

eventually provided with roughly half the current spectrum if EchoStar and DIRECTV were combined. And the spectrum ultimately “freed up” by a merger of EchoStar and DIRECTV would thus allow “New EchoStar” to provide new services and other content – especially local channels in many local communities that would not otherwise receive them – that DBS executives emphasize would not be possible in the absence of the merger.

23. Increased spectrum efficiency obtained through a merger of EchoStar and DIRECTV would benefit consumers in a variety of ways.¹⁸ Several broad categories of benefits are apparent. The most important benefit may be that additional DBS spectrum efficiency would facilitate new and improved services (such as greater geographic coverage of local channels, more specialty, ethnic, and foreign language programming, interactive television services, and video-on-demand) that would help DBS more vigorously compete against the cable industry’s ability to upgrade unilaterally its bandwidth to provide these services on a digital-cable tier.

24. Examples of the potential consumer benefits that would result from spectrum made available through the merger include improved and expanded programming choices:

- *More local channels to more metropolitan areas.* New EchoStar believes it can provide local broadcast programming for 100 or more communities (while fulfilling

¹⁸ As the Joint Engineering Statement attached to this application notes, many merger-specific benefits will occur almost immediately, while others will take some period of time to be fully achieved. For example, New EchoStar will need to transition to a common set-top box platform to capture the full benefits of eliminating the current duplicative use of spectrum. The transition to a common set-top box platform, however, will take some time and cost to implement. As a result, the full merger-specific efficiencies will not be achieved until the transition to a common set-top box platform is complete. See the Joint Engineering Statement for further discussion of this issue.

the “must-carry” rules), compared to roughly 40 overlapping communities that the companies serve now.¹⁹ Providing local programming is spectrum intensive, which limits the ability of current DBS providers to deliver such service outside the largest metropolitan areas. Both EchoStar and DIRECTV are launching new “spot beam” satellites to satisfy the must-carry rules for the roughly 40 local metropolitan areas that are already served. To use the spot beam technology, each company has to set aside a certain amount of spectrum (and a corresponding amount of transponder capacity) for regional use. Further upgrades using spot beams to serve even more local areas would require the sacrifice of yet more spectrum, as well as the substantial costs of launching more satellites with spot beam transponders for less potential return as they attempt to serve less populated communities. With only a fixed amount of spectrum (and transponder capacity), each company faces the opportunity cost of giving up frequencies that would otherwise carry satellite networks that are necessary to compete with cable. EchoStar and DIRECTV executives indicated that providing local programming is crucial to encouraging subscribers to switch to DBS from cable; EchoStar and DIRECTV executives added that their internal data show that subscriber growth in areas where local programming is now available has been higher than that in areas without such local programming. The lack of such services in all

¹⁹ EchoStar currently provides local broadcasting services in 36 metropolitan areas, while DIRECTV provides local services in 41 communities. The communities with local broadcasting service overlap significantly: both firms currently provide “local-into-local” service in 35 of the same metropolitan areas.

but the largest metropolitan areas attenuates the competitive pressures imposed on cable providers by the DBS industry.²⁰

- *More HDTV channels.* New EchoStar has committed to use a portion of the spectrum freed up by the merger to provide consumers with additional high-definition programming. Each company currently offers only two to four channels of HDTV programming, largely because HDTV is extremely spectrum intensive.²¹ By freeing up additional spectrum, the combined entity will be able to offer an expanded number of HDTV channels. This commitment of spectrum to HDTV programming will provide additional incentives for consumers to invest in HDTV hardware, and for producers to invest in HDTV content. It may thus help to jump-start the sluggish HDTV adoption process.
- *More diverse programming.* Spectrum efficiencies will also permit expanded specialized programming. Such programming could include ethnic, foreign language, educational, or other programs that appeal to specialized audiences.

²⁰ See Seventh Cable Competition Report at ¶ 13. The FCC stated that “[c]onsumers historically reported that their inability to receive local signals from DBS operators negatively affected their decision as to whether to subscribe to DBS.” Goldman Sachs added that, “The ability to offer local-into-local programming is extremely important for DIRECTV and DISH Network because it enables the companies to more effectively compete with cable operators.” See Goldman Sachs, “Satellite Communications: DBS Operators,” December 18, 2000, page 26.

²¹ EchoStar currently offers four HDTV channels (including a pay-per-view channel), while DIRECTV offers two channels. In addition to a HDTV HBO channel, DIRECTV provides a combination of live and taped sports and entertainment programming and pay-per-view programming on one of its HDTV channels. (The sports and entertainment programming is broadcast for roughly 18 hours per day, while pay-per-view is available for approximately six hours per day.)

