

the various types of CMRS licensed by the Commission³⁷ from the perspective of analyzing the extent of competition in the marketplace. As in the case of audio services, where the market can be considered to be comprised of terrestrial radio, audio cassettes, compact discs, on-line computer services such as the Internet, cable-delivered audio, and SDARS, the Commission finds that mobile radio is experiencing "service convergence" where service distinctions are blurred.³⁸ The Commission disputes the narrow view of the Department of Justice with regard to relevant product markets and states that "functionality" should be a guiding criteria in evaluating competition.³⁹

Furthermore, just as it did in the case of CMRS, the Commission should apply to this proceeding its goals of providing consumer choice and "good value [and] a reasonable price for the level of quality."⁴⁰ Moreover, as it has with other new telecommunications services, the Commission should continue its reliance on marketplace forces to address service pricing, number of suppliers and numbers of channels in each system.⁴¹ The

332(c)(1).

³⁷ Among the services licensed as CMRS are cellular radio, paging, specialized mobile radio service, personal communications service and private radio services.

³⁸ CMRS Competition Report, *supra*, note 39. ¶ 59 (citing the Commission's Third CMRS Report and Order (1995)).

³⁹ Id. ¶ 61.

⁴⁰ Id.

⁴¹ The Commission, in its Notice, asks for comment on the minimum number of channels necessary to provide effective and economically viable nationwide SDARS service and on how much spectrum is necessary to support this minimum number of channels. See Notice ¶ 31. As discussed in the section on technical rules in Primosphere's comments, any information provided to the Commission concerning numbers of channels and channels per MHz of spectrum could require revision depending on rapidly-evolving technology. As for the competitive aspects inherent in such questions, again, Primosphere believes that the marketplace is a better determinant of the number of channels required by consumers as well as those "necessary" for

essential role of the Commission is to utilize the spectrum allocation and licensing process to make new services available to the public in an expeditious manner. The Commission has already completed the spectrum allocation process in this proceeding. Now it must proceed forthwith to adopt licensing and service rules which will make SDARS available to the public as rapidly as possible.⁴²

The marketplace already has reduced the number of SDARS applicants to four. Each of these applicants has stated that it can provide service to the public using one-fourth of the available spectrum.⁴³ Because four applicants stand ready to begin providing service, there is already a sufficient pool of potential providers to ensure competition within the service. Even if one of the four applicants drops out before it can begin service, three applicants will remain to ensure that sufficient intra-service competition exists.

V. THERE IS NO EVIDENCE THAT SDARS WILL CAUSE SIGNIFICANT ECONOMIC HARM TO TERRESTRIAL RADIO BROADCASTERS.

Primosphere recognizes that the Commission must ensure that the public interest is served through the provision of services to the public over a variety of media, and must balance the concerns of numerous interests in fulfilling this mission. With the introduction of each new broadcasting service, the Commission has weighed the concerns of incumbent

an economically viable system.

⁴² Surely, with regard to SDARS, the Commission does not want to face the criticism it has received concerning the delay in allocating spectrum and developing licensing and service rules for cellular radio service. The cellular radio proceeding took over 10 years, and since the inception of cellular service, approximately 25 million Americans have subscribed to the service. Revenues for cellular service totaled over \$14 billion in 1994. Many more billions have been added to the U.S. economy for the sale of handsets and for cellular infrastructure. See CMRS Competition Report ¶ 13.

⁴³ See Joint Comments of the DARS Applicants at 1-2.

broadcasters that their service will be harmed by new and potentially overwhelming competitors against the desire to embrace new technologies and the benefits they can bring. The Commission has developed criteria over the years to address these competing concerns and has applied these criteria consistently in licensing new services. Utilizing such criteria in the instant case leads to the inevitable conclusion that the public interest will best be served by the prompt implementation of SDARS and the adoption of minimal technical and service rules.

A. Terrestrial Broadcasters Have Not Demonstrated That SDARS Will Cause Significant Economic Harm.

In formulating the licensing rules for a new service, the Commission has a long-standing policy of considering the economic effect of the new service on existing licensees "only if there is strong evidence that a significant net reduction in service to the public will result."⁴⁴ The Commission has recognized that it cannot delay or hamstring a new service "solely because its entry will reduce the revenues or profits of existing licensees."⁴⁵ The burden lies with those opposing the introduction of a new service to present credible evidence that significant economic harm to existing broadcasters will result from introduction of the new service and that this harm will result in a net loss in service to the public that will not be offset by programming offered through the new service.⁴⁶ The opponents of SDARS have failed to present any credible evidence indicating such potential for harm.

