audience demographics, they are at opposite ends of the network spectrum. UPN is the smallest of the six televisions broadcast networks in terms of advertising revenues, and is estimated to represent only about 2 percent of the 1999-2000 television season upfront primetime broadcast network advertising revenues. The CBS Television Network, on the other hand, is ranked first in ratings, but third in advertising revenues, and has a revenue share estimated at about 18 percent. As a result, it is clear that a CBS/UPN combination represents a relatively small change in concentration that will not result in any significant alteration in the competitive landscape as it relates to the sale of national network advertising time.

The combination is rendered even more insignificant (in terms of advertising sales) when one considers the sharply diverging programming strategies of these two networks. UPN's programming delivers an audience skewed toward viewers who are younger, more urban, and male, while CBS's programming is seen as directed toward viewers who are older, more suburban, and female. For example, there are almost two and a half times as many UPN viewers who are younger than 34 relative to those who are older than 50. This ratio is reversed for the CBS audience.

Because UPN's audience is drawn predominately from the demographic stratum of young, urban viewers, it competes most directly with WB, to a lesser extent with Fox, and with national cable networks that target this particular audience segment. By contrast, because the CBS network skews sharply toward older viewers, and a more general cross-section of the U.S. population, it competes more directly with the broader-based, traditional networks operated by NBC and ABC. As a result of these dramatic differences in size and audience

demographics, CBS and UPN are viewed by advertisers as rather distant substitutes for one another.

VI. The Record In This Proceeding Supports Repeal of the Dual Network Rule In Its Entirety, Without the Need for Imposition of Separation Requirements or other Operational "Safeguards"

Viacom respectfully submits that the record before the Commission in two prior rulemaking proceedings, in the 1998 Biennial Review proceeding, and in this new rulemaking supports elimination of the dual network rule not only as it applies to UPN and WB, but in its entirety. As demonstrated above, the contemporary video marketplace is extremely diverse and highly competitive and is expanding at an astounding rate as cable and satellite networks, and now the Internet, have emerged to challenge the over-the-air broadcast program services. Thus, a merger even of two of the established Big Four networks would not unduly affect the level of diversity and competition at the national level. Further, as discussed above, the economic incentives that would be created by two-network combinations would strongly encourage differentiation of programming offerings. Moreover, the efficiencies that flow from joint operation would strengthen the over-the-air services and allow greater investment in new and innovative program offerings.

Finally, in the *NPRM*, the Commission asks for comment on "possible merger conditions that might help safeguard our broadcast diversity goals while partially relaxing the dual network rule to achieve the potential net benefits identified in our economic analysis."[132] As demonstrated above, however, the repeal of the dual network rule, particularly, as it relates

[132] *NPRM* at ¶ 29.

to UPN and WB, will in fact serve to increase diversity in entertainment programming and holds the promise of increasing the availability of news, public affairs and informational programming in the national video marketplace, with no appreciable adverse impact on viewpoint diversity or economic/advertising competition. Thus, no additional "conditions" or "safeguards" are necessary to further the Commission's policy objectives. Moreover, any agency-imposed separation requirements or other operating restrictions are likely to undermine the efficiencies that are necessary to strengthen UPN and WB, and ensure their long-term success.

VII. Conclusion

For the reasons set forth above, it is clear that the dual network rule has outlived its usefulness. This is especially true with respect to the aspect of the rule that applies to UPN and WB. Accordingly, the Commission should act with dispatch to adopt the appropriate regulatory reforms.

Respectfully submitted,

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September 1, 2000

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Amendment of Section 73.685(g) of	)	
The Commission's Rules – The Dual Network	)	MM Docket No. 00-108
Rule	)	

Declaration of Robert W. Crandall

Qualifications

1. I am a Senior Fellow in Economic Studies at the Brookings Institution in Washington, DC, a position that I have held since 1978.[1] Prior to that I was Acting Director, Deputy Director, and Assistant Director of the Council on Wage and Price Stability in the Executive Office of the President, and in 1974-75 I was an adviser to Commissioner Glen Robinson of the Federal Communications Commission. I was an Assistant Professor and Associate Professor of Economics at MIT between 1966 and 1974. I have written widely on telecommunications policy, the economics of broadcasting, and the economics of cable television. I am the author or co-author of five books on communications policy that have been published by the Brookings Institution since 1989: *Changing the Rules: Technological Change, International Competition, and Regulation in Communications*

[1]The views expressed herein are solely my own and should not be taken to represent the views of the Brookings Institution, its other staff members, or its Trustees.

