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L. J. [Signature]

served homes." Mr. Malone adds that, by and large, "the big market opportunity for Primestar is [not] in the cabled areas," but rather it is in the uncabled areas. Those statements confirm that allowing the purchase of Advanced's DBS assignments by TCI would directly undermine the Commission's mandate of promoting DBS as effective competition to cable. They appear to flatly contradict Tempo's allegation that "the cable industry and PRIMESTAR, regardless of its affiliation with the cable industry, will compete head to head in the MVPD market." Tempo Consolidated Reply (filed June 16, 1995), at 46.

Equally important, Mr. Malone is asked whether TCI's view of Primestar would be the same if Primestar had to remain at medium power Ku-band because of a regulatory issue (i.e., a Commission decision upholding the April 27, 1995 Bureau Order in these proceedings). Mr. Malone responds that the market TCI is primarily interested in for Primestar is the market that cannot get cable, and that, while high-power DBS does offer certain advantages, Ku-band medium-power service achieves most of TCI's objective with respect to Primestar. He adds that, if Primestar had to remain at Ku-band, TCI would not have to fund the high-power space segment, and accordingly the financial "commitment" required would not be as big. This statement indicates that a DBS system providing Primestar service from 110° W.L. would require a greater expenditure than a Ku-band alternative, and appears to contradict Tempo's and Primestar's

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allegations that failure of the Commission to approve the purchase of Advanced's permit would entail substantial additional expenditure to accommodate Primestar in the Ku-band.¹⁴

Respectfully submitted,

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¹⁴ See e.g., Primestar Application for Review at 24 ("the Advanced Order has caused PRIMESTAR significant delays and will cost it at least \$25 to \$35 million to secure backup medium-power satellite capacity to continue service for approximately one year at the end-of-life of K-1. Additional delay beyond August 15, 1995 in setting the Advanced Order right could cost PRIMESTAR up to \$100 million ...").

EXCERPT FROM INTERVIEW WITH MR. JOHN MALONE

INTERVIEWER: Welcome to this summer's Satellite TV Industry Trade Show and the-third installment of our in-room TV news service. You know it's been ten years since the satellite TV industry staged its biggest trade show ever right here in the very same hotel you're watching us on now. A lot has changed in those ten years and no company or Chief Executive has had more impact on the cable and satellite TV industries than TCI and its president, John Malone. Coming up, our exclusive interview with John Malone taped here at TCI headquarters in Denver earlier this month.

* * * * *

INTERVIEWER: We're taping this shortly before an anticipated decision from the FCC on the Advanced appeal so we won't ask you to predict that unless you want it all for prediction.

MALONE: No I can't get into that.

INTERVIEWER: Specifically, if Primestar had to remain at medium power because of a regulatory issue, how would that impact TCI's view of the business overall?

MALONE: Well, I think that for the market that we are primarily interested in, which is the market that cannot get cable, ok, we have always viewed satellite, from our perspective, as an extension of our reach and the reach of the programming services that we invest in. So mid-power achieves most of that objective. You know, we would prefer a smaller dish, we prefer more channels and space so that we can give a full set of services to the people in the rural markets. So, it would definitely be a handicap if we couldn't move up to more bandwidth as well as more power. But, we would still have a viable business, which we would continue to expand rapidly which we're doing now. So we do believe in the business.

INTERVIEWER: Would your commitment to the company change at all if it had a state of medium power in terms of resources or manpower?

MALONE: Well, of course we wouldn't have to make as big a commitment because we wouldn't have to fund the high power space segment. So, you know, as you

may well know, Primestar would probably be in the black on a monthly basis in August, which is rather enviable from a business perspective.

INTERVIEWER: But that's before the high power investment?

MALONE: That's before the high power investment. Clearly, the high power investment takes you to another level of expense, another level of capital commitment and therefore you need substantially more distribution in order to get back to a profitable state. But, our view of the business is there are probably 10-12 million residences, businesses and so on who would like to have access to these kinds of services that will unlikely ever be hooked up to cable and that's pretty big market. The penetration of that market should ultimately, by somebody, should ultimately be higher than cable penetration which is approaching 70% in a lot of markets. So, that's a big market to serve and it can easily support several competitors.

