

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

In the Matter of:)	
)	
Carriage of Digital Television Broadcast Signals)	CS Docket No. 98-120
)	
Amendments to Part 76 of the Commission's Rules)	
)	
Implementation of the Satellite Home Viewer Improvement Act of 1999:)	
)	
Local Broadcast Signal Carriage Issues)	CS Docket No. 00-96
)	
Application of Network Non-Duplication, Syndicated Exclusivity and Sports Blackout Rules to Satellite Retransmission of Broadcast Signals)	CS Docket No. 00-2
)	

**REPLY COMMENTS OF THE
NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION**

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August 16, 2001

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The National Cable & Telecommunications Association ("NCTA"), by its attorneys, hereby submits its Reply Comments in the above-captioned proceeding.

INTRODUCTION AND SUMMARY

As NCTA's initial comments showed, construing the Communications Act to require cable operators to carry broadcasters' analog and digital channels during the transition to digital broadcasting would be unlawful and, as the Commission itself tentatively concluded, unconstitutional. The language of the Act does not authorize such a requirement. Moreover, dual carriage would serve none of the statutory purposes of the must carry provisions of the Act. By forcing carriage of a second signal of each local broadcaster, it would greatly increase the

burdens on operators' editorial discretion and discrimination against cable programmers. And it would result in a wholly unauthorized taking of cable operators' property without any means of just compensation.

The broadcasters largely try to divert attention from these statutory and constitutional issues. They focus, instead, on the difficulties they face in transitioning from analog to digital broadcasting and seek to portray dual must carry as a necessary means of alleviating their burdens and expediting the transition – when, in fact, there is no reason to believe that dual must carry would have any positive effect at all on the pace of the transition.

Hastening the digital transition was never a statutory objective of the must carry provisions. Therefore, as a matter of law, it could not justify the infringement on constitutional rights that would result from a dual carriage requirement even if such a requirement would, in fact, solve all the broadcasters' problems and significantly expedite the transition. But, in any event, it strains credulity to suggest that dual must carry is somehow the linchpin of the digital transition. There are, as the broadcasters' own comments point out, a myriad of reasons that explain the slow pace of the digital transition. As their initial comments state:

- “small-market stations are facing bills [for] digital equipment costs that rival those stations' total annual operating budgets.”¹
- “no advertiser has expressed an interest in spending more money to advertise on any of STC's digital signals. On the other hand, program vendors are suggesting that they might raise their prices if STC broadcasts their programs on its digital channels.”²
- “[upfront] expenditures are not offset by revenues, as there is no established consumer demand for digital television, and any ancillary uses of digital spectrum – especially in smaller markets – offer further upfront risk and only hypothetical economic opportunity.”³

¹ Comments of STC Broadcasting, Inc. at 3.

² Id. at 5.

³ Id. at 7.

- “[there is] a significant concern about the ability of the 8VSB transmission standard to provide ubiquitous over-the-air reception...”⁴
- “it is a rare individual who will spend the money and effort lugging a heavy DTV set home and installing an antenna without any assurance of being able to reliably receive local DTV signals.”⁵
- “fewer than 30,000 DTV sets with over-the-air reception capability have been delivered.”⁶
- “since advertising revenues are dependent on a program’s ratings (and demographics), the expectation that advertising that runs on a digital broadcast will not have a meaningful audience provides no incentive for an advertiser to fund digital programming.”⁷

And, as the Consumer Electronics Association points out, “as a result of the dearth of digitally originated programming on the market today, most digital consumers experience marginal and highly duplicative programming.”⁸

It is hard to see how forcing cable operators to carry every broadcaster’s digital signal will solve these problems associated with the transition. A “scenario analysis” provided by the broadcasters contends that a dual carriage requirement could trim as much as ten years off the transition. But an economic analysis by Dr. Gregory L. Rosston finds no basis for this conclusion. Indeed, according to Dr. Rosston, the broadcasters’ analysis “fails to demonstrate that a digital must carry rule would have any effect in accelerating the transition at all, much less accelerating it by ten years or more.”⁹

⁴ Comments of Univision Communications, Inc. at 8.

⁵ Id.

⁶ Broadcasters Comments at 11.

⁷ Id. at 16.

⁸ CEA Comments at 7.

⁹ G. Rosston, “An Analysis of Digital Must Carry and the Adoption of Digital Receivers” 3, attached to these comments as Attachment A.

Conspicuously missing from the comments of dual must carry proponents is any description of what television broadcasters are providing today, or plan to provide in the future, on their digital spectrum – in other words, what consumers might actually see if they paid several thousand dollars for a new digital television set or invested in a converter box. Yet, as Dr. Rosston’s analysis makes clear, this is a crucial factor in determining whether the availability of broadcasters’ signals – whether over-the-air or on cable systems – will ever induce viewers to purchase such new equipment.

In addition to urging dual carriage requirements during the transition, the broadcasters also seek an unduly expansive definition of material that is “program-related” and must be carried along with the primary video stream. They seek to use the banner of “program-related” as a means of creating new non-broadcast business ventures on the back of government-mandated free cable carriage. The “program-related” provision of Section 614, however, was never meant to serve this purpose. Instead, it was intended to be a narrow carve-out from the general rule that operators have editorial discretion over what to carry. Granting such expanded “program-related” rights sought by some commenters cannot be squared with the statute, the Constitution, or sound public policy.

I. DUAL MUST CARRY CANNOT BE SQUARED WITH THE FIRST AMENDMENT.

The Commission tentatively concluded earlier this year that a dual must carry requirement cannot pass muster under the First Amendment.¹⁰ It made clear that “the onus is on those who favor mandatory dual carriage to provide the necessary information to overcome this

¹⁰ First Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd. 2598, 2600 (2001)(hereinafter “First Report and Order” and “Further Notice”).

existing presumption.”¹¹ Nothing provided in the initial round of this proceeding comes remotely close to meeting this burden.

In large part, as discussed later, the broadcasters try to sidestep consideration of the First Amendment altogether by focusing on the supposed need for dual must carry to expedite the digital transition. But even when they finally address the First Amendment issues, they offer only a truncated analysis. In their view, all that matters for purposes of the First Amendment is whether cable operators have sufficient channel capacity to carry the additional channels. Thus, according to the joint filing of NAB, MSTV and ALTV (“Broadcasters”), the increase in cable channel capacity since the 1992 Act “obviates any First Amendment concerns.”¹² And they assert that “[i]f it were certain that all digital signals could be carried without displacing any cable channels, there would be no First Amendment question presented here at all, given the complete rejection of cable’s ‘forced speech’ argument in Turner I.”¹³

As we showed in our initial comments, cable operators do not have unlimited channel capacity. There is not sufficient capacity to carry broadcasters’ digital and analog channels during the transition along with all the program networks and other services that operators would choose to offer their customers. But in any event, nothing in Turner remotely supports the notion that the availability of capacity is the sine qua non of the First Amendment analysis involved in must carry requirements. While broadcasters can try to change the subject, they cannot alter First Amendment jurisprudence. Dual must carry would not pass any review test articulated by the Supreme Court in Turner.

¹¹ Letter from Deborah Lathen, Chief, Cable Services Bureau to Daniel L. Brenner, NCTA (dated Apr. 23, 2001).

¹² Broadcasters’ Comments at 35.

¹³ Id. at 35-36.

The Court made clear that “there can be no disagreement on an initial premise: cable programmers and cable operators engage in and transmit speech, and they are entitled to the protection of the speech and press provisions of the First Amendment.”¹⁴ Even if dual must carry rules are not subject to strict scrutiny under the “forced speech” doctrine,¹⁵ that does not immunize them from heightened examination under the First Amendment. To the contrary, at a minimum, they still must satisfy the test that they further an “important or substantial government interest” and that the incidental restriction on First Amendment freedoms must be “no greater than essential to the furtherance of that interest.”¹⁶ As our initial comments show, dual must carry fails both parts of this test.

A. Mandatory Carriage of Digital Television During the Transition Does Not Serve An Important Government Interest.

1. Dual Carriage Does Not Serve the Same Interests As Analog Must Carry.

Broadcasters’ Comments assert, without any evidence, that requiring carriage of a digital double of every television station is necessary to protect against harm to the articulated interests that Congress identified in the 1992 Act – and the Supreme Court upheld – to support analog must carry requirements.¹⁷ But the governmental interest found to be important for purposes of must carry was in “preserving the existing structure . . . of the broadcast industry . . . to prevent

¹⁴ Turner Broadcasting System, Inc. v. FCC, 512 U.S. 622, 636 (1994) (“Turner I”)(emphasis added).

¹⁵ See Miami Herald Publishing Co. v. Tornillo, 418 U.S. 241 (1974). As AT&T has pointed out, the reasons why the Supreme Court held, in Turner, that strict scrutiny does not apply may no longer be valid in light of competitive developments in the provision of video programming. See AT&T Comments at 14-16.

¹⁶ Id. at 662, citing United States v. O’Brien, 391 U.S. 367, 377 (1968).

¹⁷ Broadcasters’ Comments at 27-28.

any significant reduction in the multiplicity of broadcast programming sources available to non-cable households.”¹⁸

Preservation of those stations has been secured through analog must carry rights available to every full-power broadcast station, which will continue throughout the transition period. As Time Warner Cable’s comments put it, “because cable operators will continue to carry analog signals during the transition period, broadcasters’ audiences will not be diverted even if cable operators decline to carry digital broadcast signals. Thus, broadcasters will be able to reach the same number of cable subscribers (and to garner the same amount of advertising dollars) whether or not their digital signals are carried on cable.”¹⁹

The Broadcasters nevertheless forecast that lack of digital carriage will cause a chain reaction leading to the ultimate demise of the broadcasting system. They argue, in essence, that the costs of operating a second channel without substantial additional viewership will result in “reductions in local service” on their analog channel, which will ultimately “put the Congress’ goal in the 1992 Cable Act of preserving a robust free, over-the-air broadcast system at risk.”²⁰

It is far from clear that a dual carriage requirement would significantly reduce the broadcasters’ net costs during the transition. And it is especially far-fetched to suggest that such a requirement is necessary – and that there are no less constitutionally intrusive means available – to solve the broadcasters’ problems.

¹⁸ Turner Broadcasting System, Inc. v. FCC, 520 U.S. 180, 193 (1997) (“Turner II”) (emphasis supplied).

¹⁹ Time Warner Cable Comments at 11.

²⁰ Broadcasters’ Comments at 14. See also id. (“until and unless there is an audience that can view the digital programming, the capital and operating costs incurred by stations generate no return on investment and will adversely affect stations’ financial performance”); Public Broadcasters’ Comments at 21 (“even assuming that analog television will persist in an otherwise digital world (which is unrealistic), smaller and especially public stations, for whom the energy bills of dual transmission are overwhelming, will be unable to sustain their dual operations.”)

First of all, if the cost of operating two channels during the transition threatens the viability of particular analog stations, broadcasters can seek relief from having to operate both channels. To some extent, they have already asked for such relief.²¹

Beyond short-term regulatory relief, there are other steps that broadcasters might take that would likely be more effective than a dual carriage requirement in gaining viewership for, and potential advertising revenues from, their digital programming. Broadcasters could, for example, give their viewers the means to view their digital television signals by providing digital-to-analog converter boxes or giving away or subsidizing antennas. They could work to ensure improvements in the indoor reception capabilities of digital television sets.²² And, of course, they could invest in compelling digital programming that would prompt viewers to obtain digital tuners or make the voluntary carriage of programming the obvious marketplace response of the operator.²³ Any of these actions would be more likely to provide an audience for their digital fare than would forced cable carriage of stations that few people have an incentive to view.

It was, after all, the broadcasters who sought a second channel of scarce spectrum, at no charge, to provide digital programming. Until the government gave the broadcasters this spectrum, there was no apparent threat to the preservation of broadcast stations for over-the-air viewers – especially since cable operators were already required to carry virtually all existing analog stations. To the extent that giving broadcasters a second channel and requiring them to

²¹ See Letter to Ms. Magalie Roman Salas from Jack Goodman, NAB, MM Docket No. 00-39 (dated June 25, 2001) (seeking simplified waiver of build-out requirement) (hereinafter “NAB Letter”).

²² See “Facing DTV Deadlines,” TV Technology (July 25, 2001) at 8 (discussing problem with indoor reception of DTV signals and multipath protection).

²³ Absent a must carry requirement, cable operators may, of course, still choose to carry digital signals voluntarily pursuant to a retransmission consent agreement with the broadcaster. See First Report and Order, ¶ 27.

use it has somehow undermined the government's interest in preserving the availability of over-the-air television, it is the broadcast industry's own doing.

It would be inappropriate, in these circumstances, to ask cable operators to administer an antidote to the broadcasters' asserted malady – even if the broadcasters had no available means of self-help, and even if the requested antidote were likely to be effective. But it is especially inappropriate – and unconstitutional – where, as here, there are steps that the broadcasters could take, while the effectiveness of a dual carriage requirement is dubious, at best.