⁴⁴ Inquiry Into the Development of Regulatory Policy in Regard to Direct Broadcast Satellites for the Period Following the 1983 Regional Administrative Radio Conference, 90 FCC 2d 676, (1982) ("DBS Authorization Order") (citing F.C.C. v. Sanders Bros. Radio Station, 309 U.S. 470 (1940); Carrol Broadcasting Co. v. F.C.C., 258 F.2d 440 (D.C. Cir. 1958)).

⁴⁵ DBS Authorization Order ¶ 38.

⁴⁶ Id. ¶ 28.

Previous studies and pleadings submitted by the opponents of SDARS have not provided economic data supporting the assertion that terrestrial radio will be harmed by SDARS. Instead, these parties make general allegations that SDARS will divert listeners and advertising dollars away from terrestrial radio, causing the ultimate demise of terrestrial radio and the valuable local public services it provides. Such unsupported assertions cannot provide the basis for delaying further or blocking the introduction of this new service; nor should these assertions provide the basis for imposing onerous regulatory requirements on SDARS.

In contrast, the four SDARS applicants have presented persuasive evidence that no significant economic harm will result from the introduction of SDARS and that numerous benefits will inure to the public and radio broadcasting in general from its introduction. The MTA/EMCI Study provides strong evidence that SDARS will not harm local broadcasting.

The Commission has already addressed issues quite similar to the ones at hand in its order allocating spectrum to DBS. In that proceeding, opponents of DBS argued that the new service would devastate local broadcasting and severely impair the public services provided by terrestrial broadcasters.⁴⁷ But as the Commission recognized in that proceeding, and as time has proven, the predictions of the opponents of DBS have not materialized. Local television broadcasting has continued to grow in the face of DBS and other competition. It is more likely than not that the experience of terrestrial radio will be quite similar to the experience of broadcast television, and that terrestrial radio will not experience significant adverse consequences as a result of the introduction of SDARS. This

⁴⁷ Id. ¶ 32 (comments of the National Association of Broadcasters and the Corporation for Public Broadcasting).

conclusion is strengthened by the fact that radio has much less of a national focus than does television. Thus radio stands to lose less of its aggregate revenue to SDARS since only a small portion of terrestrial radio revenue comes from national advertising — which is the only source of revenue for advertiser-supported SDARS systems such as Primosphere's.

B. The Economic Impact on Terrestrial Broadcasters Must be Considered Within the Context of the Impact from All Additional Competition.

Other non-radio audio media also compete directly with terrestrial broadcasters. Compact discs and cassette tapes compete with radio as sources for audio delivery. Other digital audio services delivered over cable television systems or as an ancillary offering of DBS service also provide direct competition to terrestrial radio. Now the Internet is providing audio competition. When compared to the competition to terrestrial radio offered by these other media, the threat posed by SDARS is relatively small. There is no credible evidence that SDARS in and of itself will have an effect on terrestrial radio that warrants further delay in the implementation of the service. In fact, the MTA/EMCI study shows that SDARS will have only a minimal impact on terrestrial radio.

C. SDARS Will Cause No Immediate or Short-Term Economic Impact on Terrestrial Radio.

Any assessment of the threat posed by SDARS to terrestrial radio must consider the long delay before SDARS can enter the market. Because of the long time required for satellite construction, testing and launch, Primosphere does not expect to be in a position to initiate service until four years from the date of Commission authorization at the earliest.⁴⁸

⁴⁸ Statement of Clifford N. Burnstein at 2. This statement projects a start date of 2003 for SDARS based on the experience of DBS.

This gives terrestrial broadcasters time to prepare for any competition they may face from SDARS and to begin their own transition to a digital system.

Further, the ability of SDARS to compete with terrestrial radio will be seriously limited by the fact that SDARS listeners will have to purchase new receivers. SDARS signals will not be receivable over any radio currently on the market, including the more than 150 million radios in vehicles. SDARS receivers likely will be introduced with integrated digital tuners capable of receiving both terrestrial and satellite-delivered digital signals, thereby enabling a cost-effective introduction of digital technology, benefitting terrestrial radio stations (as well as SDARS operators and consumers). It will take years for manufacturers to produce — and for consumers to purchase — the number of receivers that would be required to have any impact on terrestrial radio. And even once these receivers are purchased, people still have to choose to listen to the SDARS services instead of the terrestrial radios which they are accustomed to hearing.