INTERVIEWER: At this point though, about 80% of Primestar's subs are outside of cable franchise areas.

MALONE: Sure.

INTERVIEWER: There is a perception especially as you make the investment into high power that you inevitably must change that ratio somewhat to make Primestar a profitable entity, and people are going to be looking at whether that takes place to see whether Primestar is a market share play on TCI and other MSO's part or is it viewed as a profitable business opportunity?

MALONE: Well, I guess my perception is that once digital comes to cable, there will be a technological and cost advantage to digital over cable vis-a-vis satellite -- localism, multiple sets and so on, and just the cost architecture. So, with the deployment of a digital option on most cable systems, I don't believe that there will be much of a logic for a transition from cable to satellite reception for cable served homes. There will always be some, there will always be special situations, there will always be some services that are on one versus the other. But, by and large, I don't think the big market opportunity for Primestar is in the cabled areas. I think the big market opportunity for Primestar is in the uncabled areas.

INTERVIEWER: But can Primestar be profitable remaining largely outside cable areas with the high power investment?

MALONE: Sure it can. Sure it can. Keep in mind, first of all, that one of the advantages that Primestar has is that its distribution system is being paid for both by satellite customers and by cable customers -- headend in the sky. So you have one space segment being supported by multiple distribution and what we're saying is that when we put signals on Primestar to be received by cable headends, we're actually lowering the cost of distribution to cable headends and at the same time subsidizing, as it were, if you want to look at it that way, Primestar. So, it's just a better mousetrap from a distribution point of view than a system that has to live or die on a satellite business alone. So you have to look at it that way. You have to look at the total economic equation.

INTERVIEWER: But there are an awful lot of people who say Primestar is there to stop DirectTV, not to be a profitable business for TCI and the other MSOs.

MALONE: That's crazy. First of all, it's very profitable for us. Our return on a Primestar customer right now, TCI's return, on a Primestar customer is better than our return on an incremental cable customer, so it's a very profitable incremental capital investment for us. Second of all ...

INTERVIEWER: Will it stay that way at high power? Just like that?

MALONE: Yes, yes it will.

INTERVIEWER: Even with the investment?

MALONE: Yes it will. Obviously, at high power we think we'd pick up, even in the C&D [phonetic] counties, we'd pick up deeper penetration of the marketplace. It's just gonna be cheaper, easier to install and all of that. But secondly, all the programming that we have a stake in or that we would like to see succeed to the degree that satellite adds distribution to that programming, it's a win win win.

NEWSMAKER FORUM



SPACE NEWS PHOTO BY TOM HANNA

Michael T. Smith

Vice Chairman
Hughes Electronics Corp.

Michael T. Smith has risen steadily through the corporate ranks of General Motors since joining the firm almost 30 years ago.

Smith, 52, held a variety of financial management positions before being named vice chairman of Hughes Electronics Corp. in 1992. The subsidiary of General Motors Corp. has annual sales of more than \$14 billion.

The Worcester, Mass., native had been vice president and chief financial officer of Hughes Electronics from the time it was formed in 1985, when General Motors acquired Hughes.

Los Angeles-based Hughes Electronics owns both Hughes Space and Communications and Hughes Communications Inc. The former builds spacecraft such as the HS 601 communications satellites; the latter is pursuing the Spaceway broadband communications service and a nationwide direct-to-subscriber radio service.

Smith, who recently transferred from southern California to Alexandria, Va., enjoys hitting the ski slopes and traveling with his family in his free time.

He spoke about Hughes' business outlook in an interview with Space News staff writer Jennifer Heronema.

Q: Why do you think Inmarsat P will be successful against such global satellite phone competitors as Iridium and Globalstar?

A: There are other factors besides (satellite system) cost and quality that you have to look at when you have a worldwide system.

Which one of these systems offers the most opportunity to have the proper landing rights in various countries? [Landing rights are the legal authority to operate satellite systems in a country.]

With the kind of signatories Inmarsat has, you have an advantage over other systems. We are going to be able to operate in a lot of places where some other systems will not be able to get in.