25. Another important benefit is that the merger may spur further innovations in DBS product offerings. New EchoStar's larger subscriber base would significantly increase the ability of the firm to make the investments necessary to develop advanced services, such as price-competitive high-speed Internet access, and to achieve the scale necessary to spread the fixed costs among a sufficient number of subscribers.²² These new services could include:

- *Competitive broadband services.* A larger customer base would allow New EchoStar to increase the speed of deployment and the scale of investment in satellite-based, high-speed Internet access systems that could effectively compete with cable modem and DSL services. Industry executives believe that current satellite-based, high-speed Internet offerings are not competitive with cable modem and DSL services for a variety of reasons. For example, given current spectrum allocations and technological constraints, executives stated that the number of subscribers that could be provided broadband service by either EchoStar or DIRECTV was significantly below the subscriber levels needed to achieve a price-competitive satellite-based system. Because of its broader base of DBS subscribers, however, the combined entity would be in a better position to develop a satellite-based broadband system that achieves sufficient economies of scale to compete with cable modem and DSL services. Such economies of scale could be captured by the proposed merger because satellite-based broadband service requires a "redundancy" system, in case a primary

²² The FCC has recognized that firms that can take advantage of scale economies by spreading development costs over a larger customer base are more likely to invest in infrastructure. See *Competition, Rate Regulation, and the FCC's Policies Relating to the Provision of Cable Television Services*, Report, 5 FCC Rec. 4962, 5003, at ¶ 71:

satellite fails, and doubling the number of subscribers does not require a doubling of the number of back-up satellites. The acceleration of competitive satellite-based broadband services would benefit consumers across the United States by providing an alternative to cable modem and DSL services; it would also be particularly beneficial to those in areas – such as rural America – without access to cable modem or DSL service. (See below for further discussion of the competitive impact on the high-speed Internet access market and the consumer benefits to rural areas.)

- *New services.* The elimination of spectrum redundancies will allow New EchoStar to provide a variety of services, including interactive offerings and the necessary bandwidth to provide video-on-demand using personal video recording devices. DBS providers are currently adding these options, but spectrum constraints limit their ability to expand the services to include more choices and more features. For example, as I understand it, spectrum constraints limit the “near” video-on-demand offerings of DBS providers to the top 10 or 20 movies; additional bandwidth would allow New EchoStar to significantly expand such services to include a larger library of movies and potentially “true” video-on-demand. Because digital cable has more bandwidth available and is therefore able to offer such advanced services, DBS providers must offer a similar set of services to be competitive.

26. The merger would also reduce per subscriber programming costs through the

“[I]ncreased concentration [in the cable industry] has provided economies of scale and fostered program investment.”

expansion of the subscriber base. According to executives at EchoStar and DIRECTV, programming costs account for between one-third and two-fifths of the firms' expenses of providing service, and a significant share of MVPD/programmer contracts – including many existing contracts between programmers and either EchoStar and DIRECTV – include volume discount clauses. Since the merger will increase the customer base of New EchoStar substantially, such volume discount clauses would allow the combined entity to benefit immediately from lower programming costs. The larger customer base would also allow New EchoStar to obtain future programming contracts that are more consistent with the prices paid by the largest cable operators, such as AT&T and Time Warner Cable. Neither DBS company believes it would be able to achieve such programming cost savings on its own.

27. Another obvious area of cost savings involves operational costs. A merger would produce significant savings in key business areas, such as uplink and backhaul expenditures and satellites (satellites typically cost between \$220 million and \$300 million to construct, launch, and insure).²³ One other potential long-term efficiency gain involves the standardization of set-top boxes. Such standardization could reduce manufacturing costs through volume purchasing, allow easier integration into TVs and other hardware, and facilitate the production of new technologies. Moreover, the merger would produce administrative cost savings.

²³ The costs of construction, launch, maintenance, and insurance of the “spot beam” satellites do not depend on the number of consumers receiving the signal. A combined entity, with a larger customer base in each local area, would be more willing to assume the fixed costs associated with the required satellites.

V. COMPETITIVE EFFECTS

28. The characteristics of the MVPD market and of DBS firms, in particular, make it very unlikely that this merger will result in higher prices and lower output through either coordinated behavior among the participants in the MVPD market or unilateral behavior by the merged firm.

29. A price increase as a result of coordinated interaction is unlikely following the proposed merger, in part due to the way the DBS and cable industries are structured. Both DBS firms currently set their monthly subscription and other programming fees on a national basis;²⁴ both firms' executives indicate that allowing the price to vary on a regional or local basis would be impractical.²⁵ First, customers not adequately served by cable are geographically dispersed.