2. Broadcasters Have Failed to Demonstrate that Hastening the End of the Digital Transition is An Important Government Interest Justifying Dual Carriage.

Some broadcasters candidly admit that dual must carry has a different goal. As Univision's Comments put it, the interest is to "initiate a new free, over-the-air television system, which is a far more difficult task."²⁴ Preserving over-the-air television for those without cable and initiating a new over-the-air service are two different things. The latter goal was not articulated by Congress nor embraced by the Supreme Court as a reason for must carry.

The Broadcasters nonetheless maintain that dual must carry is needed in order to speed the digital transition and to ensure the return of the analog spectrum. Cable carriage of all digital television stations, the theory goes, will shorten the transition period by opening up a "mass audience" to over-the-air DTV broadcasts, which in turn will lead to more digital programming and reduced prices for digital sets.²⁵ Regardless of the importance of these interests in the

²⁴ Univision Comments at 10.

²⁵ Broadcasters' Comments at 6.

abstract, neither interest can be shown to be an important governmental interest served by mandatory dual carriage.²⁶

The broadcasters have an on again-off again attitude about the importance of speeding the transition. On one hand, they claim that immediate cable carriage of all digital broadcast signals is important to achieve the results that Congress intended. But at the same time, they evidence little interest in going full speed ahead themselves. One would think that broadcasters would take all reasonable steps within their power to ensure that they offer viewers a reason to buy digital television sets by providing compelling programming. Instead, while the Further Notice asks for this information,²⁷ they have assiduously avoided discussing the extent to which they are using their digital channels to offer high definition television.²⁸

If broadcasters truly believed their own rhetoric that every additional digital broadcast station that consumers are able to sample would speed the transition, then one would expect them to be pushing to increase the number of digital television stations on the air and expand the amount of compelling high definition programming. Instead, they are seeking to create a waiver

²⁶ See Time Warner Cable Comments at 13 (implausible that interest in “bringing upscale consumers high-resolution television images is ‘important’ for purposes of intermediate First Amendment scrutiny”).

²⁷ Further Notice, 16 FCC Rcd at 2651 (asking broadcasters “to provide us with the exact amount of digital programming, on a weekly basis, being aired in a high definition format and the exact amount of original digital programming. We also seek comment on the number of hours, in an average day, that a broadcaster currently airs digital television, and specifically high definition television.”). NCTA suggested to the Cable Services Bureau that it survey broadcasters to obtain this specific information, just as it surveyed cable operators regarding channel capacity. The Bureau found it unnecessary to do so, since it had asked broadcasters to include the information in their comments, and since “the onus is on those who favor mandatory dual carriage to provide the necessary information to overcome this existing presumption [that a dual carriage requirement would be unconstitutional].” Letter from Deborah Lathen, Chief, Cable Services Bureau to Daniel L. Brenner, NCTA (dated Apr. 23, 2001).

²⁸ CEA’s Comments suggest that only 3.6%, or approximately 1,008 hours per year, are broadcast in high-definition. CEA Comments at 7n.12.

process to enable television stations to avoid meeting the May 2002 build-out deadline.²⁹ Even for those digital stations on the air, broadcasters are not looking to ramp up but to cut back their digital offerings. Broadcasters are urging the FCC to permit stations to reduce hours that digital stations operate in order to save electricity costs. None of these actions would encourage the purchase of digital television sets or hasten the transition's end.³⁰

The Broadcasters evidence a similar ambivalence about the importance of the analog spectrum giveback. Broadcasters were instrumental in ensuring that the 2006 date was made conditional.³¹ Thus, no digital transition will occur at all in a market unless the 85% threshold is met – a threshold that no one, including the broadcasters, believes will occur in 2006.³² In fact, the Broadcasters' experts candidly admit that even if the 85-percent threshold is met, "it is doubtful that the public policy process would force analog turn off after achieving the bare minimum 85% of households digital-capable."³³

3. Even If Hastening the Transition's End is Important, Dual Must Carry is Not Likely, Much Less Necessary, To Serve That Interest.

Unlike analog must carry, where the burden was found to be "congruent to the benefits it affords,"³⁴ dual must carry would not be tailored sufficiently to serve these interests. As we now

²⁹ NAB Letter (seeking check-off procedure for stations – perhaps totaling in the hundreds – that will seek waivers of the 2002 build-out requirement and seeking permission for DTV stations, "at least until DTV set penetration becomes more significant, to operate with reduced hours and thus save electric costs.")

³⁰ See "Broadcasters Seek to Delay Digital TV," www.latimes.com (July 30, 2001).

³¹ See NCTA Reply Comments, CS Docket No. 98-120 (filed Dec. 22, 1998) at 21-22 (statement of NAB President applauding Senate version of legislation for, among other things, "opposing analog spectrum givebacks in communities that have not yet reached an acceptable level of digital signal acceptability").

³² Broadcasters' comments allege that without must carry, the transition would take until 2020. Even with must carry, they predict the transition would occur in the 2010-2012 period. "Implications of the Adoption of Digital Must Carry on the Speed of the Broadcast DTV Transition. A Scenario Analysis," Appendix A to Broadcasters' Comments at 38.

³³ *Id.* at 22.

³⁴ *Turner II* at 215.

show, broadcasters do not demonstrate that dual carriage would accelerate the digital transition in any measurable way, nor do they show that there are no less intrusive available steps that might be taken.

a) Dual Must Carry Will Not Speed the Transition.

The Broadcasters' central thesis is that they face a bleak future if market forces dictate the pace of the digital transition. They argue that:

if the FCC does not adopt DTV must carry rules during the transition, most DTV broadcast signals will not be carried by cable, and the DTV transition will drag out far beyond the timeframe directed by Congress. Further, the vitality of the free over-the-air broadcasting system will be diminished, for some stations to the point of marginal existence or extinction, by lack of access to two-thirds or more of their audience (resulting in a lack of incremental DTV advertising revenue and inability to build a DTV business), and the cost of operating two signals for an extended period.³⁵

Dual carriage, they argue, is “the most effective policy initiative for purposes of transition acceleration.”³⁶ Public Broadcasters echo the claim, arguing that “[c]able carriage is the single most critical requirement for a successful transition....”³⁷

It strains credulity to argue that mandatory carriage of digital twins of lightly viewed analog stations is the “most critical requirement” of the digital transition – or indeed, that such forced carriage would have any measurable impact on the viewing public’s interest in purchasing digital television sets. The analysis provided by the broadcasters in support of this conclusion contains many assertions. But there is no support for their claim that dual must carry rules will shave ten weeks, let alone ten years, off the transition period.³⁸

³⁵ Broadcasters’ Comments at 7.

³⁶ *Id.* at 10.

³⁷ Comments of Public Broadcasters at 2.

³⁸ *Id.* at 17.

At NCTA's request, Dr. Gregory L. Rosston, Deputy Director of the Stanford Institute for Economic Policy Research at Stanford University, has reviewed and analyzed the paper submitted by the Broadcasters. His analysis, which is attached to these reply comments, finds no basis for concluding that cable carriage of digital must carry stations "would have any effect in accelerating the transition at all, much less accelerating it by ten years or more."³⁹

Dr. Rosston shows that the analysis submitted by the Broadcasters is based on a six-step scenario – and that there is no reason to expect these steps to occur. In fact, in some cases, it is possible that a must carry requirement will produce the opposite of what the Broadcasters project, with the effect of delaying the transition.

A key assumption underlying the Broadcasters' claim that a dual carriage requirement will accelerate the transition is that carriage of digital signals that would not otherwise have been carried by cable systems will induce a significant number of cable subscribers to buy digital receivers. This supposedly will, in turn, result in lower prices for digital receivers and production of more attractive digital programming, both of which will, in turn, induce a substantial number of non-cable subscribers to purchase digital receivers. As Dr. Rosston shows, this set of assumptions is a house of cards with faulty construction on every floor.

Dr. Rosston starts with an obvious point: "For digital must carry to increase the adoption of digital receivers in cable households, those stations that would not otherwise be carried would have to provide some reason for cable subscribers to buy digital television sets when they otherwise would not."⁴⁰ To the extent that broadcasters use their digital channels to transmit standard definition programming, it is hard to see how this could possibly occur: "[T]here will

³⁹ G. Rosston, "An Analysis of Digital Must Carry and the Adoption of Digital Receivers" 3 (August 2001) (attached to NCTA's Reply Comments as Appendix A).

⁴⁰ Id. at 5.

be no such incentives unless the broadcasters that rely on must carry use their digital signals to provide something different from the standard definition programming that is already available in large quantity to cable subscribers”⁴¹ – in other words, high definition programming. “Yet there is no evidence that these broadcasters are or will be using their digital channels to provide high definition programming.”⁴²

Moreover, even if broadcasters were to transmit high definition signals, there would be no reason to assume that that this would have any significant effect on the purchase of digital sets by cable subscribers. To the extent that there are cable subscribers willing to purchase a digital set to view high definition or other distinctive digital programming, those subscribers might choose to do so whether or not cable operators are required to carry every broadcaster’s digital signal. They might buy the sets to watch DVDs, or digital pay-per-view movies, or other high-definition cable programming. Or they might buy them to watch high-definition broadcast programming that the cable operator would choose to provide pursuant to retransmission consent in the absence of a must carry requirement. At the same time, there may also be a large number of cable subscribers who would not be willing to purchase a new digital receiver even if broadcasters were providing high definition or other unique digital programming and even if such programming were carried on their cable systems.⁴³

As Dr. Rosston points out, the Broadcasters’ analysis sets forth no “evidence about the extent to which broadcasters will choose to provide high definition programming, much less the extent to which marginal broadcasters [i.e., those that would not be carried in the absence of a

⁴¹ Id. at 3

⁴² Id.

⁴³ See id. at 6.

must carry requirement] will choose to do so.”⁴⁴ Furthermore, it also “provides no evidence about the extent to which the availability of high definition programming will cause subscribers to buy new digital sets.”⁴⁵ Therefore,

[i]n the absence of such data, there is no basis for assuming that a dual carriage requirement will cause any cable subscribers to purchase digital receivers. . . . [M]andatory carriage would have to cause many more subscribers to buy digital television receivers to watch digital content from marginal stations when they can watch the analog feed from those stations without a purchase. There is no evidence that forcing carriage of over-the-air stations – stations that would not be carried voluntarily even if the price were zero – will increase adoption of digital receivers by cable subscribers.”⁴⁶

Dr. Rosston also questions the assumption, in the Broadcasters’ analysis, that a digital must carry requirement would spur the development of more attractive digital broadcast programming. In fact, as he points out, it could even have the opposite effect:

In the absence of a digital must carry requirement, local over-the-air broadcasters might improve the quality of their digital offerings . . . to get on the system. With a digital must carry rule, it is possible that local over-the-air stations will have a reduced incentive to invest in the quality of their digital programming, contrary to the Scenario Analysis. These stations will still have an incentive to attract an audience for advertisers. But they will not have the need to convince the cable operator to carry their signal.⁴⁷

Dr. Rosston shows that even if a dual must carry requirement did result in a reduction in the price of digital sets for over-the-air viewers and higher quality broadcast digital programming, there still would be no basis for assuming that a substantial number of over-the-air viewers would choose to buy such sets and bring the transition nearer to an end. As Dr. Rosston

⁴⁴ Id. at 9.

⁴⁵ Id. at 8.

⁴⁶ Id. at 9.

⁴⁷ Id. at 11 (emphasis added).

shows, “the key assumption for this step” is “that over-the-air households will have a sufficiently high price elasticity of demand and response to quality change to increase the adoption rate of digital receivers.”⁴⁸ But there is every reason to believe that precisely the opposite is true: “[T]hese over-the-air households currently do not pay for their television signals, and presumably place a low value on receiving high quality signals or a large choice of viewing options.”⁴⁹

In sum, the key assumptions underlying the analysis provided by the Broadcasters are questionable at best, and the Broadcasters provide no evidence to support them. Moreover, even if the assumptions were conceptually persuasive, it would be “impossible to see how the Scenario Analysis arrived at a 10 year difference in adoption because they present no calculations.”⁵⁰ Even if all cable operators carried all digital signals, the 85% threshold for ending the transition would still not be within reach:

With national cable penetration at 68%, there would still need to be an additional 17% of TV households equipped to receive digital broadcast signals. More than half the remaining 32% of television households would either have to get dual signals from another MVPD, such as DBS, or would have to buy digital receivers or digital-to-analog converters in order to reach the 85% threshold. As NAB has noted, over 20% of all television households nationwide are broadcast-only homes. Until a majority of these broadcast-only households buy digital receiver equipment, the transition will not end.⁵¹

And all this assumes, of course, that the 85% threshold will hold firm as the point at which the government will insist upon the cessation of analog broadcasting and the return of the

⁴⁸ Id. at 13.