There is a competitor to Inmarsat P that

is having a hard time because they do not have the right to operate everywhere they want.

Q: Was it a strategic error for Hughes to focus on satellite manufacturing even when it meant selling satellites to Inmarsat P competitors?

A: I do not know if it is a strategic error or not. I think we have earned a reputation over the years for providing a high quality, reliable product to those customers who can pay the bill.

Q: Why has Hughes increased its efforts in the satellite services business?

A: As time goes on and we look at where

we want to put our risk-related dollars, some of these other activities look more attractive to us than just manufacturing. Profits are made on the service side of this business. What we have done in the video distribution business through Hughes Communications points that out to us.

Q: What were the issues that took so long to resolve between Hughes and Inmarsat P?

A: There were lots of different things. We are not a signatory. So, on their part there was some discussion of "Geez, we need to make a profit on this thing, and maybe Hughes should have different rights than other equity holders."

There also was the issue of wholesale rights.

Q: You want to be an Inmarsat P service provider?

A: Not necessarily, but we would like to have the option in the United States.

Q: Then you obviously think Inmarsat P will get approval to operate in the United States?

A: Yes.

Q: What is your opinion of the possibility of MCI getting into the direct broadcast satellite television (DBS) business? Do you consider that as much of a threat to DirecTV?

A: No. It does not matter if it is MCI, AT&T, Bell South, anybody. When we built and designed the system, we put a very conservative estimate of what we thought we would have as a business. The breakeven is in the range of 3 million to 4 million subscribers.

We knew full well there were three separate orbital slots (assigned locations in geostationary orbit for DBS systems serving the U.S. market) and that somebody — if we were successful — would follow us into them.

It is fortuitous that MCI has raised the issue of an auction (for a DBS license). We ordinarily do not support auctions, but in this case, it is going to help us because it is going to delay the process of a competitor using that orbital slot.

Q: Do you think there will be a fight over the slot?

A: Yes, there will be a fight over it. It will take the U.S. Federal Communications Commission a while to get the auction rules out, hold the auction, announce the results and award the slot.

Q: Is Hughes interested in bidding for that slot?

A: Absolutely.

Q: Could you give a figure of how much the slot is worth to Hughes?

A: No. We do not support auctions normally because we have enjoyed the fruits of orbital slots without paying for them. We do not want to see an ugly precedent decided every time we are going to require a slot. But in this case, it is to our benefit because it will delay the process of our competitor.

It does not matter who it is. It points out that there is a business there. You get the

likes of MCI coming after it, it just shows that we did the right thing. The marketplace is there for those who get there first.

Q: Do you think MCI underestimates the difficulty of putting together a direct broadcast system?

A: I don't know. It is not a simple undertaking. They are a big company in a similar kind of business as far as data and voice transmission. I think they can handle it.

Q: What are your thoughts on McDonnell Douglas' interest in acquiring a satellite manufacturer?

A: I have heard Harry Stonecipher [McDonnell Douglas president and chief executive officer] talk before.

He also wants an avionics company. I think he is looking over his shoulder at what some of his friends in the aircraft business have done, but I am not aware of any specific intent on their part to do anything with anybody.

Q: Does acquiring a satellite manufacturer make any sense for them?

A: I think he is looking at his competition, and they have vertically integrated launch capability with satellite capability.

We have always worked the opposite by trying to keep launchers separate.

We wanted a real competitive launch industry out there, but we do not have it.

Q: What are your views on launch quotas with China and Russia?

A: We would just as soon not see the quotas. We would like to see a worldwide competitive market.

Look at what we have done with reducing the cost of satellites over time. Basically, there is not enough launch competition. A lot of people have rockets, but they do not all carry the same payloads.

What we found interesting with McDonnell Douglas was that with a little bit of work on their part, they could increase the capacity of the Delta rocket. They have picked up most of our 601 launches [Hughes will launch at least 10 of its HS-601 communications satellites on the planned Delta-3 rocket], and will give more competition to both Ariane and Atlas.

We would like to see lots of competition and open launches without control all over the world.