²⁴ In 1992, DIRECTV entered into an agreement with the National Rural Telecommunications Cooperative (NRTC). As part of the agreement, which was substantially revised in 1994, NRTC paid more than \$100 million and, in exchange, received an exclusive right in certain regions of the country to distribute most DIRECTV programming transmitted on 27 of the 32 frequencies at the 101° slot. (According to NRTC, it holds such exclusive distribution rights for eight percent of television households.) The influx of resources for DIRECTV was important in the early 1990s because it provided a rural distribution network and, as the Chief Executive Officer of NRTC has noted, it helped to "capitalize the launch of the first DBS service in America." See, for example, B.R. Phillips, Chief Executive Officer of NRTC, Testimony Before Subcommittee on Courts and Intellectual Property, Committee of the Judiciary, United States House of Representatives, February 4, 1998. As a result of the agreement, for customers in "NRTC areas," prices for the DIRECTV programming exclusively distributed by NRTC and its affiliate entities are determined by NRTC and its affiliate entities; prices for all other programming distributed by DIRECTV (e.g., premium channels) are determined by DIRECTV on a national basis. DIRECTV and NRTC are currently engaged in a contractual dispute regarding the scope of NRTC's exclusive distribution rights. New EchoStar will commit to continued uniform and non-discriminatory pricing and service throughout the country.

²⁵ Another element of obtaining DBS service is the upfront cost to the subscriber for the equipment and installation. Local variations for such costs are more practical, and both firms, in fact, have offered temporary local promotions on equipment and installation in the past. However, these local promotions have been offered as a reaction to cable firm activities (e.g., a cable price increase) in particular local areas; according to executives of both firms, these promotions have been aimed at cable subscribers – and not in response to activity by the other DBS provider. Furthermore, several factors suggest that New EchoStar would not want to, and likely could not, raise equipment and installation prices in specific regions above their competitive levels, especially for any extended period of time. First, consumers could purchase their equipment at any location – including over the Internet – making extended regional price differentiation difficult, if not impossible, to implement. Second, EchoStar and DIRECTV executives

Thus, it would be extremely difficult to segment such customers from others. Second, pricing by region or local area would require modifications to the companies' billing and customer support systems; would require retraining of customer service representatives; would limit the companies' ability to engage in national price advertising, including advertising and marketing over the Internet; and may cause customer confusion and dissatisfaction. New EchoStar has committed to maintaining its policy of uniform national pricing for its programming.

30. To set their national prices, DBS firms examine the prices charged by the various cable systems around the country and use these cable prices as a benchmark for setting their prices. Cable firms, on the other hand, set price on a local franchise-by-franchise basis, and prices can differ depending on many factors that are specific to the market in which the franchise is located. Although New EchoStar will face competition from at least one cable firm in any particular franchise area, tacitly reaching an agreement on a coordinated price is not simply a question of reaching an agreement with one other firm. New EchoStar will set its price based on a function of what cable firms are charging in the various franchise areas. In order to elevate price, the various cable multiple system operators (MSOs), each of whom owns systems in a mix of areas, would somehow need to raise price across their range of systems. From the perspective of the cable firms, the optimal price for New EchoStar to charge would likely differ from firm to firm, making an agreement all the more difficult to reach. Thus, a coordinated price increase after the merger would require an agreement among multiple cable firms and New EchoStar, not just an agreement between two firms.

emphasize that they have reduced upfront costs in the past to attract customers, and that they would continue to offer promotions and other incentives so that New EchoStar's upfront consumer costs would be low enough to attract

31. The danger of a coordinated price increase is further attenuated by the fact that many of the major metropolitan areas have more than one non-cable, non-DBS MVPD provider.²⁶ For example, in New York City, Cablevision has argued that it “faces significant competition from various providers of SMATV service.... Terrestrially, RCN also provides service throughout much of the New York metropolitan area, and boasts of its ‘substantial growth’ in the New York market.”²⁷ In Washington, DC, Starpower – a joint venture between RCN and the local utility – is competing against Comcast, the DBS providers, and SMATV entities.²⁸ More broadly, one overbuilder (RCN) is currently providing service in seven of the ten largest metropolitan telecommunications markets.²⁹

32. Furthermore, a unilateral price increase is unlikely after this merger for two principal reasons. First, under current market conditions, I understand that in response to any price increase by either of the DBS firms, subscribers who would leave DBS for cable would substantially outnumber the subscribers who would leave one DBS firm for the other DBS firm. As noted above, executives at both EchoStar and DIRECTV indicated that the majority of subscribers to DBS service were previously cable subscribers and the majority of subscribers that

cable consumers to DBS.

²⁶ These non-cable, non-DBS providers include “overbuilders,” multi-channel multi-point distribution service (MMDS), private cable or satellite master antenna television (SMATV) systems, and incumbent local exchange carriers (ILEC) using Very High-Speed Digital Subscriber Lines (so-called VDSL).