The main target market for SDARS is listeners who do not currently have adequate radio service or who do not listen to radio because it does not serve their needs. Because it will compete only on a national level, SDARS will pose only a limited competitive threat to terrestrial radio, which now derives less than 20 percent of its revenues from national advertising.⁴⁹ In smaller markets, the share of station revenue from national advertising is as low as 12 percent.⁵⁰ The inability of SDARS to serve local needs will act as a natural competitive barrier between SDARS and terrestrial radio. Listeners will continue to support

⁴⁹ Id. at 3.

⁵⁰ Id. Mr. Burnstein's statement provides a detailed analysis of current terrestrial radio market trends as well as the potential impact of SDARS on terrestrial radio.

local radio because it will remain the only form of radio that can provide local news and sports, weather, traffic reports and community information. It is also the incumbent service, enjoying familiarity, listener loyalty and easy accessibility by widely available, inexpensive receivers. For these reasons, most people will continue to listen to local radio.

D. The Economic Data Submitted by Primosphere and AMRC Shows That SDARS Will Have a Trivial Long-Term Economic Impact on Terrestrial Radio.

Conscious of the concerns about the potential impact of SDARS on terrestrial radio — particularly stations serving smaller markets — the MTA/EMCI study takes an extraordinarily pessimistic, worst-case approach. The study assumes that SDARS will be very successful and will achieve remarkable market penetration in its first years. Several other assumptions are "worst case analysis" vis-a-vis local broadcasters:

- The study assumes that all SDARS systems will derive their revenue from advertising (the main concern of terrestrial broadcasters). In reality, Primosphere is the only SDARS applicant that has proposed an entirely advertiser-supported system.
- The study assumes that terrestrial radio will remain analog. It does not take into account the increased competitive threat terrestrial radio would pose to SDARS when terrestrial radio broadcasters convert to a digital standard as is planned.
- The study assumes that eight years after the introduction of SDARS, SDARS receiver owners will tune to SDARS up to 30 percent of the time. In contrast, after 30 years, non-broadcast cable TV channels have managed to achieve only a 30 percent share of viewers while traditional off-air broadcasters have retained a 70 percent share.⁵¹

⁵¹ MTA/EMCI Study at 4.

Even with these extremely optimistic projections for SDARS, the study concludes that after eight years, net revenues for terrestrial FM radio in the smallest markets will be reduced by approximately one-half of one percent.⁵² The MTA/EMCI Study confirms the prior assertions of the SDARS applicants that SDARS will have only a minimal impact on terrestrial radio. Such a minute impact is certainly no reason to stifle the development of SDARS, particularly when compared with the multitude of benefits SDARS will bring to the American public.

Primosphere recognizes that broadcasters will not be happy even with this small reduction in revenue. But it is the duty of the Commission to promote the well-being of the American public as a whole, not just the economic well-being of every terrestrial broadcaster. As the MTA/EMCI Study shows, a huge market will remain for terrestrial radio advertising, and it will continue to grow. It is preposterous to assert that local radio will disappear, leaving a multi-billion dollar local and national advertising market totally unserved. That simply will not happen. Terrestrial radio will continue to thrive. Although Primosphere will garner revenues from national advertising, Primosphere believes that little, if any, of the revenues it obtains from national advertisers otherwise would go to local radio stations. Any such reduction in the local broadcasters' revenues from national advertisers is more than worthwhile given the tremendous benefits SDARS will bring to the American public. There will be no net reduction in service to the public as a result of the introduction of SDARS. Quite to the contrary, there will be a significant improvement in service to the public, particularly to rural Americans.

⁵² MTA/EMCI Study at Table 1.3.

The introduction of SDARS will benefit the public by making more radio available to more Americans. The ability to provide diverse programming will help ensure the preservation of America's musical heritage by broadcasting rare and unheard formats such as roots rock, jazz, blues, classic soul, folk and international music. The national broadcasts of SDARS will stimulate local radio broadcasters to provide more local programming.

Broadcasters have continued to argue that SDARS should not be licensed at all, or if licensed, only under the most restrictive terms, based on their assertion that SDARS will decrease their revenues and profits. As the MTA/EMCI study shows, SDARS will have a minute impact on terrestrial radio stations. Terrestrial broadcasters cannot possibly claim that they should be protected from any potential impact from new services. If the Commission had let its policies be guided by this type of protectionist argument over the years, we would not now enjoy FM radio or television or cable or DBS.