⁴⁹ Id.

⁵⁰ Id. at 18.

⁵¹ Id. at 12 (footnotes omitted).

broadcasters' analog channels. But, as Dr. Rosston points out, this itself is a questionable assumption:

NAB claims that over 41% of all television households have at least one broadcast-only set. This calls into question whether, even if the 85% threshold could somehow be met because of the availability of digital signals to cable subscribers, it will be politically feasible to terminate the transition at that time and disable all sets not equipped to receive digital signals over-the-air or via cable.⁵²

Finally, the Broadcasters' "scenario analysis" also seems to assume the concurrent adoption of several other regulatory steps, such as a requirement that all television sets be equipped with digital tuners. The analysis does not isolate digital must carry from the other regulatory factors – which, as Dr. Rosston explains, is a fatal flaw. It may be that the adoption of these other steps, even without must carry, would account for much or all of the hastening of the transition projected by the analysis. Or, it may be that without these other steps, digital must carry alone would have no effect on the transition, even under the Broadcasters' analysis.⁵³ As a result, it is "impossible to conclude that a digital must carry rule would have any effect, much less be the most significant factor."⁵⁴

b) Cable Operators Will Carry Digital Programming that Customers Desire.

The Broadcasters' theory also assumes that, absent must carry, cable operators will not carry digital broadcast programming, and therefore cable customers will be denied the

⁵² Id. at 15 (footnote omitted).

⁵³ Indeed, one of the authors of the Broadcasters' analysis has himself testified elsewhere that a digital must carry requirement would only expedite the transition if it were adopted in conjunction with – and implemented after the effective date – of an all-channel receiver requirement. See Testimony of Dr. Joseph S. Kraemer before the Senate Commerce Committee, March 1, 2000 (noting that "the two requirements are interrelated" and that "[t]he requirement that all cable TV systems must carry both digital and analog off-the-air signals should be implemented no sooner than the date when all new TV sets sold must be able to receive both a digital and analog signal") (emphasis added).

opportunity to sample digital programming fare; hence a mandatory carriage requirement for must carry-electing stations is needed.⁵⁵ They argue that “cable operators have increased competitive incentives not to carry DTV broadcasters greater than those found by Congress and approved by the Supreme Court in Turner II.”⁵⁶ Here they use their characterization of what has occurred with stations under retransmission consent as a policy argument to support double must carry. Several flaws underlie this assumption, even assuming the incentives for must carry station carriage are the same as for the more desirable retransmission consent stations, which they are not.

Prior to the 1992 Act’s adoption, cable operators had strong incentives to provide their customers with television signals. As all parties in Turner conceded, the vast majority of all local analog stations were already being carried voluntarily. And since 1992, many stations have understood operators’ incentives – opting for retransmission consent over must carry on the assumption that their carriage would still be assured.

In light of these circumstances, a majority of the Supreme Court rejected the contention that the analog must carry rules were justified by the supposed anticompetitive advertising-

⁵⁴ Rosston, supra, at 17.

⁵⁵ Broadcasters’ Comments at 18.

⁵⁶ Id. at 10. See Public Broadcasters Comments at 21 (“Cable is still a ‘gatekeeper.’ As a provider of digital programming competitive with local stations’ programming and as a purveyor of local advertising time increasingly competitive with local station advertising, cable has even greater incentives and greater capability (because cable penetration has increased) to exclude broadcasters’ DTV signals than it did in 1991 to exclude analog signals.”) It is odd that Public Broadcasting hangs its hat on this rationale, since PBS stations do not sell advertising – and hence whatever motivation a cable operator might have for not carrying a digital public station has nothing to do with this claim. In any event, as described above, there is no showing that anti-competitive motives explain cable’s carriage decisions for commercial stations, either.

related incentives of cable operators not to carry local broadcast stations.⁵⁷ There is no reason why there should be a different outcome with respect to carriage of digital stations. The Broadcasters present no evidence to support the notion that the non-carriage of digital stations, today or in the future, has anything to do with anti-competitive motives. Indeed, their arguments more persuasively explain why cable operators will carry most digital signals that carry compelling programming than why they will not.

The Broadcasters claim, for example, that “the added functionality of digital television, such as high definition television and interactivity, likely will be most attractive to the early-adopter, upscale demographics that the cable industry regards as attractive to advertisers.”⁵⁸ If that is the case, cable operators will surely have an economic interest in providing these upscale customers with broadcaster services that they desire. Otherwise, these customers could choose to go to competing DBS providers, who, like cable, know the value of compelling HDTV programming for the early adopter set owners.⁵⁹

This incentive to retain customers by carrying digital services that might appeal to them would far outweigh whatever supposed gain could be achieved by attempting to deny advertising

⁵⁷ Turner, 520 U.S. at 225 (1997), Breyer, J., concurring (joining the majority opinion “except insofar as [it] relies on an anticompetitive rationale”).

⁵⁸ Broadcasters’ Comments at 19.

⁵⁹ EchoStar has just announced that it will begin carrying the high definition feed of CBS. “CBS, EchoStar Unite to Boost Acceptance of High-Definition TV,” The Wall Street Journal, July 13, 2001 at B2. And DirecTV is “said to be readying [a] 24-hour high definition channel for rollout in October.” Communications Daily, Aug. 3, 2001, pp. 2-3 (channel will reportedly feature NHL and NBA games as well as programming from HBO, Showtime and others, with “goal to add 5 other channels by year-end. . .”). These announcements will likely prove to be competitive spurs to additional cable carriage of broadcast high definition programming.

What is particularly noteworthy, however, is that some CBS affiliates who are not themselves carrying CBS’s HDTV feed are refusing to waive their exclusive territorial rights to CBS’s programming, thereby preventing EchoStar from providing the HDTV feed to viewers in their communities. See “New and Yet So Far; EchoStar Will Offer CBS in HDTV, but Stations May Try To Stop It,” Broadcasting & Cable, Aug. 13, 2001, p.29. It is hard to take seriously broadcasters’ arguments that cable operators should be required to carry all digital signals in order to expedite the transition when broadcasters themselves are preventing viewers in their service areas

revenues to digital broadcasters. The magnitude of such advertising revenues is speculative, if not illusory.⁶⁰ But the Broadcasters also proffer no showing that an advertiser who would have advertised on a digital station if carried on a cable system, would shift those advertising dollars to local cable advertising availability – rather than, for example, to another local broadcast station, including the analog counterpart of the digital station.

Even the Broadcasters don't entirely believe their rhetoric. They grudgingly concede that "as DTV, over time, becomes desirable to more viewers, a cable operator might carry the most popular commercial DTV broadcasters."⁶¹ But they assert that such carriage "would precisely replicate the situation that existed with analog carriage before the Cable Act. It would allow cable operators – rather than the Commission – to decide how many local DTV stations should serve a community."⁶² That assertion ignores that cable operators already provide each of their customers with every station in analog. And it also ignores that cable operators will carry the primary video of each of the digital stations once their analog spectrum is returned. It is broadcasters who want even more than Congress provided them in the 1992 Cable Act – a guaranteed right to carriage of two signals.

Broadcasters also claim that "what was true for the analog world will continue to be true for the DTV world: without must carry, cable will not carry the bulk of the free, over-the-air broadcasters."⁶³ But that statement turns history inside out. Prior to the 1992 Cable Act must

from receiving the only programming that might conceivably give consumers an incentive to purchase digital sets.

⁶⁰ Indeed, certain broadcasters claim that those advertising revenues are non-existent in any event. See, e.g., Comments of STC Broadcasting, Inc. at 4 ("No advertiser has expressed an interest in spending more money to advertise on any of STC's digital signals").

⁶¹ Broadcasters' Comments at 20.

⁶² Id.

⁶³ Id. at 21.

carry requirements, cable operators voluntarily carried the vast majority of broadcast stations.⁶⁴ There already is evidence in the record that this historical pattern of voluntary carriage will be repeated for digital signals that customers desire.

Cable operator responses to the FCC's survey on channel capacity and retransmission consent reveal that many of the systems surveyed have agreements addressing carriage of digital signals. For example, Time Warner Cable ("TWC") has retransmission consent agreements with CBS, FOX, ABC, NBC, PBS/APTS, Hearst-Argyle and the Belo groups. It reports that "more than 200 commercial and public stations have now made carriage arrangements with TWC."⁶⁵

AT&T Broadband has agreements for stations owned and operated by NBC and Fox, and is currently negotiating with other broadcasters.⁶⁶ Comcast has agreements with "several network owned and operated station groups that grant Comcast digital retransmission consent rights" and continues to negotiate additional agreements.⁶⁷ And Cox reports that it has digital carriage arrangements or commitments with broadcasters in Omaha and North Carolina. In addition, in several of its contracts, Cox has a "most favored nations commitment whereby Cox will carry the station's digital signal upon the carriage of any other broadcast digital signal in the same market. In other instances, including agreements with ABC and NBC, Cox agreed to negotiate in good faith for the carriage of the digital signal and to include certain triggering events that could subsequently lead to carriage of digital broadcast signals."⁶⁸

⁶⁴ Turner II, 520 U.S. at 242 (typical cable subscriber served by a system carrying local broadcast stations accounting for 97 percent of viewing in noncable households and typical cable subscriber served by a system carrying 90 percent of all local broadcast stations with any reportable ratings and 30 percent of all local broadcast stations with no reportable ratings.) (O'Connor, J., dissenting).

⁶⁵ Survey Response of Time Warner Cable.

⁶⁶ Survey Response of AT&T Broadband, LLC.

⁶⁷ Survey Response of Comcast Corporation.

⁶⁸ Survey Response of Cox Communications, Inc.

At this early stage – when many broadcasters have not even begun transmitting digital signals, most broadcasters have not yet determined how they will use and what they will provide over their digital channels, and many cable systems are still in the process of upgrading their systems to provide digital programming – these agreements are a promising indication that marketplace negotiations will result in the voluntary carriage of digital broadcast programming that is attractive to viewers.⁶⁹ Broadcasters nonetheless maintain that cable operators have not been responsive to their digital must carry demands. They attach a survey to their comments purporting to show that “a majority of commercial station managers who responded to the survey rate the responsiveness of cable systems to their digital television carriage requests as ‘Poor’.”⁷⁰ But even accepting this characterization at face value, several unmentioned factors explain better than self-serving surveys why cable operators may not have reached more agreements to date.

Chief among the reasons for a lack of agreement is the failure of broadcasters to state how they plan to use their digital spectrum. Indeed, as Cox Communications’ survey response explains, “most broadcasters generally had no firm vision for the use of their digital spectrum” and “were unable to describe the content of their future digital programming.”⁷¹ This is not an isolated incident; other operators report similar experiences in their retransmission consent negotiations for carriage of the analog signal.⁷²

⁶⁹ Maranatha Broadcasting Company, Inc., reveals that it has negotiated agreements with two local cable operators to provide a second programming service, an all-local, 24-hour weather service. Comments of Maranatha Broadcasting Company, Inc. at 6. While it would prefer to avoid negotiating for carriage altogether, see id. at 6, that is no reason for giving it the advantage over all other cable programmers that otherwise must operate in the marketplace and compete for carriage. See Comments of A&E Networks at 16 (explaining costs of negotiating carriage agreements and marketing expenses).

⁷⁰ Broadcasters’ Comments at 21 (citing NAB survey).

⁷¹ Cox Survey Response at 1 (Question on Retransmission Consent Negotiations for Digital Carriage).

⁷² See, e.g., AT&T Broadband Comments at 8-9 (explaining that “[t]here simply is not much digital broadcast programming available today. It is illogical to expect that a great number of digital carriage deals should have

Under these circumstances, it is not surprising that cable operators have been reluctant to commit scarce channel capacity to undefined services – services that the commercial broadcasters refuse to reveal, even when asked to do so in this rulemaking proceeding. Commercial broadcasters still have not explained whether they intend to offer high definition programming, multiple channels of standard definition programming, or some combination of both. Nor have they explained exactly what type of programming they intend to offer, regardless of the picture quality.

No doubt a broadcaster's response would be equally "poor" if asked to turn over even a minuscule portion of its program day for the broadcast of a third party's programming – without any idea of what that programming might be. And no cable programmer would expect to be carried on a cable system without having a plan for the service it was attempting to provide to customers. Only broadcasters believe they have this entitlement to cable capacity, regardless of whether consumers are interested or not – and that the failure to agree automatically to this entitlement warrants government intervention.