²⁷ See Reply Comments of Cablevision Systems Corporation, *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Notice of Inquiry, CS Docket No. 01-129, (dated September 5, 2001), at 3-4.

²⁸ See Reply Comments of Comcast Corporation, *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Notice of Inquiry, CS Docket No. 01-129, (dated September 5, 2001), at 10-11.

²⁹ See “RCN Announces Third Quarter Results,” Press Release, November 7, 2001.

discontinue one DBS service choose to subscribe to cable rather than to subscribe to the other DBS service. The smaller the diversion of subscribers from one DBS firm to the other, the smaller would be the expected price increase from conceivable unilateral competitive effects after the merger.³⁰

33. Second, the merger could reduce marginal costs through a reduction in the cost of programming per additional subscriber. Even if some subscribers would be diverted from one DBS firm to the other after a price increase, a reduction in marginal costs resulting from the merger could cause the DBS firms to lower their price.³¹

34. In addition, the merger could serve to promote competition by providing New EchoStar with the bandwidth and economies of scale to match the new bundled services offered by cable companies. According to executives at both EchoStar and DIRECTV, the introduction of digital cable – which reduces or eliminates the historical quality and capacity advantages of DBS over (analog) cable – combined with the possibility of bundling high-speed Internet access, video-on-demand, and other advanced services is a competitive threat to future DBS subscriber growth.³² Given spectrum constraints, DBS firms are unable to fully match the existing and potential services offered by cable companies that can unilaterally increase their bandwidth. The danger is therefore that DBS will become less competitive with the leading cable providers. As

³⁰ Robert D. Willig, “Merger Analysis, Industrial Organization Theory and Merger Guidelines,” *Brookings Papers on Economic Activity: Microeconomics*, 1991 at 299.

³¹ Carl Shapiro, “Mergers with Differentiated Products,” Remarks before the American Bar Association, 1995.

³² For example, Goldman Sachs concluded that “We see the bundling of [cable] services as the most significant threat to DBS because of its potential not only to slow gross additions, but also to win back subscribers (seen through higher churn). Both have the obvious effect of slowing net subscriber growth for DISH Network and DIRECTV.” See Goldman Sachs, “Satellite Communications: DBS Operators,” December 18, 2000, page 1.

discussed above, New EchoStar has committed to providing more local channels, more diverse programming, and more advanced services. In addition, executives at the two DBS firms believe that the proposed merger will enable them to develop a more competitive satellite-based, high-speed Internet access option that will help New EchoStar better compete with digital cable's bundled offerings. The combined entity could therefore represent a more effective competitor to the dominant cable firms than the combined competitive impact from each DBS provider on its own.

35. Finally, satellite and uplink infrastructure require substantial investments. By contrast, the marginal costs of providing additional customers with service are relatively low. Such a cost structure would provide New EchoStar with strong incentives to spread its fixed costs among a wider subscriber base. Executives at both firms emphasize that New EchoStar's incentives are to attract new customers before digital cable becomes further entrenched, since consumers who commit to a digital cable/cable-modem bundle may perceive fewer benefits to moving to DBS (relative to analog cable customers).³³ The dynamic incentive to expand the customer base of DBS service will continue after the proposed merger.

Competitive issues in rural America

36. A number of analysts have raised concerns about the impact of an EchoStar-DIRECTV merger on rural consumers. The concern appears to arise from the perception that

cable is not available in some rural areas, and therefore that the proposed merger would create a monopoly in the rural MVPD market. Based on interviews with top executives of both firms and a review of publicly available industry data, such concerns appear to be unfounded for three reasons.

37. First, nearly every household in America with a television is passed by cable: according to the FCC, 96.6 percent of TV households are passed by cable.³⁴ After the merger, the vast majority of households would thus continue to have the benefit of direct price competition described earlier. Furthermore, those households not passed by cable are geographically diverse – that is, they do not appear to be concentrated in any specific areas. Even in the absence of its national pricing commitment, it would be very difficult for New EchoStar to price discriminate in its monthly subscription and other programming fees against households that are not passed by cable (given the geographical mixing of those with and without cable access and the other impediments to price discrimination for DBS service described above).³⁵

³³ Goldman Sachs similarly notes that “As cable operators upgrade their networks and roll out new service, cable subscribers will have less incentive to ‘churn’ to DBS.” See Goldman Sachs, “Satellite Communications: DBS Operators,” December 18, 2000, page 33.