(with Kenneth Flamm), 1989; *After the Breakup: U.S. Telecommunications in a More Competitive Era*, 1991; *Talk is Cheap: The Promise of Regulatory Reform in North American Telecommunications* (with Leonard Waverman), 1996; *Cable TV: Regulation or Competition?* (with Harold Furchtgott-Roth), 1996; and *Who Pays for Universal Service? When Telephone Subsidies Become Transparent* (with Leonard Waverman), 2000. A copy of my curriculum vitae is attached.

Summary of Conclusions

2. I have been asked by Viacom Inc. to provide an economic analysis of the issues raised by the Commission's proposal to change its "dual network" rule for television broadcast stations.[2] Specifically, I address whether owners of a "major" commercial television broadcast network should also be allowed to have ownership interests in a "minor" network, such as WB or UPN. In so doing, I examine the changes that have occurred in video program production and distribution in recent years as well as changes in the structure of advertising markets in the new digital age.

3. Dual ownership of a major and minor commercial television network is likely to lead to viewer benefits in terms of programming diversity. This is particularly true for Viacom's ownership of CBS and UPN because of the effects of economies of integration and the programming incentives created by such joint ownership.

4. Dual ownership of a major and a minor television network will not reduce outlet

diversity for a number of reasons. First, there are a large number of outlets from which a viewer may choose, and this number is increasing rapidly. Each minor broadcast network has a small share of total television viewing; therefore, there will be very little actual reduction in the control of viewer choices if it is owned by the same entity as a major broadcast network. Finally, minor networks provide little or no regularly scheduled news or public affairs programming. Thus, the combination of a major and a minor network will not reduce the number of alternative outlets from which viewers may obtain news and public affairs programming.

5. The joint ownership of a major and minor network will not reduce competition in advertising markets. National advertising markets are extremely competitive; hence, the combination of a major and a minor network will not create the ability of the combination to reduce advertising output or raise advertising rates. In the case of Viacom's ownership of CBS and UPN, the threat is even more remote because these networks attract audiences that are very different in terms of demographic characteristics.

Commercial Broadcast Networks

6. A commercial broadcast television network typically engages in at least two major functions: program brokerage and advertising brokerage. It carries out these functions through its roster of affiliated stations through which it offers these programs and advertising messages.

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[2] Notice of Proposed Rule Making, MM Docket No. 00-108, June 20, 2000 [hereafter, "NPRM"].

7. Program brokerage is the activity of licensing programs for distribution to a network's affiliated stations and scheduling these programs. In so doing, a network may enter into short or long-term contracts with program suppliers or "packagers" or it may supply the programs itself from its own production subsidiary. In practice, commercial networks do both, but they typically bear a substantial amount of the risk of developing programs even when they do not produce the programs. For example, they may pay for pilot production, commit for a specified minimum number of episodes, and agree to pay a share of unanticipated cost over-runs of each episode produced. These contract provisions vary substantially across program series, and they are likely to contain a variety of provisions to allow early cancellation of a series or changes in the number of episodes produced. In return for bearing the risk of financing program series' development, the networks generally obtain renewal rights for subsequent seasons and a share of the profits for non-network exploitation of the programs in reruns, foreign exhibitions, or ancillary revenues.

8. The networks also arrange to place national advertising in their programs, allowing advertisers the opportunity to diversify their messages across a number of entertainment vehicles. The networks offer advertisers a variety of options for placing their messages in each program while also leaving space for their affiliated stations to insert "spot" advertisements. Because the popularity of a program and the resulting demand for advertising cannot be known in advance, the networks assume the risk that advertising revenues may not defray the full costs of their programs.

9. Developing expertise in program selection and in program and advertising brokerage

is likely to require substantial fixed costs that could be exploited more economically across a larger number of program hours than are available to a single national network. It is obvious that each network is limited in the number of hours of programming and advertising placements that it can supply by the number of hours in a programming period. For instance, a network can only offer about 22 hours of "prime-time" programs per week. In addition there are daytime and weekend programs that yield lesser revenues, but a network cannot expand its programming beyond the number of hours available in the week.