In any event, the initial comments and operator survey responses reveal that broadcasters have plenty of weapons in their arsenal to try to leverage carriage of their digital signals, but that they do not seem to be aiming those weapons at digital carriage as a priority target. As Cox's response reveals, "most notable retransmission consent negotiations to date have not centered on digital carriage, but rather on a myriad of other concessions sought by broadcasters. For example, the singular focus of TV station groups that are co-owned with cable programmers has been on securing carriage of these other non-broadcast programming services across all Cox

been reached for programming that does not yet exist. The more rational expectation is that cable operators and broadcasters will negotiate and resolve carriage issues as broadcasters roll out digital programming.")

markets.”⁷³ Charter’s survey response also emphasized that digital carriage has not been as high on the priority list as other items that broadcasters have leveraged through retransmission consent negotiations:

It must be emphasized that television broadcast stations have already exercised substantial leverage in retransmission consent negotiations to require Charter to carry numerous cable network services affiliated with television broadcasters on Charter cable systems. A significant amount of Charter’s cable capacity is now dedicated to such retransmission consent “affiliated” cable services. There should be little doubt that television broadcasters will exercise similar leverage when the issue of carriage of digital signals is more directly addressed in retransmission consent negotiations.⁷⁴

And the Comments of the American Cable Association demonstrate the muscle that certain broadcasters have exerted to gain favorable carriage terms in a wide variety of cases.⁷⁵

Broadcasters can attempt to shift the blame to cable operators for their supposed inability to obtain carriage agreements for their digital signals. But the Commission should not be misled. Broadcasters already occupy a favored position on cable systems; they already have access to every cable customer’s home; and they will continue to enjoy such access for as long as they transmit an analog signal over the air, and when they have changed their signal to digital.

c) There Are Other Less Intrusive and More Effective Ways to Hasten the Transition.

In any event, even if hastening the end of the transition is a government interest that might be “important” or “substantial” in the abstract, there have been proposals to achieve that end in ways that are more effective and that do not suffer from the same constitutional infirmities as must carry. For example, former Chairman Kennard suggested three steps that Congress

⁷³ Cox Survey Response at 2.

⁷⁴ Charter Survey Response at 10.

⁷⁵ Comments of the American Cable Association at 4-15.

could take to “accelerate the national transition to DTV”: It could set a date certain for return of the analog spectrum. It could also provide incentives – such as “squatter’s fees” – for the early return of that spectrum. And it could “adopt a requirement that, by a given date, . . . all new television sets include the capability to receive DTV signals.”⁷⁶

The government could take steps to promote or subsidize the availability of effective antennas and/or digital-to-analog converters. Or it could require broadcasters to use their digital channels to offer high definition programming, which would provide a unique inducement to consumers to purchase digital sets.

Even if expediting the transition were the interest intended to be furthered by the must carry provisions of the Act (which it is not), and even if a dual must carry requirement were likely to further that interest (which it is not), it would be wrong – and unconstitutional – to impose such a requirement in lieu of alternatives that are less intrusive and more likely to achieve the intended effect.

* * * *

As shown above, broadcasters have failed to show that dual must carry serves an important governmental interest. Dual must carry would thus fail to pass constitutional muster even if cable operators had unlimited channel capacity. But, as we now show, even recently upgraded 750 MHz cable systems have limited available channel capacity.

B. Channel Capacity Remains Limited, With Many Competing Uses.

Broadcasters in this proceeding complain that they have to spend money to construct digital facilities, with little obvious immediate financial return. But when it comes to other

⁷⁶ “‘What Does \$70 Billion Buy You Anyway?’ – Rethinking Public Interest Requirements at the Dawn of the

people's money – in particular, cable operators' and programmers' capital – they have a far different attitude. They view themselves as having an entitlement to a free second-lane on newly added channels regardless of their programming's appeal to customers. In their broadcaster-centric view of the world, it does not matter that operators have spent nearly \$50 billion to construct these facilities.⁷⁷ And it does not matter that cable program networks are bumped off or crowded out in the process or that consumers are unable to have access to other services for which the new bandwidth was constructed. They see that channel capacity has increased in some systems. On that basis alone, they argue that they should be able to stake a claim to even more cable channels.

In the broadcasters' looking glass, they argue that occupying twice as many channels somehow equates to a reduced burden on cable operators.⁷⁸ They assert that simply because they will not occupy as much capacity on a percentage basis as before systems were rebuilt, dual carriage will not impose a burden.⁷⁹ But the Supreme Court did not uphold analog carriage because it was capped at one-third of cable capacity. It examined the actual burden based on the number of stations forced to be added – in particular, the number of stations that were not already being carried in the absence of must carry. And that number will be multiplied many times over if dual carriage is required.

Carrying a second channel of each broadcaster will materially impact opportunities for carriage of non-broadcast services. While the Broadcasters' sense of entitlement has not changed over the years, little else remains the same since enactment of the 1992 Cable Act's

Digital Age,” Remarks of FCC Chairman William E. Kennard, Oct. 10, 2000.

⁷⁷ See “We’re Making Broadband Happen,” Remarks of Robert Sachs, NCTA President and CEO, June 11, 2001.

⁷⁸ Broadcasters’ Comments at 34.

analog must carry requirements. Cable systems and cable networks have continued to evolve, offering an increasing range of diverse programming choices and consumer options. In 1992, the number of cable networks outstripped cable channel capacity. As our initial comments showed, even as capacity increased, the number of cable networks vying for access to that capacity increased at a faster rate.⁸⁰ But capacity is now being used for non-video purposes as well.

This explosion in new cable programming and services has led to increased demands on cable capacity, as evidenced in the initial comments and the cable operator survey responses. These facts should put to rest the Broadcasters' claims that imposing dual must carry rules would be burden-reducing.

1. Program Networks Continue to Compete for Scarce Channel Capacity.

Program networks' comments confirm that access to a cable audience is by no means assured, even with the expansion in channel capacity that has occurred since the analog must carry rules were put in place. Imposing dual must carry will inevitably harm programmers vying to gain or retain channels on cable systems.

Numerous programmers do not yet even have analog or digital carriage for their networks at a time when broadcasters are asking for yet another channel. New networks, like TechTV, find that "analog must-carry already is having a negative competitive impact on innovative programming services like TechTV. In many markets, particularly the most important large markets, such as Chicago, New York, and Los Angeles, TechTV either has been unable to obtain

⁷⁹ See Public Broadcasters' Comments at 22. (Proposing carriage cap band on percentage of capacity devoted to analog must carry); Broadcasters' Comments at 34-35.

⁸⁰ NCTA Comments at 19 (more than 280 cable networks now compete for access to systems with average capacity of 65 channels).

carriage at all on area cable systems or has been denied carriage on the most widely subscribed analog cable tiers because of the large number of analog must-carry stations.”⁸¹ Existing must carry requirements continue to adversely affect the competition for analog space on cable systems, as the comments of more mature networks – from Court TV⁸² to The International Channel⁸³ – attest.

System upgrades have not lessened the intense competition for carriage opportunities. Joint Comments filed by The Filipino Channel, The Golf Channel, The Inspirational Network, Outdoor Life Network, Speedvision Network, and The Weather Channel show that “despite recent cable system upgrades, program networks ... still must compete vigorously for carriage.”⁸⁴

It is not just carriage on analog capacity that remains at a premium. Because of the proliferation of new video programming and non-video uses (discussed in the next section),

⁸¹ Comments of TechTV LLC at 5.

⁸² Comments of Courtroom Television Network at 6 (“[a]ny added mandates that create preferences for favored programmers weight heavily on networks that must compete for carriage in the open market. In view of the disadvantages suffered by cable programmers vis-à-vis broadcasters in any must carry regime, the wider the protective must carry cloak is spread, the more non-competitive the video programming marketplace becomes.”)

⁸³ Comments of International Cable Channels Partnership, Ltd. at 10 (“Even for ICCP’s International Channel which has been launched for a number of years, carriage is a difficult battle. International Channel is now carried in cable systems representing only 31% of total cable households. The package of the ten International Premium Networks, which has been offered by ICCP to cable systems since 1998, is carried in cable systems representing only about 3% of total cable households, while the nine-channel Canales package, also launched by ICCP in 1998, is available in cable systems representing only about 10% of total cable households.”) The International Channels offers a variety of foreign-language programming. Yet commenters like KSLS, Inc. and KHLS, Inc. which already have carriage rights assured throughout their market due to analog must carry, claim that they should have an additional leg up on all cable program networks. Comments of KSLS, Inc. and KHLS, Inc. at 3 (describing how “their ambitious DTV programming plans would be unsustainable” without guaranteed cable carriage).

⁸⁴ Joint Comments of the Filipino Channel, The Golf Channel, The Inspirational Network, Outdoor Life Network, Speedvision Network, and The Weather Channel (“Joint Programmers Commenters”) at 3.

access to any system capacity created by upgrades is not guaranteed.⁸⁵ As C-SPAN notes, “even without a dual must carry obligation we are finding that our efforts to achieve wide distribution of the recently launched C-SPAN3 as a digital service is being frustrated by capacity limits.”⁸⁶ Discovery Networks explains that “during carriage negotiations, cable operators have often emphasized that capacity must be reserved for video-on-demand, streaming media, interactive television, cable modem data service, telephony, and other new applications. [Discovery Communications] is told that these additional communications services and revenue sources are imperative to the health of the cable industry and the nation’s communications development.”⁸⁷

Dual must carry gives broadcasters other artificial and patently unfair advantages over cable programmers. Cable program networks must spend millions of dollars on programming and marketing in order to gain attractiveness in the marketplace. As the Comments of A&E Networks make clear, it is inherently unfair for the government to give other marketplace participants a free ride. That unfairness is not limited to gaining access to an audience on more favorable terms than cable networks. It also unfairly immunizes digital broadcasters from other expenditures:

Presently, broadcasters need only assert their must carry rights to obtain carriage of their analog signal by cable operators. Independent cable programmers, on the other hand, must assume the costs of marketing their programming to make it attractive to cable operators, as well as the costs of negotiating and executing terms of carriage with any cable operator they manage to win over.⁸⁸

⁸⁵ See *id.* at 17 (explaining that “much of the new ‘space’ created by cable upgrades is allocated for services other than traditional video programming, and for backlogged programming deals. And . . . other government imposed access obligations further reduce the amount of channel space available to cable program networks”).

⁸⁶ C-SPAN Comments at 4.

⁸⁷ Discovery Comments at 8.

⁸⁸ A&E Comments at 15.

In short, cable program networks that have invested tens of millions of dollars in creating services attractive to customers would be victims of dual must carry obligations, notwithstanding capacity increases.

2. Operators Plan to Use Newly-Built Capacity for A Variety of Video and Non-Video Uses.

The Broadcasters devote much of their comments to showing that cable systems have added capacity. Undeniably, system upgrades are occurring and capacity is being added in some systems. But that is only one part of the equation. Broadcasters inherently fail to come to grips with the fact that cable operators are using that capacity, or have plans to use that capacity, for purposes other than carrying duplicate broadcast stations.⁸⁹ NCTA's Comments showed that most cable subscribers today are served by cable systems with no excess channel capacity. Even more are served by systems with fewer than three available channels.⁹⁰

The FCC survey results confirm that the additional capacity reflects long-term investments that are being used and will continue to be used to provide the optimal mix of services that cable customers desire. Operators must make valuable uses of their bandwidth in order to recoup the billions of dollars that they have invested in their broadband facilities.

Not all of those uses will be video in nature. In fact, a review of the FCC survey responses shows that operators generally intend to continue to offer analog television service for

⁸⁹ See Time Warner Cable Comments at 21-24 (describing dual carriage burden on limited capacity); Comments of Cablevision Systems Corp. (describing proposed uses of upgraded capacity); Joint Comments of Insight Communications Company, L.P. and Mediacom Communications Corp. at 3 (describing demands on cable system finite capacity); AT&T Corp. Comments at 9 (“dual must-carry would limit operators’ ability to add new and diverse niche programming, as well as non-programming services such as competitive local telephony or high-speed data”).

⁹⁰ NCTA Comments at 18 (more than half of cable customers served by systems with no available channels; nearly 80 percent subscribe to systems with three or fewer available channels.)

the foreseeable future on the existing 550 MHz of plant. The additional 200 MHz will be allocated among a wide variety of video and non-video services.

For example, operators plan to divide their digital video uses among pay-per-view, new digital cable programming services, high definition programming, sports packages, and multiplexed premium services.⁹¹ Current and future non-video uses for digital capacity identified in the survey responses include video-on-demand capability, dozens of channels of digital audio, cable modem data service, cable modem virtual private networks, cable modem streaming media applications, interactive services including TV e-mail and e-commerce, telephony and IP telephony, home networking and home security services, among others.⁹²

The extent to which available capacity is already dedicated to specific video and non-video uses is illustrated by the survey response of Insight Communications, which provides a channel-by-channel listing of the services that are currently provided or planned to be provided on Insight's 750 MHz system in Louisville, Kentucky.⁹³ The chart shows that most 6 MHz channels are already being used to provide basic program networks, premium channels, digital

⁹¹ See, e.g., Survey Responses of Cablevision Systems Corporation (projected uses for HDTV, video-on-demand, interactive television, digital sports, digital music, and standard definition digital television); Charter Communications, Inc. (near video on demand, NBA, NHL and MLB packages, various "suites" of programming services); Comcast corp. (digital cable includes multiplexed premium channels, commercial-free music, niche cable programming services, and pay-per-view channels); Time Warner Cable (premium channels, pay-per-view, music channels, high definition programming and standard definition digital programming).