E. The Assertion That Protecting Terrestrial Radio Will Preserve Localism is a Myth.

The Commission questions in its Notice whether protection of terrestrial broadcasting is needed to preserve the local character of terrestrial radio. In fact, many local radio stations already do nothing more than re-transmit programming they receive via satellite.⁵³ Yet, based on data compiled in September 1994, 37 percent of all non-metro stations are not programmed locally during more than 80 percent of their broadcast days.⁵⁴ Furthermore,

⁵³ See "Rescuing Small Market Radio," in Radio Ink, December 12, 1994 (included as Exhibit 9 to Appendix B hereto) ("Small markets have become addicted to 24-hour, satellite-delivered programming. They have replaced local voice and community involvement with factoids from USA Today and generic voices that don't even tell us the time.").

⁵⁴ Statement of Clifford N. Burnstein at 9. These stations either broadcast signals received from satellites or rebroadcast the signals of other stations.

the decrease in the total number of employees at commercial radio stations from 57,715 in 1985, to 46,031 in 1994,⁵⁵ coupled with the commensurate increase in the total number of commercial radio stations from 9,871 in 1985 to 11,558 in 1994,⁵⁶ provides additional indirect evidence that local stations are doing less to meet the needs of local listeners.

Broadcasters are in the awkward position of claiming that SDARS will hurt the public interest, particularly in smaller, rural markets, while at the same time numerous rural public interest groups have filed comments supporting SDARS. Four SDARS applicants are willing to invest hundreds of millions of dollars in this service because they believe there is a demand for it. The focus of SDARS is on rural and underserved markets because sufficient numbers of people in these areas want the type of programming SDARS can deliver. If the Commission were to believe the technophobic hysteria of terrestrial broadcasters, it would, in effect, be telling these rural and underserved listeners that broadcasters and the Commission know better what is in the public interest than the public does. Rural Americans want SDARS.

VI. THE COMMISSION SHOULD IMPOSE THE MINIMUM SERVICE RULES NECESSARY TO PROMOTE THE PUBLIC INTEREST.

Primosphere urges the Commission to adopt minimal service rules for SDARS, and allow market forces to determine which form of service is most appropriate. Such an approach was adopted in the DBS Allocation Order⁵⁷ and is equally applicable to SDARS.

⁵⁵ Equal Employment Opportunity Trend Report, Prepared for FCC Industry EEO Unit, May 9, 1990 and October 8, 1994.

⁵⁶ Broadcasting and Cable Yearbook 1995 at B-655.

⁵⁷ DBS Authorization Order at 78-86.

In choosing to impose minimal regulatory restrictions on DBS systems, the Commission explained that this approach would "allow operators the flexibility to experiment with service offerings to find those that the public needs and wants, and to experiment with technical and organizational characteristics."⁵⁸ The Commission feared that if restrictions were adopted "prematurely and without sufficient information," this might "reduce the desirability of the service to the public and increase the DBS operators' costs and risks."⁵⁹ These same considerations are equally applicable to SDARS and provide ample justification for the adoption of minimal regulations for SDARS.

As past experience with MMDS and DBS has shown, it is very difficult to predict accurately how technology will develop and what service rules are most appropriate for the technology.⁶⁰ Because the development of SDARS technology is still at an early stage and is developing on an ongoing basis, it would be prudent for the Commission to refrain from prescribing detailed service or operational requirements at this time. Such limitations will

⁵⁸ Id. ¶ 81.

⁵⁹ Id.

⁶⁰ For instance, when the Multi-channel Multipoint Distribution Service was introduced as a low-cost option to cable, it was thought that four channels would be sufficient to allow MMDS service providers to compete with cable TV. The drastic increase in the number of channels carried by cable systems, however, has proven the planned MMDS structure unworkable, forcing many entities to combine channel blocks in order to provide a viable service. This has caused lengthy delays in this service. Similarly, at its inception, DBS was conceived as carrying only 11-27 channels. The Commission recognized the difficulty of predicting technological developments and allowed operators the flexibility to adapt with technological changes. Applications of Continental Satellite Corp., et al., supra note 35, ¶¶ 64-70. This flexible regulatory approach, combined with advances in compression now allow service providers to offer over 150 channels. Memorandum Opinion & Order on Reconsideration of The First Report & Order, Implementation, of the Cable Television Consumer Protection Act and Competition, Development of Competition and Diversity in Video Programming Distribution and Carriage, 10 FCC Rcd 3105 (1994) ¶ 8.

only serve to stifle innovation and could result in a denial of substantial benefits to the public.