³⁴ A debate exists about precisely the correct way to calculate the percentage of households passed by cable. See Seventh Annual Report at ¶ 18. See also U.S. Department of Commerce and U.S. Department of Agriculture, *Advanced Telecommunications in Rural America: The Challenge of Bringing Broadband Service to All Americans*, April 2000 at 19. I have cited the most commonly used statistic, which is also the principal statistic cited by the FCC in the current and past reports on competition in the market for the delivery of video programming.

³⁵ As noted in footnote 25, the cost of equipment and installation has on occasion varied across markets as a result of targeted local promotions. But, as discussed above, several factors suggest that the prices of equipment and installation would not rise above their competitive levels following the proposed merger. Furthermore, rural subscribers should be able to take advantage of retail subsidies that are made through geographically diverse retail chains or over the Internet. In other words, rural customers would likely be no worse off following the merger, and may benefit from more intense competition between New EchoStar and cable companies; rural customers would also benefit from the above-mentioned expansions of DBS programming and services that would otherwise not be available in the absence of the merger.

38. Second, many rural consumers not passed by cable would still enjoy some choice of MVPD providers. For example, C-Band Satellite or Home Satellite Dish (HSD) has nearly one million subscribers.³⁶ New C-Band digital equipment continues to be developed and made available to customers in order to access and view digital programming. Companies like Motorola have developed C-Band products to compete directly with DBS and allow subscribers to receive digital signals.³⁷

39. Third, New EchoStar has committed to maintaining its national pricing plan. The implication of such a commitment is that MVPD prices for rural consumers will be driven by competition in urban areas. As noted above, executives at both EchoStar and DIRECTV view a national pricing strategy as providing cost savings and advertising benefits, and contributing to higher levels of customer satisfaction. This history suggests, and New EchoStar's stated commitment underscores, that national pricing would be perpetuated.

40. In addition, as noted above, with national pricing, monthly service prices are not likely to rise as a result of the merger. According to executives at EchoStar and DIRECTV, these prices are generally driven by the prices set by the major cable MSOs throughout the country, which often face competition from overbuilders and other MVPD providers. Such

³⁶ See Sky Research, Volume 8, Number 11, November 2001, page 3.

³⁷ It is important to note that C-Band has high up-front costs, with dish costs averaging \$2,000. However, more than a hundred broadcast channels are available for free, and a package of two movie channels and 50 basic services can be purchased for as low as \$30 to \$35 per month. See Orbit magazine's C-band Frequently Asked Questions (FAQ) at <http://www.orbitmagazine.com/orbfaqs.htm>. Motorola's 4DTV offers nearly 300 free channels. For \$30 per month, 4DTV offers 59 subscription channels and 22 movie channels, in addition to the free channels. See http://www.4dtv.com/4DTV/what_4dtv.html.

pricing pressure would not change after a merger of EchoStar and DIRECTV.

41. Thus, it is more likely that the merger would be of distinct benefit to rural TV households than that it would diminish competition's benefits available to them. First, many of the new programming services that could be potentially created from spectrum freed up by the merger would benefit all customers, including rural customers. Second, as emphasized above, the proposed merger will allow the combined entity to have the subscriber base and the spectrum needed to offer a more price-competitive, satellite-based broadband service to rural consumers. For many such rural consumers, satellite broadband is the only feasible means of obtaining high-speed access to the Internet. In evaluating the impact of the proposed merger on rural consumers, it is therefore significant to consider the benefits of expanded broadband delivery.

VI. VERTICAL INTEGRATION

42. In the past, the FCC has raised the concern that vertical integration between video programmers and MVPD providers may “deter competitive entry in the video marketplace and/or limit the diversity of programming.”³⁸ At the same time, the FCC has instituted program access rules, with the stated purpose of preventing vertically integrated MVPDs from treating non-integrated MVPD providers in a discriminatory fashion to the detriment of competition in the MVPD market.³⁹ Put simply, the concern is that an integrated entity (a) would not want to carry programming that competes with programming it owns or (b) would not make available

³⁸ See Seventh Annual Report at ¶ 172.

³⁹ *Id.* at ¶ 178.

programming it owns to competing MVPD providers on reasonable commercial terms. This merger, however, clearly does not create or exacerbate any concerns the FCC might have about vertical integration because EchoStar and DIRECTV do not have any significant vertical relationships with programmers.⁴⁰

43. If anything, this merger may increase competition among program providers. The FCC has noted that many programming services have been planned, but have not been able to launch. One factor that has limited the launch of these new networks is the lack of channel capacity, particularly among analog cable systems.⁴¹ The merger between EchoStar and DIRECTV, as stated above, will remove duplication among the two services and thereby provide bandwidth to be used as vehicles to launch new programming services.⁴² In addition, the approximately 15 million subscribers of the combined entity should provide an attractive platform for launching new programs, providing an interested programmer with a large percentage of the subscribers it would need to create a viable network.⁴³ New EchoStar would be unaffiliated with any programming interests, and therefore, would not face any disincentives to carry new programming that its subscribers would value. Therefore, this merger could result in an increase in the programming offerings available to consumers.