10. Given the indivisibilities or "lumpiness" in the costs of developing expertise in procuring, scheduling, and selling programs to advertisers, it is to be expected that networks would seek new opportunities to exploit this expertise.[3] Operating a single network requires a large number of persons who are knowledgeable in current entertainment trends, program procurement, execution of contracts, affiliate relations, advertising markets, and technology. A small network may have to spend nearly as much as a large network to replicate this expertise and perhaps to utilize it less intensively because of the network's limited operations. The obvious solution is for the large network to add cable networks or additional commercial broadcast networks to its portfolio of operations. A small, emerging network may not be able to do this, and, as noted in the

[3] The NPRM at ¶12 correctly analyzes the role of fixed network costs for an individual program. However, a substantial amount of overall network costs is invariant with respect to the number of programs procured and aired. The spreading of these fixed costs across multiple networks can therefore be an important source of efficiency.

NPRM,[4] it may therefore have difficulty in exploiting additional opportunities or "windows" for defraying the costs of its programming investments.

Changes in the Video Distribution Marketplace

11. Competition in the delivery of video programming to U.S. residences has been increasing rapidly, providing viewers with far greater diversity in program choices. After the Commission modified or repealed many of its cable signal-carriage rules in the late 1980s, cable television penetration began to accelerate. In 1987, only 50.5 percent of U.S. television households subscribed to a cable-television service.[5] By the middle of 1999, however, cable penetration had risen to 67 percent of television households.[6] Equally important, cable channel capacity has been increasing steadily in recent years. In 1985, fewer than 10 percent of cable households were offered a menu of 54 channels or more.[7] By late 1999, 64.2 percent of cable households were offered 54 or more channels from which to choose.[8] In addition, more than 10 million households now subscribe to direct broadcast satellite systems with hundreds of channels of service.[9] As a result, most U.S. households may choose from among scores of video signals today.

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[4] NPRM at ¶26.
[5] AC Nielsen Company (as reported in National Cable Television Association, *Cable Television Developments*, annual editions).
[6] FCC, In the Matter of Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming, *Sixth Annual Report*, CS Docket-99-230, January 14, 2000 (hereafter, FCC, *Video Competition Report*), at 20.
[7] Warren Publishing, Inc. (as reported by NCTA).
[8] FCC, *Video Competition Report*, at 23.
[9] Id. at 69.

12. The increase in competition has steadily eroded the national broadcast networks' share of the audience.[10] In 1985, the three major national networks accounted for 74 percent of the national prime-time viewing audience, but by the 1998-99 broadcast season the four major networks, including Fox, accounted for just 52 percent of the audience. Even with the addition of UPN and WB, the six national networks attracted a smaller share of prime-time viewing in 1998-99 (60 percent) than the three national networks had in 1989.[11]

13. The large number of cable channels, DBS channels, and broadcast stations now available to households creates enormous diversity for U.S. television viewers, both in terms of "outlet" diversity and "source" diversity. The number of "outlets" that make programming choices for delivery to the viewer include the four major broadcast networks, the three minor or emerging broadcast networks – UPN, WB, and PaxNet – foreign-language networks, such as Univision and Telemundo, the network-affiliated and independent television stations, direct broadcast satellite program packages, and the basic-cable and premium-cable channels. The median number of television stations per market is now seven,[12] and there are 214 satellite-delivered basic and premium cable networks that select and schedule their own programming, an increase of 127 cable networks in only seven years.[13] As a result, no network has a large share of the video

[10] See the NPRM at ¶14 for a similar observation.
[11] All audience data are from Nielsen Media Research as reported in FCC, *Video Competition Report*, at 102 and Robert W. Crandall, "The Economic Case Against the FCC's Television Network Financial Interest and Syndication Rules," submitted with the Joint Comments of Capital Cities/ABC, Inc., CBS, Inc., and National Broadcasting Company, Inc. in MM Docket No. 90-162, 1990.
[12] Michael L. Katz, "Old Rules and New Rivals: An Examination of Broadcast Television Regulation and Competition," White Paper Commissioned by ABC, CBS, and Fox, September 1999, Figure 17. (Data obtained from Warren Publishing, Inc.)
[13] National Cable Television Association, *Cable Television Developments*, ??? edition. **[Check.]**

audience, and each network – major and minor – must compete with an increasing number of outlets for the viewer's attention.