Q: Is it your view that the long-term purpose of the quota system was to deal with overcapacity in the American launch industry?

A: I do not believe that for a minute. There is not enough capacity for launch capability. We have pointed out a number of studies to the [U.S.] Commerce Department and others who are interested in the shortage. There are other reasons for the quotas.

Q: Do you support the movement in Congress to dismantle the Commerce Department?

A: No. I think the Commerce Department serves a useful purpose. It has been very helpful, especially in this administration.

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION

In the Matter of:)
Application for Consent to)
Assignment of DBS Construction) DBS-84-01/94-15 ACP
Permit from Advanced)
Communications Corporation to)
TEMPO DBS, Inc.)

DECLARATION OF ROGER G. NOLL

INTRODUCTION

1. I am the Morris M. Doyle Professor of Public Policy in the Department of Economics at Stanford University. I received a Ph.D. in economics from Harvard University, and a bachelor's degree with honors in mathematics from the California Institute of Technology. In economics, my primary field of research is industrial organization and regulation, with a significant emphasis on telecommunications policy. I am the author or co-author of seven books and over 100 articles, all of which are contained in my curriculum vita, which is attached as an appendix to this declaration. Among these publications is Economic Aspects of Television Regulation and many articles on antitrust and regulation in broadcasting, cable television, and telecommunications.

2. I have also been a consultant to government agencies and private parties on numerous issues involving antitrust and regulation. Recently I consulted for the National Association of

Attorneys General on their antitrust complaint against PRIMESTAR. I have also consulted for the Federal Communications Commission on the Cable Television Inquiry in the late 1970s, and for the Antitrust Division on numerous issues involving telecommunications.

3. I have been asked by EchoStar Satellite Corporation to review the filings in this matter, including the declaration of Dr. Bruce M. Owen, and to provide an analysis of the competitive effects of the purchase of Advanced Communications Corporation's Direct Broadcast Satellite license by TEMPO DBS, Inc. I understand that TEMPO intends to lease satellite capacity to PRIMESTAR PARTNERS, in order to enable the latter to offer high-power DBS service. PRIMESTAR presently operates a medium-power service, and TEMPO holds a conditional permit for a DBS system that will operate on two satellites. Tele-Communications Inc. (TCI) is the sole owner of TEMPO, and owns more than twenty percent of PRIMESTAR. At issue here is whether the purchase of the ADVANCED satellite license by a TCI company, for use by another company that is partially owned by TCI, would have a substantial anti-competitive effect.

SUMMARY

4. To address this issue, I first consider the relevant markets in which ADVANCED, TEMPO and PRIMESTAR will participate, and then examine whether TEMPO's purchase of the ADVANCED license would have a substantial anticompetitive effect in any of these

markets. I then examine whether FCC regulations and the consent decree that ended the antitrust litigation against PRIMESTAR can be relied upon to eliminate these anticompetitive effects.

5. My conclusions are as follows. First, two relevant markets are of concern in this proceeding: the market for multichannel video program distribution of a type that is a close substitute for high-power DBS, and the market for video programming that is or might be distributed over systems that are in the relevant distribution market. Second, although insufficient experience has been acquired to reach unqualified conclusions about the relevant market in which ADVANCED and TEMPO will operate, in all possible cases the acquisition is likely to have an important anticompetitive effect by removing a competitor. Third, the purchase does substantially increase the likelihood that the largest cable systems, which also own nearly all of the most important video programming sources, could successfully engage in vertical foreclosure strategies that reduce competition in both programming and program distribution. Fourth, the existing FCC rules and the PRIMESTAR PARTNERS consent decree reduce, but do not eliminate, the possibilities for vertical foreclosure. Consequently, I believe that TCI and its affiliates should not be allowed to own and/or operate the ADVANCED satellite in addition to the proposed TEMPO and current PRIMESTAR systems.

MARKET DEFINITIONS

6. At the cornerstone of the proposed purchase is the appropriate definition for purposes of competitive analysis of the markets in which ADVANCED, TEMPO, TCI and PRIMESTAR operate. The various claims by all parties in this case focus on two categories of markets: the distribution of video programming to consumers, and the production of such programming.

