provides a clear illustration of the intuition behind my results. Moreover, it shows that the results are extremely robust, and they hold even for distributions outside the large class I have already considered in my Supplementary Report. In particular log-concavity, or what economists call the "regular" case, is a sufficient condition and the results are "robust" to departures from the assumption.

14. Now, if the marginal cost were to decrease further, to just below λ_1, the monopolist will decrease the price of the bundle even further and induce type IV consumers to buy the bundle (up to this point, their optimal action was to buy nothing). This occurs because the markup on the bundle is high enough even with the decrease in the price of the bundle. This leaves the monopolist with the opportunity to extract nearly the entire surplus from the type-I consumers at a price that will not distort the buying incentives for the other types of consumers, and the monopolist imposes on consumers the profit-maximizing price vector $\mathbf{p_1}$. What we learn from this study is that the choice of marginal cost of cable is crucial to Israel and Katz's counterexample. If, for example, the pre-merger value of the marginal cost of cable was 3.8 and post-merger value was 0, Israel and Katz's counterexample would not work. Moreover, if the pre-merger and post-merger values were 7 and 4, their example would serve as further

evidence of the robustness of my results to singular distributions. Thus there is an interval of parameter values where my result holds.

15. Israel and Katz's counterexample, thus, is not determinative. Given that their counterexample is (1) vital to their attempt to refute the results of my model and (2) completely dependent on their choices of the pre-merger and post-merger values of cable marginal cost, their statement that "the specific values for marginal costs are not critical to the conclusion that Professor Wilkie's results are not robust" is wrong.

V. COMMENTS ON THE ROSSTON *EX PARTE*

16. In a filed *ex parte* that contains no reported economic analysis, Rosston offers several off-the-cuff speculative comments on my work. They are all incorrect. First, he claims that the assumption made in my Supplementary Report regarding the independence of the value distribution for video and broadband is unrealistic, in particular the "independence" assumption of consumer broadband and MVPD valuations. If consumers' valuations of video and broadband are very strongly positively correlated, then the monopolist has no incentive to offer a "bundle discount" (*i.e.*, maximal surplus extraction can be achieved in the absence of bundling).[11] Thus, the fact that video and broadband services are already sold together as a bundle is empirical evidence of the absence of strong positive correlation.

[11] See R.P. McAfee, J. McMillan, and M. Whinston (1989), "Multiproduct Monopoly, Commodity Bundling, and the Correlation of Values," *Quarterly Journal of Economics*, Vol. 104, pp. 371-383.

Moreover, economic theory demonstrates that my results do not depend on the assumption that consumers' valuations of video and broadband are independent. In particular, the first-order conditions of an optimum will change due to correlation of values, but the economic intuition remains the same. When the profitability of the bundle increases, the monopolist has the incentive to move consumers to the bundle. At the margin, raising the price of broadband drives consumers to the bundle. As the correlation of consumers' values increases, bundling becomes less effective as a tool for price discrimination, but if it is used the calculus remains the same.

17. Second, Rosston claims that I "failed to provide any empirical evidence . . . regarding price differences between Time Warner Cable and Comcast for high-speed broadband." Rosston is wrong. Table 3 in the Wilkie Report outlines the differences between the prices of stand-alone Internet services offered by Time Warner Cable (in Los Angeles) and Comcast (in San Jose). The prices on Time Warner Cable's services were lower by a 30% margin on the 1.5Mbps service and a 20% margin on the 15Mbps service.

18. Third, Rosston claims that Earthlink's proposed wholesale broadband condition could reduce Comcast's incentive to lower the bundled price. Rosston is wrong. In fact, as rigorously demonstrated in my prior reports, the exact opposite is true—the wholesale broadband condition will create a powerful economic incentive for Comcast to lower its bundled price even further as it limits the ability to drive customers to the bundle by

raising the stand-alone broadband price. This effect is the "gravy" to the condition.

19. Moreover, Rosston apparently seeks for the Commission to ignore the detrimental effects of the proposed merger on other parts of the population, including consumers who want to cut the cord or break the bundle and subscribe only to broadband, as well as consumers who cannot afford to subscribe to anything more than stand-alone broadband service. To ignore the impact on this population would be detrimental to consumers and to the technologies, content, and applications that require access to broadband.

20. Finally, Rosston conjectures that the proposed wholesale broadband condition could have unspecified, unintended effects that could reduce the merger's benefits. Not only is Rosston's drive-by speculation economically meaningless—the empirical evidence demonstrates just the opposite. As Rep. Markey states: "[T]*he wholesale broadband access condition adopted for the AOL-Time Warner merger has been an unqualified success, offering consumers both much-needed marketplace choice and lower prices.*" Rosston offers no economic analysis that suggests the proposed wholesale broadband access condition would yield any outcome other than the one accurately described by Rep. Markey.

VI. CONCLUSION

21. In conclusion, Israel, Katz, and Rosston have presented no substantiated evidence to the Commission to rebut my findings that Comcast/NBCU will have the economic incentive and the ability to raise the price of stand-alone broadband, a conclusion I make based on very general and realistic conditions. There likely would be a large negative effect on low-income broadband subscribers if the non-robust example offered by Israel and Katz formed any basis for the Commission to approve the proposed transaction without the conditions necessary to protect consumers.

22. For these reasons, the Commission should only approve the proposed merger on the condition that wholesale broadband access will be made available to independent broadband Internet access providers. As stated forcefully by Rep. Markey: "*I strongly urge the Commission to impose stand-alone broadband conditions similar to that adopted for AOL-Time Warner if it decides to approve the merger*." This will ensure consumers have access to competitive, reasonably priced choices for broadband services in Comcast's territories.