14. Although broadcast television networks produce some of their own programming and have financial interests in some programs supplied by others, no national broadcast network is dominant in the supply of video programming to program distributors. Given the large number of distributors identified above, there is fierce competition in obtaining programming from as many sources as possible. The combination of program producers, such as Paramount, Fox, Disney, or Time-Warner, and the television networks has developed because of the economies of vertical integration, not as a strategy to control programming sources. None of these vertically integrated networks attempts to produce all of its own programming. They are vertically integrated because of the necessity of applying the expertise in distributing entertainment across various media and the need to adjust quickly to the enormous technological changes that are affecting such distribution. As the Commission has noted, vertical integration may be more efficient than contracting for programs from independent sources because of the difficulty in writing contracts that allow for efficient adaptation to marketplace changes and provide disincentives for opportunistic behavior.[14] However, no combination of a vertically integrated major broadcast network and a minor or "emerging" network would create a perceptible increase in the concentration of programming sources.

15. While the growth of cable television, direct broadcast satellites, and the number of broadcast stations have greatly changed the video distribution landscape, these changes

may be dwarfed by developments in the next few years. The Internet and broadband communications are transforming entertainment and information distribution to U.S. households. Internet Service Providers and telecommunications companies are developing video distribution services that can be accessed through the Internet and even stored on computer hard drives or copied on to CDs or DVDs. As a result, copyright owners' strategies for distributing their products and protecting them from on-line piracy will undoubtedly have to change dramatically. Program producers will have to adapt their products to these new realities. Small networks, such as UPN or WB, will have substantial difficulty in coping with the challenges posed by these developments by themselves. Therefore, the combination of a major and a minor network within the same organization is likely to reduce the cost of coping with these new developments, reduce risk, and allow for more rapid response to changing market conditions.

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Diversity in Programming

16. The Commission has identified two factors that it believes contribute to the "ultimate goal" of promoting "viewpoint diversity." These factors, or predictive criteria, are "outlet diversity" and "viewpoint diversity." Outlet diversity refers to the variety of distributors that select the programming that viewers watch. Broadcast networks, basic cable networks, and television stations select programming – news, public affairs, and entertainment. Therefore, a multitude of such stations and networks contribute to "outlet diversity." Programs are produced by a variety of organizations, such as motion-picture

[14] NPRM at ¶19.

companies, broadcast networks, sports leagues, and broadcast stations. Again, a multiplicity of such production sources contributes to "source" diversity.[15]

17. Whatever the sources and outlets that produce and distribute programming, however, there is another dimension to diversity that is important, particularly for entertainment programming. Viewers have different tastes in programming, just as they have different tastes in clothing, motor vehicles, and home decor. It is important that television program distributors ---"outlets" – provide varied programming that satisfies these diverse tastes rather than simply offering different forms of the same types of programming. Indeed, the proliferation of broadcast networks and cable networks has generated this diversity in program types, providing programming that appeals predominantly to, say, young audiences, minority audiences, golfers, gardeners, soccer fans from foreign countries, or devotees of physical fitness. As I shall show, the dual network rule provides adverse incentives for the development of such "programming" diversity.

18. Finally, the Commission should encourage program distributors to bear the risk of developing new types of programming. One of the major benefits of allowing vertical integration between program production and distribution and the financial ownership of programs by distributors is that these organizations are well equipped to bear such risk.

[15] See NPRM at fn. 37.

Dual Networks and Outlet Diversity

19. Given the incredible expansion in the number of program distributors in recent years, there is simply no reason to be concerned that the combination of a major broadcast network with a minor or "emerging" network will lead to a significant reduction in "outlet" diversity.