⁴⁰ News Corporation has an ownership interest in EchoStar that it has been selling off over time. It currently has less than a five-percent interest in EchoStar.

⁴¹ See Seventh Annual Report at ¶ 176.

⁴² For example, the President of Moviewatch, a network that will be launched next year, recently stated that one advantage of an EchoStar and DIRECTV merger is that “additional spectrum... gives us opportunities to place networks.” See “New Nets Squeeze Into Consolidated Market,” *Multichannel News*, November 26, 2001, page 60.

⁴³ This estimate of the combined subscriber base of New EchoStar excludes the subscribers of NRTC and its affiliate entities who receive DIRECTV programming.

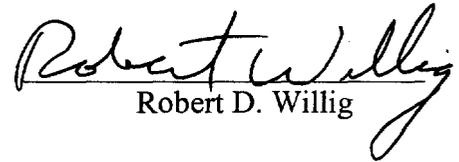
VII. CONCLUSION

44. The proposed merger of EchoStar and DIRECTV offers the possibility of substantial efficiency improvements, especially in radio spectrum use, which would directly benefit DBS consumers by providing an expanded array of services (e.g., the provision of local broadcast programming to more metropolitan areas, more High-Definition Television channels, more interactive services, and more specialized programming), and also benefit a broader number of consumers by increasing competition with the cable industry. These efficiencies do not appear to be available without the merger.

45. Furthermore, the nature of MVPD market competition makes it unlikely that a merger of EchoStar and DIRECTV would result in higher prices and lower output through either coordinated behavior among the participants in the MVPD market or unilateral behavior by the merged firm. Indeed, the proposed merger could serve to promote competition by providing New EchoStar with the bandwidth and economies of scale to match the new bundled services offered by cable companies. The proposed merger of EchoStar and DIRECTV is thus in the public interest.

VERIFICATION

I, Robert D. Willig, declare under penalty of perjury that the foregoing declaration is true and correct. Executed on November 30, 2001.


Robert D. Willig

Joint Engineering Statement in Support of Transfer of Control Application

This joint engineering statement is being submitted to the Federal Communications ("FCC") by EchoStar Communications Corporation ("ECC") and Hughes Electronics Corporation ("Hughes") in support of their Consolidated Application for Authority to Transfer Control of various FCC licenses. This statement will address some of the more significant efficiencies that will be achieved by the proposed merger of ECC and Hughes.

Transition Plans. ECC and Hughes have determined that there will be substantial efficiencies and synergies (including expense savings and revenue enhancements) as a result of the merger of their two businesses. Many of these benefits will occur almost immediately, while others will take some period of time to be fully achieved. ECC and Hughes have developed a process for determining how best to transition their respective businesses upon completion of the merger. The parties anticipate that many of these transition decisions will have been made by the time the merger closes within the constraints of applicable law, while many other decisions will be made upon consummation of the merger.

Explanation of Transition Process. A joint ECC/Hughes team of key executives and employees has been formed to address the most important transition issues associated with the merger of the businesses of both companies. This team will be led by Charles W. Ergen, the Chairman and Chief Executive Officer of ECC and the person designated to become the Chairman and CEO of the combined company ("New EchoStar"). Other members of this transition team include Michael T. Dugan, President and Chief Operating Officer of ECC, Eddy Hartenstein, Chairman and CEO of DIRECTV and Jack A. Shaw, President and CEO of Hughes. All decisions will be made in the best interests of the combined companies and their subscribers. Some of the

more important operational issues that will need to be addressed include: which set top box platform to use, how best to transition customers to a common set top box platform, the repositioning of existing and planned satellite resources that takes the maximum advantage of the spectrum efficiencies gained by the merger, and the types of programming to be added to the current mix of local, national and high definition programming.

Set Top Box Transition. One of the most important issues that will have to be addressed is which set top box platform to employ on a going forward basis. Each company has chosen different methods for meeting the anticipated needs of its respective customers, including different conditional access systems, transport streams and descrambling structures, which has resulted in the development of set top boxes that are not compatible with one another. ECC has chosen to deploy an MPEG-2, DVB compatible digital architecture that allows for software upgrades via satellite and enhanced addressable security features to minimize signal piracy. ECC's entire family of receivers and most of its outdoor units currently support multiple satellites in multiple orbital locations. While ECC is the principal manufacturer of its set top boxes, JVC and others also produce consumer equipment compatible with ECC's system architecture. ECC's latest models include hard drives that allow for personal video recording (PVR) of up to 35 hours of programming, as well as a High Definition (HDTV) receiver that offers state-of-the-art picture quality.