⁹² See, e.g., Survey Responses of Armstrong (cable modems, cable telephony, video-on-demand, and interactive television); AT&T Broadband (high speed cable internet and telephony; future uses may include video-on-demand and variety of interactive TV applications, depending on development of applications and market demand); Cablevision Systems Corp. (high speed data and residential and commercial telephony service); Charter Communications, Inc. (downstream capacity for video-on-demand, high definition television, cable modem data services, cable modem virtual private networks, cable modem streaming media applications, business and residential telephony applications, and interactive services and applications); Comcast Corp. (current and future offerings include high-speed Internet service, video-on-demand, interactive TV, IP telephony and home networking); Cox Communications, Inc. (current and future uses include local telephone and high speed data, interactive television, streaming media, IP telephony, home networking and home security services, among others).

⁹³ Survey Response of Insight Communications.

tiers and pay-per-view services, interactive digital services (including video-on-demand and “electronic mall” services), cable modem service (including local Internet service), and telephony service. The few remaining channels are shown to be specifically reserved for additional interactive services, telephony, and commercial high-speed data service.

Any of the finite bandwidth conscripted for the broadcasters will come at the expense of these and other cable-provided services. And, as Insight’s response and the responses of others indicate, these are tangible, identifiable and, in many cases, innovative services that are either already being provided or expected to be launched in the near future – long before anyone expects the digital transition to be completed. The business plans of operators, programmers and other service providers – and, ultimately, the needs, interests, and demands of consumers – will be thwarted, whether the effect of dual carriage is to force operators to drop existing services or to curtail the development and offering of exciting new services that can only be offered over upgraded, high-capacity systems.

3. Contrary to the Public Broadcasters’ Position, Dual Carriage will Burden Operators and Programmers, Regardless of Whether Rules Are of Limited Duration or Tied to Channel Capacity.

Public Broadcasters ask the Commission to adopt rules – for carriage of all broadcasters – loosely based on channel capacity.⁹⁴ They propose that operators that have upgraded their systems to 750 MHz be required to carry all local digital signals in the top 30 television markets plus in any markets with two or more digital signals on the air. Those systems that have not upgraded would be given a year to upgrade, after which they would be subject to dual carriage

⁹⁴ Public Broadcasters’ Comments at 8-10.

obligations regardless of channel capacity. Total carriage obligations would be capped at some indeterminate amount of capacity.⁹⁵

This proposal is both legally and factually flawed. NCTA has already demonstrated that the 1992 Act does not permit dual carriage and will not repeat its arguments here.⁹⁶ The Public Broadcasters, however, claim that the Act “compels the opposite conclusion.”⁹⁷ They base this argument on the directive, in Section 614(b)(4)(B), that the Commission, “at such time as [it] prescribes modification of the standards for television broadcast signals... shall initiate a proceeding to establish any changes in the signal carriage requirements of cable television systems necessary to ensure cable carriage of such broadcast signals of local commercial television stations which have been changed to conform with such modified standards.” Their theory is that Congress would not have directed the Commission to launch a proceeding “so early in the process” if it intended that the rules would go into effect only at the transition’s end.⁹⁸

But this analysis is fatally flawed. The Commission, while directed to initiate a proceeding, was not told to conclude the proceeding during any particular time frame. This

⁹⁵ Public Broadcasters suggest that these rules “could sunset at a point where market stimuli were thought sufficient to propel the DTV transition forward to completion.” Id. at 14.

At the same time they are urging the FCC to ignore market demand and require dual carriage, Public Broadcasters urge the FCC to use market demand as the test to decide whether to excuse stations from their build-out schedule. They propose that “the Commission should tie build-out requirements – for public stations, for commercial stations in the top 30 markets that are not affiliated with a major network and for commercial stations below the top 30 markets – to market-defined mileposts based on national DTV receiver penetration.” Id. at 13.

⁹⁶ See, e.g., NCTA Comments at 3-25.

⁹⁷ Id. at 18.

⁹⁸ Id. at 19.

stands in contrast to numerous other time-limited directives contained in the 1992 Cable Act.⁹⁹

Congress knew how to specify its intent on concluding a proceeding when it so desired.

Moreover, given the myriad complications of the digital transition specified by the broadcasters and others (and the uncertainty as to when broadcasters' analog channels will "have been changed" to the new digital standard, ending the transition),¹⁰⁰ it is no wonder that the FCC would await greater clarity before specifying must carry rules.¹⁰¹

The factual underpinnings of the Public Broadcasters' proposal are equally flawed. As described above, the burden imposed by dual must carry does not disappear simply because an operator has invested millions of dollars to upgrade its system to 750 MHz. It still diminishes opportunities for other program networks to gain carriage and it interferes with the optimal mix of services that operators can provide their customers. And the Public Broadcasters' proposal for systems with capacity below 750 MHz represents a "Catch 22." If they upgrade to 750 MHz, much of their upgraded capacity will be expropriated by the government for commercial and non-commercial broadcasters. And if they don't upgrade, the government will still take that capacity – but just wait one year to do so. Thus, while dressed up as a "compromise," the Public Broadcasters' plan appears simply to require dual carriage during the transition after a year, while giving all television stations the right to slow down on their digital build-out.

⁹⁹ See, e.g., 47 U.S.C. § 534(g)(2) (requiring FCC to complete a proceeding on whether home shopping stations are entitled to must carry rights within 270 days after enactment); *id.*, §543(b)(2) (directing FCC to prescribe rate regulations within 180 days of enactment of 1992 Act); *id.*, §544(e) (technical standards within one year of enactment); *id.*, §544(I) (rules concerning disposition of inside wiring after termination of service within 120 days of enactment).

¹⁰⁰ 47 U.S.C. § 534(b)(4)(B).

¹⁰¹ Moreover, this provision by its terms applies only to "local commercial television stations." No comparable provision is found in Section 615, which provides for must carry rights for non-commercial stations. Thus, even if this were somehow construed to be the source of the Commission's dual carriage authority, public stations would still have no such dual carriage rights during the transition.

Even though public stations lack any statutory basis to force cable carriage of a second slot for non-commercial stations, cable operators have been willing to discuss voluntary arrangements for carriage of public stations' digital signals. Time Warner Cable already has "entered into a master agreement with the Public Broadcasting Service (PBS) and the Association of America's Public Television Stations (APTS)... [U]nder the PBS agreement, the digital signals of more than 100 public television stations are eligible for carriage on TWC's cable systems."¹⁰² Other operators have expressed interest in PBS's digital plans.¹⁰³ Indeed, the Presidents of PBS and APTS were invited to make a presentation to NCTA's Board of Directors at its meeting on April 11, 2001, and since that time, discussions have taken place between PBS, APTS and a half dozen cable multiple system operators.

But voluntary marketplace agreements based on determinations by cable operators that planned digital offerings of public broadcasters will serve the interests of their customers are a far cry from guaranteed carriage of whatever a broadcaster, commercial or non-commercial, chooses to transmit on its digital channel during the transition. Such indiscriminate guaranteed carriage would harm operators, programmers, and cable customers. It would suppress "substantially more speech than ... necessary" to serve the alleged government interests in

¹⁰² Time Warner Cable survey response at 6.

¹⁰³ See, e.g., Cox Communications survey response at 1 (Comments on Retransmission Consent Negotiations) ("Cox continues to be receptive to clearly articulated proposals for digital carriage of broadcast signals, as evidenced by its discussions with the PBS group, which is far ahead of other broadcasters in presenting a vision for its digital transmissions. The PBS proposal, which includes identifiable public interest programming covering educational, job training and children's issues, is expected to yield a digital carriage agreement"); AT&T Corp. Comments at 34-35 (commending the public TV industry for the vision it has embraced for using its digital spectrum, and noting that AT&T is currently exploring various carriage options with non-commercial stations).

hastening the digital transition.¹⁰⁴ As a result, it could not – as the Commission correctly concluded – pass muster under the First Amendment.

II. DUAL MUST CARRY WOULD ALSO FAIL UNDER THE FIFTH AMENDMENT.

As NCTA showed in its initial comments, it is not only the First Amendment that presents a constitutional obstacle to a dual carriage requirement. Such a requirement would also run afoul of the Fifth Amendment as an impermissible taking of property without just compensation. Univision Communications Inc. contends, to the contrary, that forcing cable operators to dedicate a portion of their facility to the free carriage of a broadcast station’s signal on a full-time, 24/7 basis does not even constitute a “taking,” much less a taking without just compensation. It is hard to imagine how there is no taking here. And, in fact, none of the cases cited by Univision support such an implausible conclusion.

Univision argues, first, that must carry requirements do not constitute a “physical invasion” of property, since “there is no specific physical location in . . . cable systems that is ‘occupied’ as a result of must-carry rules.”¹⁰⁵ But of course there is a physical location that is “occupied.” A portion of the cable operator’s plant – its cable and fiber facilities extending from the headend to customers’ homes – is occupied on a continual, exclusive basis by the broadcasters’ signals throughout the system. This is precisely the sort of “permanent physical occupation” that, under the Supreme Court’s decision in Loretto v. Teleprompter Manhattan CATV Corp., constitutes “a taking without regard to the public interests that it may serve.”¹⁰⁶

¹⁰⁴ Turner I, 512 U.S. at 668 (quoting Ward v. Rock Against Racism, 491 U.S. 781, 799 (1989)).

¹⁰⁵ Univision Comments at 21

¹⁰⁶ 458 U.S. 419, 426 (1982).

Univision’s reliance on the distinction between the “physical” and “virtual” co-location requirements at issue in Bell Atlantic Telephone Companies v. FCC¹⁰⁷ is misplaced. In that case, the D.C. Circuit held that the Commission’s requirement that competitive access providers be allowed to connect their facilities to the facilities of local exchange carriers (LECs) by installing and operating circuit terminating equipment on the premises of the LECs’ central office (i.e., “physical co-location”) was a permanent physical occupation and, thus, a taking. Univision suggests that mandatory carriage of broadcasters’ signals more closely resembles the Commission’s “virtual co-location” rules, which require LECs to interconnect with competitive access providers (CAPs) by connecting to wires and circuit terminating equipment that is owned by the LEC and is located outside the LEC’s premises. The court did not address the constitutionality of the virtual co-location requirements, which were ultimately superseded by the interconnection requirements of the Telecommunications Act of 1996.

But neither physical nor virtual co-location entails the sort of permanent, physical occupation of capacity on the telco’s wires that must carry rules impose on cable’s capacity. The Fifth Amendment issue in Bell Atlantic dealt with interconnection of LEC and CAP wires and facilities – not with the occupation and use of LEC capacity by CAPs. Nothing in that case remotely suggests that when the government compels cable operators to transmit broadcasters’ signals over their wires on specific channels, no permanent physical occupation and no Fifth Amendment taking occurs.

Univision also claims that the Supreme Court’s decision in FCC v. Florida Power Corp.¹⁰⁸ stands for the proposition that “even where a physical invasion is involved, that does not

¹⁰⁷ 24 F.3d 1441 (D.C. Cir. 1994).

¹⁰⁸ 480 U.S. 245 (1987).

necessarily make a regulation a taking.”¹⁰⁹ That case, as Univision states, involved the attachment of wires to utility poles. But the regulations at issue in the case did not compel such attachments. They merely limited the rates that utilities could charge if they chose to allow cable operators to attach their wires to the utilities’ poles. Obviously, the permanent physical occupation of property does not, in and of itself, constitute a Fifth Amendment taking unless it is compelled by the government.¹¹⁰

Univision also argues that a dual must carry obligation cannot be viewed as compelling a permanent physical occupation of cable facilities because the obligation would exist “only until the conclusion of the DTV transition.” This transition will last for years, under any conceivable scenario – not before 2006 at the earliest, and, most likely, much later. There is nothing “temporary,” for Fifth Amendment purposes or otherwise, about the occupation of cable channels that the broadcasters are seeking.

Finally, Univision contends that a dual must carry requirement would not constitute a “regulatory taking,” under the standards of Penn Central Transp. Co. v. City of New York.¹¹¹ Since a dual must carry requirement would result in a permanent physical occupation, it would be a per se taking under Loretto, supra, “without regard to the public interests that it may serve,” and regardless of whether its economic impact on cable operators’ own use of their property also constituted a “regulatory taking.” Nevertheless, Univision’s suggestion that no serious “regulatory taking” issue would be presented is a case of wishful thinking.

¹⁰⁹ Univision Comments at 21.

¹¹⁰ “This element of required acquiescence is at the heart of the concept of occupation.” FCC v. Florida Power Corp., 480 U.S. 245, 252 (1987).