7. For two products to be in the same relevant markets, they must be close substitutes, both in terms of product attributes and cost. The video distribution and program industries both are occupied by products that are not perfect substitutes. The delivery technologies differ in capacity, clarity of reception, the ease of accessing the various components of the video program industry, and the cost of the system to consumers. Video program options also vary by theme and production values. In this declaration, I will not deal extensively with the implications of product differentiation in the program industry, other than to note here that the extent of competition in the industry is less than an analysis assuming perfect substitutability among program sources would conclude. In dealing with the program distribution industry, however, I will attempt to take into account two factors that might cause different MVPD technologies to be imperfect substitutes: the capacity of the system, and cost to the consumer.

8. With respect to distribution, for two decades direct satellite distribution of programming to the home has been regarded as one of the most promising technologies for introducing competition into the video program distribution industry. But until very recently, the primary success of the satellite distribution industry was in distributing programs to areas that are not served by cable and that have few, if any, over-the-air television stations. For the most part, customers of satellite systems now in operation live in sparsely populated rural areas where the cost of cable distribution is prohibitive. Today, the vast majority of consumers who subscribe to any method of distributing video programming are customers of a cable television system.

9. For example, in the First Report in the annual assessment of competition in multichannel video program delivery (CS Docket 94-48), the Commission summarized the available information on subscriptions to various MVPDs.^{1/} At present, about four million households, or 90 percent of all consumers who use satellite systems, use the old C-band reception technology, and about half of these subscribe to an MVPD service. More than 60 percent of these subscribers live in areas without cable. A few hundred thousand additional households subscribe to one or more of the three Ku band satellite services (DirecTV, USSB, PRIMESTAR).

^{1/} See FCC, First Report, CS Docket No. 94-48, pp. 29-36.

10. Likewise, other MVPD technologies also have a very small base of subscribers. According to the First Report, over-the-air multichannel distribution systems (MDS and MMDS) have about 550,000 subscribers, Satellite Master Antenna systems (SMATV) are used by about one million consumers, and both local multipoint distribution systems (LMDS) and telephone company video dial tone service are virtually all experimental and have almost no subscribers.^{2/}

11. By contrast, cable television now serves over 57 million households, accounting for more than 90 percent of all households using any MVPD technology.^{3/} Moreover, in all but a very few communities, only one cable system is in operation. And, in all but the largest metropolitan areas, there are too few over-the-air stations to offer cable television significant competition for basic and extended basic service.^{4/}

12. These facts have led virtually all independent analysts, including the FCC and Congress when considering the 1992 Cable Television Consumer Protection Act, to reach two important conclusions. First, no matter how great the promise of new MVPD technologies, cable television systems currently face virtually no effective competition and enjoy considerable market power.^{5/}

^{2/} Ibid., pp. 6, 38, 44-45, 61-62.

^{3/} Ibid., p. 7.

^{4/} Ibid., pp. 20-21.

^{5/} Ibid., pp. 5, 112.

Second, because cable systems are franchised locally, and because the availability of over-the-air television varies across communities, the appropriate geographic market definition is a local one, although it may eventually evolve into a national market if cable "overbuilds" and new technologies introduce sufficiently effective competitors.^{6/} Based on the same facts about the industry, the Cable Television Consumer Protection and Competition Act requires that competition be assessed on a community-by-community basis.^{7/} When one examines the availability of MVPD services on this basis, the vast majority of consumers who are passed by cable are found to be served by none of the new technologies other than satellite distribution services, and these latter services account for only a few percent of the local market.

13. The enthusiasm for the new MVPD technologies arises from projections by some industry observers that each of these systems will attract large numbers of subscribers. In reviewing these projections, the FCC found that all approved and pending video dial tone services could serve as many as 8.5 million homes,^{8/} that forecasted demand for high-power DBS service ranges from 3

^{6/} "Given the current state of competitive entry, it would seem reasonable to define, at least tentatively, the local franchise area as the geographic market relevant to an analysis of the cable industry." Ibid., p. 24.

^{7/} Ibid., pp. 21-22.