DIRECTV's digital technology to deliver its programming differs from ECC's in that DIRECTV's receivers use a slightly different error correction method, slightly different compression techniques, and a substantially different conditional access system for protection from signal theft. DIRECTV also employs an MPEG-2 based digital architecture in its set top boxes, but the transport format differs from ECC's, as does its signal encryption scheme. The signal format

and receiver technology used by either company can provide similar, video quality and consumer oriented features. In many receiver models, the primary integrated circuits used are identical. The receiver software provides the unique characteristics associated with either service.

In order to obtain the most significant consumer benefits from the merger, it will be necessary to transition to a common set top box platform. One platform will enable the combined company to achieve substantial manufacturing efficiencies, lowering the overall research and development costs as well as the per unit cost of building receivers for a larger subscriber base. A common set top box platform will also allow each subscriber to receive the maximum amount of programming that a combined fleet of satellites and ground stations can offer. Also, a common set top box will place the combined company on a more level playing field with cable, which has for some time had common technology and shared research and development costs for their set top boxes.

The transition to a common set top box platform will begin almost immediately after the merger. Currently, ECC and DIRECTV together serve approximately 15 million subscribers utilizing separate fleets of DBS satellites located in different orbital positions.¹ The amount of time it will take to complete such a transition is dependent upon the number of set top boxes that may need to be exchanged. Of course, this exchange program would be done as seamlessly as possible at no cost to existing subscribers. During this transition period, satellite signals will be simulcast or simulcrypted, so that subscribers owning either set top box platform can receive their existing programming.

¹ This subscriber number is exclusive of those subscribers who receive DIRECTV programming directly from NRTC and its affiliate entities.

Satellite Fleet Transition. In addition to developing a plan for obtaining a common set top box platform, it will be necessary to develop a complementary plan for transitioning the existing and planned satellite fleets of each company. Today, ECC has six DBS satellites located at four orbital locations. (See Exhibit 1 attached hereto.) From two of these locations (119° W.L. and 110° W.L.) ECC can reach virtually all of the Continental United States (CONUS) as well as Hawaii and portions of Alaska. Due largely to the fact that its first two satellites were assigned to 119° W.L., most of ECC's national programming and approximately 10 percent of its local broadcast programming originate from that location, where it now has two satellites (EchoStar 4 and 6) operating on 21 DBS frequencies.² (One of these satellites - EchoStar 4 -- only has limited operational capacity due to a deployment failure and other in-orbit anomalies.) ECC's only other CONUS location is at 110° W.L. where it currently has one satellite (EchoStar 5) providing both national programming and most of its local broadcast programming over 29 DBS frequencies. Two other DBS satellites (EchoStar 1 and 3) provide several types of programming, including HDTV, niche and international programming from the non-CONUS 61.5° W.L. and 148 ° W.L. orbital locations.³ (EchoStar 2 is in the process of relocating to the 148° W.L. orbital location to augment service at that slot.) In the near future, ECC will launch its first spot-beam satellite (EchoStar 7) to the 119° W.L. orbital slot. Later next year ECC intends to launch its second spot-beam satellite (EchoStar 8) to the 110° W.L. orbital slot.

ECC's satellites operate in a combination of low power and/or high power modes. Generally, the higher the power, the stronger the received signal, the less need for error correction

² Throughout this Engineering Statement, reference will be made to DBS frequencies or DBS transponders. The FCC has allocated 500 MHz of downlink spectrum for DBS service at 12.2 – 12.7 GHz. This spectrum has been further channelized into 32 frequencies/transponders.

³ The 61.5° W.L. and 148° W.L. orbital locations can reach varying parts of the CONUS with a quality DBS signal.

and/or the more video and audio channels that can be compressed into each DBS transponder. EchoStar 1 and 2 are only capable of operating in a low power mode utilizing up to 16 CONUS transponders. EchoStar 3, 4, 5 and 6 were each designed to operate with up to 32 low power CONUS transponders or up to 16 high power CONUS transponders or a combination of both, while EchoStar 7 and 8 were each designed to operate with 16 high power CONUS transponders and, by operating on five other frequencies re-used 5 times, 25 spot-beam transponders.

While one antenna dish can "see" both the 110° W.L. and 119° W.L. orbital locations, multiple dishes are required to receive programming from the 110°/119° W.L. and either of the 61.5° or 148° W.L. non-CONUS slots. Approximately 80 percent of ECC's subscribers currently have antenna dishes capable of viewing programming from both the 110° and 119° W.L. orbital locations. Approximately five percent of ECC's subscribers have installed multiple antenna dishes for viewing the programming from the non-CONUS orbital locations.