¹¹¹ 438 U.S. 104 (1978).

Univision contends, first, that such rules would constitute “merely a reasonable regulation intended to further numerous important governmental interests.”¹¹² But, as we have discussed above in connection with the First Amendment, the rules do not further any, let alone “numerous,” governmental interests identified by Congress as justifications for the must carry provisions of the statute.

Second, Univision contends that cable operators must accept certain incursions on their property rights by the government as a “trade-off . . . to obtain the use of public properties.”¹¹³ But no such “trade-off” is at issue here. Cable operators enter into franchise agreements with state and local governments authorizing the use of the public rights-of-way. Must carry requirements are federal obligations that have nothing to do with franchise obligations and are not imposed in return for the use of local rights-of-way.

Finally, the notion that a dual must carry obligation would not in any way undermine the “investment-backed expectations” of cable operators because operators have been aware of “the potential for digital must-carry regulation” is simply wrong. Cable operators have consistently maintained that the statute does not authorize a dual carriage requirement and that such a requirement would also be unconstitutional. The FCC itself has already reached this preliminary conclusion. Operators did not invest in upgrades to their channel capacity with the expectation that a substantial portion of that capacity would be used for the indefinite future to carry a second channel of each local broadcaster.

In any event, the Commission need never reach the question of whether a dual must carry requirement would constitute a “regulatory taking.” Such a requirement would result in the

¹¹² Univision Comments at 23.

¹¹³ Id. at 22.

permanent physical occupation of cable operators' property, eliminating any doubt whether a taking had occurred. And, in the absence of just compensation – indeed, any statutorily authorized compensation at all – such a taking could not pass Fifth Amendment muster.¹¹⁴

III. THE FCC SHOULD ADOPT A NARROW DEFINITION OF “PROGRAM-RELATED” MATERIAL.

Certain commenters in this phase of the proposed rulemaking urge the Commission to create a new free opportunity for their business ventures. They argue for an expanded definition of “program-related” material in the digital world. Their new definition would essentially provide free carriage on cable for anything broadcast over-the-air so long as the ultimate viewer does not have to pay a fee to the broadcaster to get it.

NCTA's initial comments demonstrate that the 1992 Act and its legislative history, as well as Congress' exclusion of “ancillary and supplementary” material from the scope of must carry, provide additional carriage rights for only a limited range of “program-related” materials. Nothing about the digital transition broadens the limited scope of this exception. For this reason, consistent with the statute and past precedent, the Commission should adhere to its narrow reading of this provision.¹¹⁵ It should put an end to the feeding frenzy of proposals to build new non-broadcast businesses on the basis of free cable carriage.

A. The WGN Test Should Be Maintained, Not Eliminated.

In its Report and Order¹¹⁶, the Commission explained that it would continue to rely on the

¹¹⁴ NCTA's initial comments explain that no compensation is allowed for carriage of must carry stations. NCTA Comments at 24-25.

¹¹⁵ See AT&T Corp. Comments at 28 (describing how any “program-related” material (1) must satisfy the WGN standard; (2) must be able to be carried by cable in a “technically-feasible manner;” (3) may not be fee-based or advertiser-supported; (4) must be created and/or distributed by the broadcast licensee itself as opposed to third-party purchaser/lessor; and (5) cannot constitute “ancillary or supplementary” service).

¹¹⁶ 16 FCC Rcd. 2598, 23624 (2001).

three factors established by the WGN court¹¹⁷ to guide its determination of whether material is program-related in the digital context. This test looks to whether (1) the broadcaster intends for the information in the VBI to be seen by the same viewers who are watching the video signal; (2) whether the VBI information is available during the same interval of time as the video signal; and (3) the VBI information must be an integral part of the program.¹¹⁸

The Broadcasters argue that the FCC should scrap its reliance on the WGN factors.¹¹⁹ They concede that many of the proposed digital uses would fail that test.¹²⁰ They propose that in its stead the Commission should create a new test that sweeps within it “[a]ll non-subscription material that adds to, supplements, or relates to the program service of the broadcast station.”¹²¹ The FCC rejected a variation of this proposed wish list nearly seven years ago in the analog context,¹²² it has no foundation in the statute, and there is certainly no reason to adopt it now.

Other commenters propose variations on this theme. For example, The Walt Disney Company (“Disney”) argues that the “Commission should define the scope of ‘program-related’ to ensure that all content, including enhanced interactive advertising content, that is contained

¹¹⁷ WGN Continental Broadcasting Co. v. US, 693 F.2d 622, 629 (7th Cir. 1982).

¹¹⁸ Report and Order at 2624; WGN, 693 F.2d at 629.

¹¹⁹ Broadcasters’ Comments at 41.

¹²⁰ For example, Broadcasters complain that they would be unable to force cable operators to carry time-shifted versions of the identical program carried on another programming stream; that “zone-specific” or “community-specific” programming could not be shoehorned into whatever carriage obligations a broadcaster’s other program stream might have; or breaking news or emergency information presented on a separate channel would not have to be carried. Broadcasters Comments at 39-40.

¹²¹ Id. at 41.

¹²² Implementation of the Cable Television Consumer Protection and Competition Act of 1992: Broadcast Signal Carriage Issues. Memorandum Opinion and Order, 9 FCC Rcd. 6723, 6733 (1994) (NAB petitions for reconsideration of using WGN test asserting that “material which supplements the main program services of the broadcaster should be required to be carried by the cable operator...”).

within a broadcaster's free, over-the-air digital signal and transmitted for the purpose of attracting and maintaining viewership will be ensured carriage on the cable system.”¹²³

There are several reasons why Disney's proposed obliteration of the WGN test fails, especially as applied to its interactive services. First, it is inconsistent with the language of the statute. Section 614(b)(3)(A) requires carriage of, “to the extent technically feasible, program-related material carried in the vertical blanking interval or on subcarriers. Retransmission of other material in the vertical blanking interval or other nonprogram-related material (including teletext and other subscription and advertiser-supported information services) shall be at the discretion of the cable operator.”

The mere fact that Disney's digital enhancements will be transmitted free to anyone who has the necessary equipment to receive them is not sufficient to give these enhancements must carry status. Congress did not require operators to carry anything broadcasters transmit free, over the air. There are several qualifying factors. Foremost among them is the requirement that it be integrally related to the primary video program.

Enhanced interactive advertising, which appears to be the focus of much of Disney's comments, is not encompassed by Section 614(b)(3)(A). Rather, Congress expressly carved out “advertiser-supported information”¹²⁴ from Section 614(b)(3)(A)'s coverage. Section 614 makes clear that there is no obligation at all to carry “nonprogram-related material,” whether free over-the-air or not; carriage in those instances is left, as it should be, to the discretion of the operator.

Second, such a sweeping program-related definition is inconsistent with the legislative history. Disney alleges that its broad test is exactly what Congress had in mind in adopting the

¹²³ Disney Comments at 4.

¹²⁴ Id.

“program-related” provision. It argues, without any citation, that “[C]ongress recognized that broadcasters had the ability to deliver enhanced ‘program-related’ content to attract and maintain viewership of their programming, and that absent a mandatory carriage requirement, cable operators would have a strong financial incentive to exercise their market power to erode the popularity of broadcast services by stripping out content that helped create and maintain its popular appeal.”¹²⁵ But Disney has created this purported congressional intent out of thin air. Certainly the legislative history evidences no such concern, nor does Disney produce any. Instead, the types of “program-related” enhancements about which Congress did express concern were designed to serve viewers with disabilities or those speaking a foreign language.¹²⁶ It expressly excluded from coverage a variety of money-making ventures that may have helped broadcasters, but were far afield of Congress’ narrow focus.¹²⁷

Third, much of the material that Disney describes would not qualify for carriage under Section 336(b)(3), which excludes “ancillary and supplementary services” from must carry rights. Disney argues that “interactive program enhancements” should be carried as a matter of government fiat.¹²⁸ But, the Commission has already determined that interactive material is “ancillary and supplementary.”¹²⁹ By definition, it is therefore not entitled to mandatory carriage – regardless of whether it is somehow deemed program-related or not, or whether offered free over-the-air.

¹²⁵ Id. at 6.

¹²⁶ House Report at 93.

¹²⁷ “Retransmission of other material in the vertical blanking interval or other non-program-related material (including teletext and other subscription and advertiser-supported information services) shall be at the discretion of the cable operator.” Section (b)(3)(A).

¹²⁸ Disney Comments at 3-4. NCTA has argued that this content can and should be the subject of negotiations; indeed those Disney broadcast properties that proceed under retransmission consent would not be subject to the must carry regime in any case.

What Disney is demanding is that cable operators make available to their customers enhanced interactive services to which the intended beneficiaries of the must carry rules – i.e., over-the-air viewers – would have no access at all (other than, perhaps, via a separate Internet connection). In other words, Disney, which utilizes a one-way broadcast technology for its over-the-air viewers, wants the Commission to interpret the must carry requirements in a way that gives it two-way capabilities for cable subscribers. Nothing prevents Disney from negotiating with cable operators for the provision of such services, like providers of all other services intended primarily for cable subscribers. And cable operators may carry such services, pursuant to such negotiations if they are attractive to consumers. But this has nothing to do with the language or the purpose of the must carry requirements of the statute, neither of which contemplates mandatory carriage of such services.

B. A Broader Test Fails to Serve the Public Interest.

Certain commenters try to equate their private interest in obtaining a government-mandated free ride on cable systems for a wide berth of services with the public interest. For example, the Consumer Electronics Association claims that somehow the program-related provisions were intended to help equipment retailers. They claim that “consumer confusion would ... be caused if the DTV receiver features demonstrated in the showroom were not available in the living room due to the local cable provider’s refusal to pass along the necessary system information. It is also in the public interest for the Commission to foster interactive content such as personalized electronic program guides and free data broadcasting services.”¹³⁰ But must carry was intended to preserve over-the-air broadcasters for those people who do not

¹²⁹ Report and Order at 2623.

¹³⁰ Comments of CEA at 9.

subscribe to cable. Congress made no mention of boosting equipment sales or nonbroadcast proprietary service offerings.

Nor was must carry designed to increase the fortunes of makers of electronic program guides (EPG), like Gemstar. Gemstar repeats its claim that the FCC should require carriage of a broadcaster's "entire free, over-the-air digital signal...", including, of course, Gemstar's proprietary program guide.¹³¹

Gemstar's pleas for free carriage rights for its product are not new. The FCC just months ago found that "program guide data that are not specifically linked to the video content of the digital signal being shown cannot be considered program-related, and, therefore, are not subject to a carriage requirement."¹³² Therefore, while Gemstar continues to pay lip service to the WGN factors, it now proposes that the FCC essentially ignore all three specific elements of the test. It suggests that in determining whether material is "integral" to the main program, the FCC must "[l]ook not merely at the relationship between the main channels and the content being considered, but also at the goals that Congress and the Commission have set for the service itself." But those goals are not unbounded. They must be established by reference to the statute, its legislative history, and FCC precedent on program-relatedness. And, as we have described in detail in earlier pleadings, and as the FCC itself has found, EPG material does not qualify.

Finally, Disney claims that the public interest in preventing "discrimination" against unaffiliated interactive services warrants an expansive view of program-related materials. But as discussed above, these are and should remain a matter of negotiations. Negotiations by definition concern matters of carriage and price for that carriage – something with which

¹³¹ Comments of Gemstar at 7.

¹³² 16 FCC Rcd. at 2625.

retransmission consent broadcasters like Disney are very familiar. NCTA rebutted this discrimination claim in the Interactive Television Notice of Inquiry.¹³³ But even assuming, arguendo, that cable operators some day might “discriminate” in some way in favor of their affiliated interactive services, that hardly justifies giving Disney’s interactive services a free ride on cable systems and a competitive advantage over all other programming services. But that is precisely what Disney seeks in trying to force its way on to cable systems through a broadened “program-related” definition.

* * *

In short, this assortment of new proposals for free access to cable capacity highlights the dangers of opening up the “program-related” test beyond its narrow focus. As our initial comments demonstrate, the Commission should not stray beyond those uses already identified as “program-related.” Other uses of cable bandwidth beyond the primary video service should be negotiated in the marketplace.

CONCLUSION

For the foregoing reasons, and for the reasons set forth in NCTA’s initial comments, the Commission’s tentative conclusion was correct: The law cannot reasonably or constitutionally be construed to authorize, much less require, a dual must carry obligation during the digital transition. Nor, in any event, would there be any public policy justification for imposing the burdens of such a requirement on cable operators, cable program networks and consumers.

When the transition is complete and broadcasters are transmitting only digital signals, cable operators will be required to carry the “primary video” of those signals, which, as the

¹³³ See NCTA Comments, CS Docket No. 01-7, at 33-34, and Attachment A, E. Elhauge, “Analysis Regarding FCC Notice of Inquiry on ITV Services,” at 15-35 (March 19, 2001); NCTA Reply Comments, CS Docket No. 01-7, at 6-18 (May 11, 2001).