^{8/} Ibid., p. 6.

to 11 million by the turn of the century,^{9/} that SMATV, though attractive on a cost basis, offers fewer channels and is expected to grow at a relatively slow rate due to regulatory barriers,^{10/} and that other technical options are at too early a stage of development for such a projection.

14. These data have two important implications regarding market definition for MVPD service. First, for several more years, in most areas the relevant market will be comprised only of cable television and satellite distribution systems. Second, the extent of competition among satellites, cable, and other emerging technologies remains uncertain, so that they may or may not eventually prove to be in the same relevant market.

15. Two technologies that perform similar functions are in the same relevant market only if they are sufficiently close substitutes that consumers regard them as equivalently attractive options. In reality, two distinct technologies rarely are close substitutes; if they persist side by side, it is usually the case that they have different attributes that are valued differently among different groups of consumers. At present, satellite and cable MVPD differ in two important respects. First, the annualized cost of satellite distribution systems (not counting program costs) is quite a bit higher than for cable. The least

^{9/} Ibid., p. 34.

^{10/} Ibid., pp. 44-45. SMATV capacity could be expanded to have more channels of programming, but to do so would be costly.

expensive satellite technology is high-power DBS, and presently the total system cost of DBS reception is more than twice as high as for cable television.^{11/} Second, the capacity of high-power DBS systems is higher than most cable televisions systems. Consequently, the initial market for high-power DBS, like that for its predecessors, has been among households either without access to cable or with a willingness to pay a higher price for a greater number of channels. As a result, satellite distribution and cable television may not yet be sufficiently close substitutes to be in the same relevant market. Likewise, other satellite distribution systems in the C band are also more expensive and require much larger receivers, so that they, too, are not in the same market.

16. Of course, the costs and capacities of both technologies are changing, and the expectation in the industry is that satellite costs will fall to rough comparability with cable, while upgrading of cable systems will increase their capacities to comparability with satellites. If this convergence materializes, the two technologies will be in the same relevant market in the future. Consequently, in analyzing the extent of competition for DBS service, it makes sense simultaneously to examine two market

^{11/} A high-power DBS system costs about \$700 for the basic receiver, plus between \$50 and \$200 for installation. By contrast, replacement costs of cable television systems tend to be in the range of \$400-500 per subscriber. In addition, both systems require basically the same satellite distribution system from the program source to the satellite. Satellites are further handicapped by the fact that it is more costly to enable the customer to watch different channels in homes with multiple television sets. Ibid., pp. 31, I-4, I-5.

definitions: a DBS-only market, which is relevant now, and a larger DBS/cable/other technologies market that many expect to exist within a few years.

MARKET POWER: DISTRIBUTION

17. As recently as last September, the Commission concluded that cable television systems had substantial market power in most local markets due to the inadequacy of other technologies to provide a reasonable substitute, whether local over the air stations or the various new MVPD systems. As stated above, the typical local cable television franchise accounts for about 60 percent of the local television households, and is free of competition for nearly all of its potential customers from any technologies other than satellite distribution systems. Even in the case of satellites, competition is imperfect. Satellite reception devices are currently substantially more expensive than the capital costs of cable service, require a reception dish that is often illegal due to local zoning or other restrictions ordinances, and have higher program costs because of the pricing policies of program suppliers.

18. High-power DBS and medium-power FSS Ku-band satellites are much less expensive for consumers than C-band systems, and require a much smaller reception dish. Hence, these systems are likely to displace many if not most C-band home reception systems, relatively quickly for new satellite distribution customers and in the next few years for existing customers as the

old C-band systems need replacement. The cost and performance characteristics of other technologies plausibly will be roughly comparable to Ku-band systems so that they will be competitors in areas where they are available; however, as described above and, more completely, in the Commission's First Report, these technologies are unlikely to be made available to most consumers for many years.