20. As discussed above, concentration is declining rapidly as hundreds of new cable and satellite channels become available. The national broadcast networks continue to lose market share, and there are no important barriers to entry for new cable-satellite networks, even those as specialized as *The Food Channel* or *The Golf Channel*. The number of broadcast stations has also grown substantially since the early 1980s, providing many non-cable (and non-satellite) households with seven or more off-air choices. The Internet is also a source of audio, and (currently) to a lesser extent, video programming. The ongoing improvements in compression technology, the speed of telecommunications services, and computer hard-drive capacity will soon make the Internet a far more competitive source of video programming. As a result of all these developments, outlet concentration is declining and will continue to do so as new services appear on cable, satellites, and even the Internet.

21. As video markets have become less concentrated, moreover, the choices available to viewers for news, information, and public affairs programming have widened. In many cases, new cable news networks have developed as joint ventures with an existing

network news organization or as an adjunct to an existing network. For instance, NBC launched CNBC in 1989 and MSNBC, in conjunction with Microsoft, in 1996.[16] News Corp. also launched an all-news channel, Fox News, in 1996.[17] Time Warner acquired both CNN and CNN-Headline News, which were begun in the early 1980s.[18] CNBC. CNN, and CNN-Headline News were carried by affiliates that reached over 70 million subscribers in 1999 and were among the top 20 cable networks.[19] Regardless of these developments, however, the modification of the dual network rule to allow a major network, such as CBS, and a minor network, such as UPN, to be owned by the same entity will have no effect on outlet concentration for news and public affairs programming because UPN has no such regularly scheduled programming. Indeed, Viacom's ownership of both networks is more likely to lead to some UPN news programming, developed in conjunction with CBS, than would the independent ownership of UPN.

Dual Networks and Source Diversity

22. The effect of dual network ownership on source diversity is likely to be inconsequential because there are so many sources of video programming. Each of the numerous cable and broadcast outlets that currently exists obtains its programming from a multitude of sources, including small, independent producers, major motion picture studios, performing arts organizations, sports leagues, and domestic and foreign owners

[16] FCC 99-418, Sixth Annual Report, In the Matter of Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming, adopted December 30, 1999, pp. D-5 and D-6.
[17] Id., p. D-6.
[18] Id., p. D-1.

of film libraries. Thus, for programming produced for exhibition on broadcast and cable networks, source concentration is very low. Even with Viacom's ownership of both CBS and UPN, overall program-source concentration would remain very low because UPN is only one of many outlets for programming and its share of viewers is very small. As the Commission notes:

> "With the growth of cable television networks, direct broadcast satellite services, and the ongoing deployment of digital television..., encouraging the entry of new, over-the-air broadcast networks may have diminished in importance relative to twenty years ago.[20]

Dual Networks and Program Diversity

23. The diversity of programming is likely to be increased by the combination of any two networks for reasons that are well developed in the economics literature. In a rivalrous environment, each broadcast network will attempt to maximize its profits by generally choosing programming that attracts the largest number of viewers.[21] Given the clustering of viewer preferences around mass-appeal entertainment, it is often more profitable for a network to attempt to lure viewers away from rival networks by offering similar entertainment programs, not some more adventurous fare that appeals only to a minority of the total television audience. With N networks, as long as $1/N$ of the mass audience exceeds the audience for a program that appeals to a minority of viewers, the networks will largely follow each other's programming choices, ignoring the minority's tastes.

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[19] National Cable Television Association, *Cable Television Developments*, 2000 edition.
[20] NPRM at ¶27.
[21] It is possible that a few program niches may be available that are profitable at low audience levels if their production costs are negligible. In addition, some demographic groups may be more valuable to advertisers than the average demographic group. In general, however, program costs will reflect audience appeal and networks will essentially attempt to maximize audience in order to generate the largest advertising revenues. For a discussion of the theory of network behavior, see Bruce M. Owen and Steven Wildman, *Video Economics*, Harvard University Press, 1992, Chapter 5.

However, if two networks are owned by a single entity, that entity will be more likely to attempt to program for minority tastes because it would bid viewers away from its first network by offering mass-appeal programming on the second network. Thus, the dual network rule operates to reduce program diversity.

24. In the current video marketplace, one of the minor "emerging" networks, UPN, has focused its programming on minority audiences, but it is struggling to make a profit. Were UPN to be spun off from Viacom to an entity with no other broadcast-network interests, its new owners would surely be induced to seek to expand its audiences by moving its programming in the direction of the larger networks. As a result, program diversity would be reduced.