Commission has rightly concluded, will generally be limited to a single video programming stream. To the extent that operators are required to carry material that is “program-related” to that single stream, the Commission should continue to construe that obligation narrowly, as the statute and Constitution require – and not in a manner that gives broadcasters free carriage of additional non-broadcast services primarily intended for cable subscribers.

Respectfully submitted,

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August 16, 2001

Attachment A

An Analysis of Digital Must Carry and the Adoption of Digital Receivers

Gregory L. Rosston

August 16, 2001

I. Introduction and Summary

A. My background

My name is Gregory L. Rosston. I am Deputy Director of the Stanford Institute for Economic Policy Research at Stanford University. I am also a Lecturer in the Economics Department at Stanford University. I received my Ph.D. and M.A. in economics from Stanford University, and my A.B. with honors in economics from the University of California, Berkeley. My specialties in economics are industrial organization and regulation with an emphasis on telecommunications. I served at the Federal Communications Commission (“Commission” or “FCC”) for three and one-half years as the Deputy Chief Economist of the Commission, as the Acting Chief Economist of the Common Carrier Bureau and as a senior economist in the Office of Plans and Policy. In these positions, I had significant involvement with the Commission’s spectrum policy, auctions, and competition issues in all areas under the Commission’s purview. I have been the author or co-author of a number of articles relating to telecommunications competition policy and spectrum policy, including an FCC staff working paper on

spectrum policy. My Ph.D. dissertation studied the effects of FCC policy on the land mobile radio industry. I have also co-edited two books on telecommunications. A copy of my vita is attached as Exhibit A.

B. Scope and Summary of my analysis

In its Further Notice of Proposed Rulemaking on the Carriage of Digital Broadcast Signals, the Commission asks "...how the resolution of the carriage issues would impact the digital transition process."¹ In response to this question, the National Association of Broadcasters (NAB) submitted a scenario analysis ("Scenario Analysis") that concluded mandating digital must carry would accelerate the digital transition by 10 years or more.² The National Cable & Telecommunications Association (NCTA) has asked me to evaluate this submission.

The Scenario Analysis claims that without digital must carry, the transition would not be complete until 2020 or beyond, but that enactment of a digital must carry requirement would accelerate the transition possibly by 10 years or more. The Scenario Analysis then concludes that digital must carry is "mandatory" to accelerate the transition.

The Scenario Analysis contains some important facts about the industry, but its conclusion depends on many implicit and unsupported assumptions, assumptions that in some cases the evidence directly contradicts. For example, the Scenario Analysis assumes that if digital signals of marginal stations are carried by cable systems, cable

¹ Carriage of Digital Television Stations, 58 Fed. Reg. 16524 (Mar. 26, 2001) ("First Report and Order" and "Further Notice.") at ¶ 3.

² "Implications of the Adoption of Digital Must Carry on the Speed of the Broadcast DTV Transition: A Scenario Analysis," Kraemer, J. and Levine, R., June 11, 2001.

subscribers will have increased incentives to purchase digital sets. But there will be no such incentives unless the broadcasters that rely on must carry use their digital signals to provide something different from the standard definition programming that is already available in large quantity to cable subscribers. Yet there is no evidence that these broadcasters are or will be using their digital channels to provide high definition programming. This is just one example of the lack of evidence supporting the assumptions underlying the NAB Scenario Analysis.

In my evaluation, I highlight the issues that underlie the assumptions of the Scenario Analysis, and show the absence of evidence supporting the NAB's conclusions. In addition, the NAB's Scenario Analysis combines the effects of six different legislative and regulatory proposals so that it fails to demonstrate that a digital must carry rule would have any effect in accelerating the transition at all, much less accelerating it by ten years or more. In short, the Scenario Analysis provides no predictive value about the effect of a digital must carry rule. It simply speculates how the digital television market might evolve in one narrow set of possible, but unlikely, circumstances.

II. Evaluation of NAB's Scenario Analysis

In my evaluation, I point out what assumptions are required for the Scenario Analysis and assess the likelihood of those assumptions holding. In addition, the authors co-mingle six different legislative and regulatory changes including the must carry requirement. This means that even if one believes all of the assumptions necessary to support the story, they have failed to demonstrate any effect of digital must carry – the other five effects could account for the accelerated adoption.

In concluding that digital must carry will significantly accelerate the transition to digital broadcasting, the authors seem to assume that the following six step scenario will unfold:

1. Digital signals over cable will be more attractive to cable households than the same signal over-the-air.
2. Inclusion of over-the-air signals that would otherwise not be carried would cause more cable subscribers to buy digital receivers
3. Because more cable subscribers buy digital receivers, they will be cheaper for over-the-air households
4. Because more cable households have digital receivers, content on over-the-air stations will improve
5. The decrease in price and increase in over-the-air quality will be sufficient to cause many more over-the-air households to acquire digital receivers more rapidly
6. The FCC, Congress and the administration will turn off analog stations when the 85% threshold is reached

Based on the available evidence, there is no reason to believe that all six steps would be met. Accordingly, the Scenario Analysis fails to demonstrate the claimed effect of digital must carry. To show this, I evaluate each step to assess the underlying assumptions.

A. Digital cable vs. over-the-air digital signals

The first step involves the idea that digital signals over cable are more attractive than over-the-air digital signals to cable subscribers. The reason this step is included in the argument is because if digital over-the-air reception were as attractive to cable subscribers as viewing the signals over their cable, then there would be no need for over-the-air stations to be carried on cable at all.

Given the experience to date, cable subscribers seem to watch much more of all programs via their cable and more of their viewing of local over-the-air stations is done through the cable system. This occurs in a regime where virtually all local channels are carried on the cable system. There may be some difference in the quality of digital

reception from a cable system compared to over the air because of the difference in encoding (VSB vs. QAM), and there is greater ease in viewing the cable version of a broadcast signal, even if the signal is available over-the-air. The logic of this step in the argument appears to hold: cable subscribers are more likely to watch over the cable system.

B. Will the addition of digital over-the-air signals that would otherwise not be carried lead to more cable subscribers buying digital receivers?

The second step of the NAB argument is that if more local over-the-air digital signals are on the cable system, more cable subscribers will buy digital receivers. This step requires two assumptions. First, it requires that the local over-the-air stations that would otherwise not be carried be more attractive than the cable programming they replace. The second assumption required for this step is that these marginal over-the-air channels would have a significant effect on the digital receiver purchase decisions of cable households.

Because cable programmers and over-the air stations are both able to provide digital and high definition content, the question of how content will affect digital adoption depends on the relative quality of the different programs. It is important to analyze the quality of the marginal stations (i.e., those stations that would not be carried by a cable system in the absence of a digital must carry rule). It is those marginal stations those that will be competing for scarce space on the cable system.

For digital must carry to increase the adoption of digital receivers in cable households, those stations that would not otherwise be carried would have to provide some reason for cable subscribers to buy digital television sets when they otherwise would not. Carriage of an additional over-the-air digital signal is likely to reduce cable

programming on a one-for-one basis (or more if the replaced cable channels would otherwise have provided analog programming). If the replaced cable programming were also digital and more attractive to cable subscribers than the must carry station, then must carry actually could reduce the adoption of digital receivers.³

Even if the must carry digital stations that would not otherwise be carried were more attractive than the cable programming they replaced, it is unlikely to make much of a difference in the adoption of digital receivers and the Scenario Analysis does not show that it would make any difference.⁴ For example, everyone who would adopt a digital receiver might make the decision based on the availability of digital pay-per-view movies (or other digital signals unaffected by digital must carry) and not care about marginal over-the-air stations. There may be others who would not pay the cost of a new digital receiver regardless of the amount of digital offerings as long as they have analog offerings available. In both of these cases, the marginal stations would have no effect. However, for the Scenario Analysis to hold, marginal stations would have to make a large difference in the digital receiver adoption rate of cable subscribers.

³ Chipty reviews the efficiency and competitive incentives created by vertical integration and finds that vertical integration causes increased efficiency and overall social welfare gains. Because of the efficiencies, according to the Chipty logic, allowing cable operators to choose programming, including digital, could increase the rate of digital receiver adoption because the cable operator/programmer may better be able to internalize the effects of customer preferences. In this case, if consumers want high quality digital programming the vertically integrated cable programmer might better be able to satisfy this demand than an arm's length regulated relationship between a cable operator and a set of independent broadcasters. Chipty, T., "Vertical Integration, Market Foreclosure and Consumer Welfare in the Cable Television Industry," *American Economic Review*, June 2001, 428-453

⁴ The NAB Scenario Analysis makes the argument that cable programmers have an incentive to preclude even higher quality over-the-air stations because of advertising revenue. However, with the small number of digital receivers, advertising revenue on marginal over-the-air digital stations will be small for the foreseeable future so the competition effect should be small as well.

The over-the-air stations that would not otherwise be carried in digital will also be carried during the transition in analog format. As a result, for digital must carry to increase the adoption rate substantially:

- i) there would have to be a large quality difference between the analog and digital programming;
- ii) the quality difference on marginal stations (that are not attractive enough for a cable system to carry at a price of zero) would have to be substantial; and
- iii) the substantial quality difference on these marginal stations alone would have to be the key factor in the adoption decision of a large number of customers.

The three pieces underscore the necessary assumptions to conclude that digital must carry would make a substantial difference in the adoption rates of cable subscribers. While economists are frequently concerned with marginal effects, the Scenario Analysis is concerned with a large shift in consumer adoption. The Scenario Analysis requires that the large shift in adoption be driven by quality differences on marginal stations but provides no evidence to support these three essential pieces for this step of the analysis to hold.

The argument that marginal stations would have a substantial impact on adoption faces hurdles regardless of whether they broadcast multicast standard definition signals or provide high definition programming. Adoption rates for new technology vary greatly and depend on a number of factors. One of the major factors influencing the adoption of a new technology is the improvement over the currently available technology. If a new

technology does not offer a significant improvement over the existing technology, consumers will be slower to adopt the new technology.⁵

The arguably significant improvement in this case is HDTV signals (as opposed to standard definition digital or analog signals). Yet the evidence shows a very limited amount of broadcast HDTV programming, and there is no evidence or representation that broadcasters will choose to provide a substantial amount of HDTV programming in the future. Standard definition digital signals of must-carry stations are unlikely to provide substantial benefit to cable consumers relative to current signals. They are merely duplicative in picture quality and may, in many cases, merely simulcast the content of the analog signals that are already being carried. Even if broadcasters provided standard definition programming that was different from the programming on their analog channels, cable customers already have access to a large number of standard definition program choices. As a result, cable customers may not see substantial advantage to acquiring a digital receiver for standard definition broadcast signals.

This is especially true to the extent broadcasters are simulcasting the same programming on their analog and digital channels. With simulcasting, the difference in product on analog and digital channels will primarily be due to the high definition picture quality (and possibly additional features).

The Scenario Analysis provides no evidence about the extent to which the availability of high definition programming will cause cable subscribers to buy new digital sets, much less the effect of high definition programming on marginal channels.

⁵ For example, cable adoption increased more rapidly when cable systems began to add multiple choices not available on local over-the-air stations. Crandall, R. and Furchgott-Roth, H. Cable TV: Regulation or Competition, Ch 1.

Nor is there any evidence about the extent to which broadcasters will choose to provide high definition programming, much less the extent to which marginal broadcasters will choose to do so. In the absence of such data, there is no basis for assuming that a dual carriage requirement will cause any cable subscribers to purchase digital receivers.

In order for the NAB virtuous circle story to hold, mandatory carriage would have to cause many more subscribers to buy digital television receivers to watch digital content from marginal stations when they can watch the analog feed from these stations without a purchase. There is no evidence that forcing carriage of over-the-air stations – stations that would not be carried voluntarily even if the price were zero – will increase adoption of digital receivers by cable subscribers. While this is sufficient to reject the conclusions of the Scenario Analysis, I continue to assess the remaining steps.

C. Will increased adoption of digital receivers by cable subscribers lead to lower receiver prices for over-the-air households?

The third step of the argument is that if substantially more cable subscribers were to buy sets (assuming the first two steps hold), then digital sets for over-the-air viewing would be cheaper. The reduction in price depends greatly on the economics of the industry and the price of the receiver sets. It does not seem like a big leap to assume that if more digital sets were sold, they would be cheaper. An important question, however, is the magnitude of the price difference. For the Scenario Analysis story to hold, the price decline resulting just from digital must carry would have to be sufficient to cause many more sets to be sold. In all likelihood, this would have to be a large price difference. There is no evidence that a large price difference would result from imposition of digital must carry.