19. For the preceding reasons, for most cable subscribers in most local markets, the only realistic alternative to cable for the next few years is likely to be DBS and FSS services. Because the test for whether two products are in the same relevant market is whether they are close substitutes in price and quality, cable and satellite services are not now and are unlikely in the next few years to be in the same relevant market for purposes of competitive analysis. C-band service is not part of this market because the upper bound that it places on the prices charged by other satellite services is far above their cost-based competitive price. In the longer run, assuming cable, DBS and FSS converge in price and performance, the relevant market in most areas will include all three, although in a few areas it may also include other technologies such as SMATV and video dial tone.

20. In the DBS/FSS market, if firms all had the same capacity and approximately the same quality and variety of programming, the appropriate method for measuring the competitive impact of separate satellite systems would be simply to count the number of

firms. The rationale for this approach is that the nature of satellite distribution makes each system's programs simultaneously available to all customers in a market, with each service effectively having the capacity to serve all households. In reality, competitors have access to different amounts of satellite capacity, and so the systems do not offer the same quantity and variety of channels. In this case, the best measure of effective size of each firm is its capacity.

21. My understanding of the present structure of the satellite industry is that only satellites reaching all of the continental United States (CONUS orbits) are likely to be viable in the satellite broadcasting business, and that the present licensees have long-run claims on satellites having the following capacity in satellite channels:^{12/}

^{12/} With the exception of PRIMESTAR, these channel assignments are located at 101, 110, and 119 degrees W.L. (the "eastern" locations) and are capable of full-CONUS coverage. Another satellite location at 61.5 degrees W.L. has 11 channels assigned to Direct Satellite Broadcasting Corporation, and 22 channels that are unassigned but that may be awarded to Continental and Dominion. I understand that because this satellite location offers impaired access to dishes in the western third of the United States, the licensees are unlikely to find direct satellite to home broadcasting financially viable. Even if they were to enter, however, the concentration in markets in the west would be unaffected. Likewise, four satellite "western" locations are scheduled for assignment; however, my understanding is that they are even less financially attractive for DBS service than the eastern assignments because of their limited coverage.

<u>Company</u>	<u>#</u>	<u>Share</u>
DirectTV	27	25.5%
USSB	8	7.5
Advanced	27	25.5
Tempo	11	10.4
Echostar	22	20.7
Primestar	11	10.4
TOTAL ASSIGNED	106	100.0

(Echostar's holdings reflect its acquisition of DirectSat, recently approved by the Commission.) Of these, only DirectTV, USSB, and PRIMESTAR are presently in operation. The rest are scheduled to come into service sometime between 1995 and 1998.

22. In late 1994, three of these companies offer either DBS or FSS service (DirectTV, USSB, and PRIMESTAR), so that the industry is highly concentrated. In areas where, for a while, DBS/FSS is a separate relevant market, these three firms have market shares of 58.7, 17.4, and 23.9 percent, respectively. The Herfindahl Index, which is the standard measure of industry concentration, is 4320, substantially more concentrated than is normally regarded as sufficient to assure competitive behavior.^{13/} In

^{13/} The Herfindahl Index is constructed by summing the squares of the market shares of the independently operated firms in the industry. The U.S. Department of Justice normally challenges mergers that increase the concentration ratio beyond 2000. In the case of "contestable" markets, the Herfindahl index is said to understate competition; however, the condition for contest-
(continued...)

the next year, two additional systems are scheduled to enter: ADVANCED and EchoStar; however, the actual entry date may be later for some of these licensees. TEMPO's license indicates that it will enter before 1998.

23. If all of these companies were operated as independent competitors, the concentration would fall to 1992 after all firms entered. Of course, in localities where other technologies have an important foothold, the MVPD industry would be even more competitive.

24. Unfortunately, the simple approach of counting each satellite licensee as a separate, independent entity is inaccurate. One concern is that DirectTV and USSB offer service from the same satellite and have nonoverlapping programming, although they are operated and marketed separately. In comparison to high-capacity cable systems, they are closer to being two tiers of service that together offer an alternative to cable. Hence, these firms should not be regarded as entirely independent competitors, although henceforth my analysis will proceed as if they are. Another concern arises from the fact that TEMPO and PRIMESTAR are affiliated with TCI, and that the proposed purchase of the ADVANCED license would combine three systems into the TCI family of companies.