DIRECTV currently has five operational DBS satellites located at three CONUS locations - 101°, 110° and 119° W.L. (See Exhibit 1 attached hereto.) Most of its national and local programming currently originates from the three satellites (DIRECTV 1R, 2 and 3) located at 101° W.L. and operating over its 32 assigned DBS frequencies. Recently, DIRECTV's first spot-beam satellite (DIRECTV 4S) was launched into orbit and soon will be located at 101° W.L. to provide primarily additional local broadcast programming. Additional programming is originated from DIRECTV 6, which is located at 119° W.L. DIRECTV is assigned 11 DBS frequencies at that location. Another satellite (DIRECTV 5) is planned to be launched during the first quarter of 2002 and will be located at 119° W.L. in order to replace DIRECTV 6, which is operating at reduced capacity due to power subsystem issues. DIRECTV also has one satellite (DIRECTV 1) operating on 3 assigned DBS frequencies at 110° W.L. DIRECTV 1 is currently being used for

local broadcast service only. DIRECTV currently has on order another spot-beam satellite that is planned to be in service by the end of the year 2003.

DIRECTV's satellites also have both high power and low power DBS transponders. DIRECTV 1, 2 and 3 can operate with a maximum of 8 high power CONUS transponders or 16 low power CONUS transponders. DIRECTV 1R has 16 high power CONUS frequencies, whereas DIRECTV 5 (not yet launched) and DIRECTV 6 were each designed to operate with a maximum of 16 high power or 32 low power CONUS transponders (although DIRECTV 6 is now limited to 11 low power DBS transponders due to power subsystems issues). DIRECTV's newest spot beam satellite (DIRECTV 4S) is capable of operating on up to 10 high power CONUS transponders as well as 44 spot beam transponders (by re-using 6 frequencies an average of 7.33 times). Most DIRECTV subscribers currently have a single antenna dish that can view only the satellites located at 101° W.L. A small percentage of its subscriber base have antenna dishes that can view programming from DIRECTV's 101° W.L. and 119° W.L. satellites, and an even smaller subscriber base can view programming from the 110° W.L. orbital slot.

There are several possible scenarios for redeploying the combined satellite fleets post merger that would significantly improve the utilization of the DBS spectrum and satellite resources. Under one possible scenario, most national programming could be placed on the 32 DBS frequencies at 110° W.L. with most Western U.S. local and specialty programming moving to 119° W.L. and most Eastern U.S. local and specialty programming moving to 101° W.L. Under another possible scenario, most national programming could be placed on the 32 DBS frequencies at 101° W.L. with corresponding local and specialty programming located on satellites at other CONUS slots. With the existing satellite resources of both companies (assuming spot beam satellites are successfully placed in service), New EchoStar could provide from the three CONUS

locations approximately 540 national standard definition (SDTV) channels (assuming a 10:1 compression ratio – i.e., each DBS transponder compressing 10 SDTV channels) and approximately 940 local broadcast channels which could be used to provide local programming service in up to 100 metropolitan areas throughout the United States, including Alaska and Hawaii.

Such a combined fleet of satellites would also eliminate the obvious inefficiencies associated with splitting up the 32 DBS frequencies at the 110° W.L. and 119° W.L. orbital slots between the two companies. Today, in order for DIRECTV to provide service from its three assigned DBS frequencies at 110° W.L. it must place one of its satellites at that location and equip its subscribers that want to receive its programming with a special three-feed antenna. Even after its spot beam satellite (DIRECTV 4S) becomes operational, DIRECTV will use at least two of its CONUS frequencies at 101° W.L. for the retransmission of local broadcast programming, leaving approximately 240 SDTV video channels available for national programming (again, assuming 10:1 compression ratios). Conversely, ECC is currently limited to providing approximately 210 national SDTV video channels from its 21 assigned DBS frequencies at 119° W.L., assuming no local broadcast channel feeds. Without spot beam satellites, this figure would be reduced on a one-for-one basis as every local station is added, and would be reduced to a maximum of approximately 160 national SDTV video channels when EchoStar 7 becomes operational (*i.e.*, ECC would be able to retransmit up to 250 local SDTV stations using five CONUS frequencies, but in so doing reduce the number of SDTV channels available for national programming by about 50).

Ground Station Transition. Today, ECC operates two ground station complexes, one in Cheyenne, Wyoming and the other in Gilbert, Arizona, primarily to backhaul national and local programming and to uplink that programming to its fleet of satellites. These facilities also provide primary and backup telemetry, tracking and command (TT&C) for its in-orbit satellites.