Even if more cable customers were to buy digital sets and reduce the prices of cable digital receivers, this might not reduce substantially the price for digital over-the-air receivers (i.e. digital receivers with over-the-air tuners). If technology for receiving and viewing digital signals on cable system, such as QAM decoders, does not feed back into receiver prices for over-the-air reception that requires VSB decoders, then increased adoption by cable subscribers might have little or no effect on the prices for over-the-air digital receivers.

D. Will higher adoption of digital receivers by cable subscribers lead to more attractive digital over-the-air programming?

The fourth step is that, because of must carry and increased access to households that have digital receivers, over-the-air broadcasters would increase the attractiveness of their digital programming relative to analog. It is important to recognize that the appropriate benchmark is what the over-the-air attractiveness would be without a digital must carry requirement. There are two dimensions to increasing the over-the-air attractiveness of digital over-the-air programming – quantity and quality.

The first possibility is that digital must carry would increase the quantity of digital programming. The Commission has mandated digital transmission by 2002. Some stations are already providing some digital service. Others will begin over the next couple of years. Some stations may request a waiver of the deadlines to begin digital broadcasting.

The increase in the quantity of over-the-air digital programming that the Scenario Analysis states would occur to spur sales of digital receivers would have to come from a

reduction in the number of waivers and/or more digital programming.⁶ These increases would have to come on stations that would not have been carried absent a digital must carry rule. This increase would have to come even given the deadlines for digital transmission and the simulcast rules. The Scenario Analysis does not differentiate between stations that would and would not be carried in the absence of a digital must carry rule.

The second possible way to increase attractiveness of digital over-the-air programming is to increase program quality. If there are no requirements for a cable system to air a particular channel, then broadcast programmers have to compete with all other potential program services to get on the system. Competition to get on cable systems will generally take place in two dimensions – price and quality. In the absence of a digital must carry requirement, local over-the-air broadcasters might improve the quality of their digital offerings or reduce price to the system operator to get on the system.⁷

With a digital must carry rule, it is possible that local over-the-air stations will have a reduced incentive to invest in the quality of their digital programming, contrary to the Scenario Analysis. These stations will still have an incentive to attract an audience for advertisers. But they will not have the need to convince the cable operator to carry their signal. If local over-the-air broadcasters respond to this incentive and provide a lower quality digital product under digital must carry, then consumers might reduce their

⁶ A different way to ensure that stations do not delay their digital over-the-air feeds would be to issue a clear statement that the Commission does not intend to grant waivers and to stick by that statement.

⁷ Since the price with must carry is zero, some might have to pay to get on the system or provide additional programming as a way to reduce price below zero.

demand for digital receivers. This analysis simply shows that even assessing the direction of the effect from digital must carry is not straightforward and the Scenario Analysis has failed to show that digital must carry will result in increased attractiveness of over-the-air signals, a necessary condition for its conclusion to hold.

E. Will lower receiver prices and higher programming quality induce a large number of over-the-air households to adopt digital receivers?

The next step of the NAB's scenario is that lower receiver costs and higher programming quality would cause more over-the-air households to buy digital receivers and speed the transition. This step requires that the price decrease in digital sets and the increase in program quality be sufficient to cause a large number of households who currently do not subscribe to MVPD service to speed up their purchase of digital receivers.

With national cable penetration at 68%, there would still need to be an additional 17% of TV households equipped to receive digital broadcast signals.⁸ More than half the remaining 32% of television households would either have to get dual signals from another MVPD, such as DBS, or would have to buy digital receivers or digital-to-analog converters in order to reach the 85% threshold.⁹ As NAB has noted, over 20% of all television households nationwide are broadcast-only homes.¹⁰ Until a majority of these broadcast only households buy digital receiver equipment, the transition will not end.

⁸ Seventh Annual Report In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming CS Docket No. 00-132, released January 8, 2001, Table B-1.

⁹ Note that this number will vary greatly depending on the specific geographic area.

¹⁰ NAB Comments, CS Docket No. 01-129, filed Aug. 3, 2001, p 2.

However, there is no evidence to support the key assumption for this step of the Scenario Analysis – that over-the-air households will have a sufficiently high price elasticity of demand and response to quality change to increase the adoption rate of digital receivers. High definition over-the-air broadcasts are likely to be simulcast in analog format so over-the-air consumers will still have access to program content, albeit in a different form, without purchasing a digital receiver. Over-the-air households will also, by definition, have access to analog stations until the end of the transition as well so that they will have an alternative to purchasing digital receivers.

Moreover, these over-the-air households currently do not pay for their television signals, and presumably place a low value on receiving high quality signals or a large choice of viewing options.¹¹ Today, these households do not choose MVPD service from cable or satellite (which includes about 40 or more channels on expanded basic lineups), so digital multicast is unlikely to be sufficiently attractive to cause them to purchase a new digital receiver. The Scenario Analysis fails to demonstrate any willingness or ability of such consumers to spend money on a higher quality signal or additional viewing options. These viewers may also be reluctant to spend extra money to receive a higher quality picture of the same programming. To conclude that digital must carry is important to entice low-value customers to buy a digital receiver, one would have to believe that increased adoption by cable subscribers would bring the price of receivers down. But it is probably the case that for the low-value households the price would have to come down substantially more than it would without digital must carry, not just

¹¹ “Completing the Transition to Digital Television,” Congressional Budget Office, September 1999, p viii. There are various reasons why these people do not pay for their television, including placing a low value on television and having low-income.

marginally more. The Scenario Analysis presents no evidence that price changes of any likely magnitude will lead to the massive change in adoption needed to support their conclusion.

The Scenario Analysis predicts the behavior of over-the-air households in the next 10 to 20 years without any evidence on their purchase plans. While current data indicate that *all* consumers are likely to be slow in their adoption of digital technology, over-the-air households are likely to be even slower adopters regardless of a digital must carry requirement. The Scenario Analysis predicts that digital must carry will increase adoption rates of all groups substantially. However, the Scenario Analysis does not provide any indication of the price decline (or quality increase) so that even if one knew the price elasticity of demand (or quality elasticity) for the over-the-air households, one could not predict the change in adoption.

With the analysis above, any price decline and quality increases due to digital must carry are speculative at best; thus the conclusion of massive changes in buying habits for reluctant consumers has no foundation.

F. Will the 85% threshold be meaningful?

A point related to the Scenario Analysis is whether the Commission thinks that 85% is a real threshold. The NAB report states “It is doubtful that the public policy process would force analog turn off after achieving the bare minimum 85% of households digital capable.”¹²

¹² “Implications of the Adoption of Digital Must Carry on the Speed of the Broadcast DTV Transition: A Scenario Analysis,” Kraemer, J. and Levine, R., June 11, 2001, p 22.

If 85% is not the real threshold, then making conclusions about reaching 85% is of questionable use even though that is the sixth necessary step of the analysis. For example, if the public policy process would require 95% digital adoption, that will take much longer to reach and may require other mechanisms.

The NAB claims that over 41% of all television households have at least one broadcast-only set.¹³ This calls into question whether, even if the 85% threshold could somehow be met because of the availability of digital signals to cable subscribers, it will be politically feasible to terminate the transition at that time and disable all sets not equipped to receive digital signals over-the-air or via cable. And, significantly, the Consumer Electronics Association's projection of set purchases suggests that consumers appear reluctant to purchase digital television sets.¹⁴

Also, even if 85% is the real threshold, it will be much easier to reach in certain areas than in others. The threshold will be reached on a market-by-market basis, but the benefits from the transition -- reallocation of the spectrum and the rosy feedback effects are likely only to be realized when a substantial majority of the population is in areas that have adopted digital receivers and turned off analog broadcasts.

For example, cable penetration varies widely, even in the top cities.¹⁵ With such different penetration rates, meeting any threshold will vary greatly. The Scenario

¹³ NAB Comments, CS Docket No. 01-129, filed Aug. 3, 2001, p 2.

¹⁴ In July 2001, only 39% of consumers said that their next television set would be digital; 50% said that it would not be. CEA Market Research – Consumer Perspectives of Digital TV II – Summary, July 24, 2001, p 6.

¹⁵ CBO reports that as of 1996, the cable penetration was below 52% in Dallas/Ft. Worth and almost 77% in Boston. “Completing the Transition to Digital Television,” Congressional Budget Office, September 1999, Table 2.

Analysis attempts to examine the effects of a digital must carry rule on a nationwide basis when it is probably more important for the evaluation of benefits to understand when the threshold will be met in each area. The realization of benefits may be contingent on transition in certain cities that are slower than the nationwide average and have less responsiveness to added digital must carry signals.

G. Too many factors change in the Scenario Analysis to conclude anything about digital must carry.

Figure 7 of the report, “Broadcast DTV Accelerated Rollout Scenario” has a column “Legislation and Regulation” that makes assumptions about what will occur. While this proceeding is specifically about digital must carry, and the conclusions of the report focus on digital must carry, the figure includes six factors that differ from the baseline (Figure 5):

1. The FCC adopts DTV as a critical issue
2. FCC resolves cable must-carry (i.e., cable must carry free-to-air DTV signals up to capacity limits)
3. Proactive FCC mandates all channel receivers as of date certain (e.g., Jan 1, 2004) for sets 13” and larger.
4. FCC resolves all set to box technical issues, including copy protection.
5. Congress recognizes difficulty of shutting off analog in 2006 but makes it a policy priority to achieve turn off no later than Dec. 31, 2010; FCC instructed to facilitate so as to move ahead with next generation wireless networks.
6. Government continues pressure for auctions; channels 60-69 auctions occur no sooner than the schedule set out in the 2002 Budget; similar process with channels 52-59.¹⁶

¹⁶ “Implications of the Adoption of Digital Must Carry on the Speed of the Broadcast DTV Transition: A Scenario Analysis,” Kraemer, J. and Levine, R., June 11, 2001, Figure 7.

These other changes (e.g. mandating all channel receivers) could account for much more of the effect than the digital must carry requirement. Moreover, these other changes do not require digital must carry to be implemented.

I have not analyzed the effect of the other proposed changes that are part of the accelerated scenario analysis. But their inclusion points out that other factors are important in the adoption of digital receivers. Even in the scenario analysis, if one believes all of the assumptions necessary, the inclusion of other changing factors make it impossible to conclude that a digital must carry rule would have any effect, much less be the most significant factor.

III. Conclusion

Carefully evaluating the Scenario Analysis on a step-by-step basis shows the underlying assumptions necessary. I briefly summarize the results of this analysis.

Step Required	Conclusion
1. Digital signals over cable are more attractive to cable households than the same signal over-the-air.	This step appears to hold.
2. Inclusion of over-the-air signals that would otherwise not be carried would cause more cable subscribers to buy digital receivers	There is no evidence to support this. It might go the other way. It is very hard to believe this would have a substantial effect – especially if must-carry broadcasters use their digital signals to provide standard definition television of the type that is already available in large quantity to cable customers.
3. Because more cable subscribers buy digital receivers, they will be cheaper for over-the-air households	If the premise holds, it is likely. But the study fails to show the difference in the magnitude of price decline is sufficient to cause the massive change in adoption.
4. Because more cable households have digital receivers, content on over-the-air stations will improve	It is unclear what will happen to the quality of over-the-air stations. Depending on the incentives, quality may decrease.
5. The decrease in price and increase in over-the-air quality will be sufficient to cause many more over-the-air households to acquire digital receivers more rapidly	There is no evidence to support the large increase necessary for the Scenario Analysis conclusion to hold.
6. The FCC, Congress and the administration will turn off analog stations when the 85% threshold is reached	The uncertainty of the threshold and the differences across geographic areas makes this uncertain.

Only one of the six steps is supportable enough to satisfy the story. A second factor, the price decline may hold, but there is no evidence supporting the magnitude necessary to support the scenario analysis.

Even accepting all six steps in the Scenario Analysis is not sufficient to conclude that digital must carry will lead to the change in adoption put forth in the Scenario Analysis. Further, it is impossible to see how the Scenario Analysis arrived at a 10 year difference in adoption because they present no calculations. Finally, the scenarios differed by six factors rather than by holding everything except for digital must carry constant, further invalidating the conclusion.

Exhibit A

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“An Economic Analysis of the Effects of FCC Regulation on Land Mobile
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Other Professional Activities

Referee for *American Economic Review*, *Rand Journal of Economics*, *Industrial and Corporate Change*, *Journal of Industrial Economics*, *Telecommunication Systems*, *Journal of Economics and Management Science*.

FCC Economist Panel Hearing on the Economics of Interconnection, May, 1996.
FCC Economist Panel Hearing on the Economics of RBOC Entry under Section 271, July, 1996.

FCC Economist Panel Hearing on Competitive Bidding for Universal Service Provision, March, 1997.

Consultant for the World Bank, 1998.

FCC Academic Expert Panel on “A New FCC for the 21st Century,” June 1999.

FCC Academic Expert Panel on AT&T—MediaOne Merger, February, 2000.

Awards

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National Performance Review Hammer Award for Reinventing Government, 1994.

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