13/ (...continued)
ability -- the absence of significant fungible (not sunk) costs -- is not present in satellite distribution. A major component of the cost is the satellite receiver, which can be resold and moved from one customer to another.

25. The plans of TCI for the combined offerings of PRIMESTAR and TEMPO are not entirely clear with respect to the use of the satellite slot currently used to distribute PRIMESTAR after 1996 and with respect to the actual launch date of the ADVANCED satellite after the purchase. At minimum, the plan includes placing the PRIMESTAR service on the ADVANCED satellites in order to give PRIMESTAR access to high-power DBS and a greater capacity than is available on its FSS system.^{14/} Assuming that PRIMESTAR

continues to control an FSS satellite and that it is appropriately counted as separate from TEMPO (an assumption that is questioned and analyzed below), the purchase would reduce the number of separate entities from six to five, and produce a Herfindahl Index of 2527.^{15/} According to the U.S. Department of Justice Merger Guidelines, the Department would virtually always resist a merger that raised the Herfindahl Index by over 500 points to over 2500.

26. If the present PRIMESTAR satellite and, after its death, its orbital slot simply are not used for satellite-to-home broadcasting after PRIMESTAR starts using the ADVANCED system, the acquisition has the effect of removing a competitor from the market --substituting PRIMESTAR on ADVANCED rather than having each operate separately as competitors. This substitution would

^{15/} Without the acquisition, the Herfindahl Index would be $6 * (1/6)^2 = 1667$. After the acquisition, the Index would be $(1/3)^2 + 5 * (1/6)^2 = 2500$.

reduce the ultimate number of Ku satellite distribution systems from six to five. This reduction would increase in concentration by over 350 to 2357 -- again, a generally unacceptable increase.

27. The preceding calculations presume that PRIMESTAR operates as if it were a wholly-owned TCI subsidiary, but in reality PRIMESTAR is a joint venture involving six cable television companies and an equipment supplier. The issue then is whether PRIMESTAR should be regarded as independent of TCI, and if so, whether this would eliminate the anticompetitive effects of the proposed acquisition.

28. Regarding the immediate consequences, the stated purpose of the acquisition is to lease the satellite capacity to PRIMESTAR. Hence, the concentrating effect of the acquisition in the short run is unaffected: PRIMESTAR would operate two systems instead of one in an industry with three or four independent entities, depending on how one deals with DirecTV/USSB. In 1998, when TEMPO is expected to operate its own system, the issue of the appropriate way to treat PRIMESTAR and TEMPO comes into play.

29. For four reasons, PRIMESTAR should be regarded as an entity that operates in concert with TCI and, therefore, for purposes of competitive analysis is included with TEMPO for purposes of calculating a single market share for TCI affiliates. First, all of the DBS slots used by TEMPO and PRIMESTAR are owned by TCI. Second, TCI owns more than twenty percent of PRIMESTAR, and

controls three of ten seats on the Board of Directors, making it the most influential stockholder. Third, each of the PRIMESTAR partners may in fact be the primary distributor of PRIMESTAR programming in its franchise area. This would mean that consumers in TCI cable franchise areas would face TCI when acquiring cable service, either of the PRIMESTAR services, and TEMPO service. Fourth, all but one of the PRIMESTAR partners are large owners of cable systems, and all have the same financial interest in governing the relationship between satellite distribution and cable television: to minimize competition between the two technologies, and to try to retain the status quo in which satellite distribution is targeted primarily at consumers who either do not have access to cable or who have especially intense demand for programming, beyond the current capacity of most cable systems. Hence, for all of these reasons, I believe that all of the TCI-affiliated satellite distribution systems should be regarded as part of the same entity for purposes of competitive analysis.

30. In the case in which the medium-power PRIMESTAR satellite exits from the provision of satellite broadcasting, then counting TEMPO and PRIMESTAR as part of the same enterprise increases the share of TCI companies to 40 percent and the Herfindahl Index from 2357 to 3016. In the case in which PRIMESTAR's medium-power slot continues to be used by a TCI affiliate as a satellite broadcasting system, the Herfindahl index increases by 1286 points from 2527 to 3813. Regardless of the disposition of the