Vertical Integration, Dual Networks, and Risk Taking

25. The integration of program production and distribution allows for greater coordination of decisions in developing and exploiting video programming. This improved coordination in turn reduces transactions costs and the cost of bearing the risk of new programs.[22] As a result, a vertically integrated network structure reduces the cost of operating emerging new networks and contributes to the ability to engage in greater risk-taking in programming.

[22] Cf. NPRM at ¶19, and paragraphs 9 and 10 above.

26. During the 1970s and 1980s, the three major broadcast networks were forbidden by the Financial Interest and Syndication Rules to own interests in their programming and were limited by antitrust decrees in the amount of programming they could produce for their own network operations. The result was a steady decline in risk-taking in new programs as measured by the variance in ratings or the variance in the length of time that the program series remained on the air.[23] These rules and decrees have been vacated, and the networks are now free to produce their own programming and to obtain ownership interests in programs that they do not produce. The networks may now assume more of the risk -- and reward -- of program development, a result noted approvingly in the NPRM:

> "... we believe a merger between an emerging network, such as WB or UPN, and a major network may produce net benefits. Such a merger may produce significant efficiencies by *internalizing the contentious issue of program production risk-sharing within a vertical relationship*."[24] [emphasis supplied]

27. Allowing vertically-integrated networks to own additional, new or "emerging" networks provides additional impetus for risk-taking in producing new programs and therefore for developing a more diverse set of viewing options for all U.S. households, including minority households.

Dual Network Ownership and the Advertising Market

28. Commercial broadcast networks derive their revenues from advertising messages inserted in their programs. They compete among each other and with other media in

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[23] See Appendix D to the analysis of Robert W. Crandall, cited in fn.611above.
[24] NPRM at ¶26.

selling advertising time in a national market. The joint ownership of a major and a minor, emerging network is unlikely to reduce competition in this advertising market for a number of reasons. First, the national television advertising market -- if, indeed, the market is this narrow -- is relatively unconcentrated and becoming less concentrated as competition in the video market place grows and new media, such as the Internet, begin to compete in the offering of advertising. Second, with all national and local spot television and cable advertising in the market, the level of concentration falls even farther. Given empirical evidence that national spot and network advertising are substitutes,[25] the relevant advertising market is surely greater than just national network advertising.[26] Regardless of the appropriate market definition, the video advertising market has low concentration even if a major broadcast network combines with a minor, emerging network.

29. Any estimate of the effect of the joint ownership of a major and a minor network would be overstated, moreover, if a company with dual networks chooses programs for each network that appeal to different demographic groups. The advertising messages on these two networks will reach different audiences and therefore not compete with each other in any substantial way. For example, Viacom's ownership of CBS and UPN will not lead to any increase in concentration in relevant advertising markets if CBS programming appeals to very different demographic groups than does UPN programming. Both WB and UPN tend to appeal to a much younger audience than those attracted to the original three major networks.

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[25] B.D. McCullough and Tracy Waldon, "The Substitutability of Network and National Spot Advertising," *Quarterly Journal of Business and Economics*, Spring 1998, pp. 3-16.

Conclusion

30. The rapid growth of competitive video outlets and sources of diverse video programming allows the Commission to relax the dual network rule to allow the combination of a major and a minor television broadcast network without concern that such a combination reduces "viewpoint" diversity. In addition, such a combination will increase programming diversity because the combined networks will engage in "counter-programming" in order to maximize their total audience. Finally, the continuing increase in competition in the video market place has reduced concentration in the relevant advertising market, and no combination of a major and minor network would compromise advertisers' access to competitive outlets for their messages.

31. Equally important, the change in the dual network rule to permit joint ownership of a major and a minor broadcast network would allow for greater exploitation of the efficiencies of the vertically integrated structure of network television since the Commission repealed its financial interest and syndication rules. These efficiencies are of increasing importance as the video market place continues to be buffeted by the turbulent changes unleashed by the electronics revolution.

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[26] Cf. NPRM at ¶27, fn. 36.

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

Robert W. Crandall

August 31, 2000

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