A. SDARS is Not a Common Carrier Service and SDARS Licensees Should Be Free to Operate on a Subscription or Non-Subscription Basis.

Primosphere supports the Commission's tentative conclusions in the Notice that:

(1) SDARS systems are not common carriers; and (2) SDARS operators should be permitted to determine whether to operate on a subscription basis or as a free, over-the-air service.⁶¹

Primosphere, consistent with its application, intends to provide unscrambled, free, over-the-air service, with its revenues derived from advertising.

The Commission, consistent with its approach for DBS, should not mandate a regulatory mode for SDARS. Only the licensees, over time, will be able to determine, through the operation of the marketplace, the wisdom of operating as subscription services, broadcasting services, or a mix of both. Moreover, there is no basis for imposing common carriage obligations on SDARS providers, because they will be providing audio programming which in many cases they will be creating or compiling themselves. Based on the NARUC I criteria, SDARS systems could not be considered to be "holding themselves out indifferently to serve the public."⁶² Nor, as the Commission states, is there any public interest rationale (such as exclusive use of the spectrum by one supplier) which would call for common carrier regulation of SDARS.

To promote some of the key public interest benefits of SDARS, SDARS systems must be permitted to provide unscrambled, non-subscription service if they choose. Only through

⁶¹ Notice ¶¶ 23-26.

⁶² Notice ¶ 23 (citations omitted).

free, over-the-air service can SDARS be made widely available and provide increased audio programming to millions of rural Americans as well as to the millions of Americans whose programming needs are not met by terrestrial over-the-air radio. The Commission must reject the proposal of the NAB that SDARS be authorized on a "subscription only" basis.⁶³ This proposal is part and parcel of the NAB's protectionist attempt to forestall the development and implementation of a widely available SDARS. The NAB has provided no legal or policy basis for its proposal. The suggestion that consumers must pay for the programming they are now denied by terrestrial radio is elitist. In Primosphere's view, SDARS will meet a widespread need for radio programming and the consumer should have a choice as to whether to obtain such programming on an over-the-air or subscription basis, or both.

The Commission need only recall the controversy which surrounded the scrambling of satellite transmissions by the television networks to understand that Americans can and should be afforded a choice of receiving an over-the-air service or paying for a subscription service that may have other attributes such as absence of advertising.⁶⁴ In the case of television receive-only earth stations, millions of Americans have invested in C-band receivers, through which they can receive unscrambled programming. These consumers also have the choice of obtaining other services through payment of monthly fees and the purchase of descrambling equipment. The Commission has not mandated that either satellite feeds of terrestrial broadcasters or provision of DBS should be scrambled or unscrambled.

⁶³ See Letter to FCC Chairman Reed Hundt, from President and CEO of NAB, dated May 3, 1995.

⁶⁴ See "Scrambling of Signals Today Thwarts TV Dish Antennas," New York Times, January 15, 1986.

And the co-existence of cable TV, over-the-air broadcasting and both scrambled and unscrambled DBS, demonstrates that there is a place for both broadcasting and subscription video services. The same reasoning applies for audio programming.

No public policy argument has been advanced, nor demonstration of harm to local broadcasters provided by the NAB, which would justify a Commission requirement that all SDARS systems operate as subscription services. The Commission should follow the path it has utilized with regard to DBS⁶⁵ and allow the service providers and the marketplace to determine the mix of advertiser-supported and subscription services. As Primosphere has previously stated, this approach will provide the maximum choice for consumers and permit the realization of the goal of providing a new, nationwide radio service.

The Commission must permit both advertiser-supported and subscription SDARS in order to fulfill the mandate of Section 1 of the Communications Act to "make available, so far as possible, to all the people of the United States a rapid, efficient, nationwide and world-wide wire and radio communications service."⁶⁶ The Commission, in adopting a spectrum allocation for SDARS, stated that it was acting to provide "the American public with new multi-channel, multi-format digital radio services . . . available by satellite to nationwide and regional audiences."⁶⁷ In order to fulfill the public interest goals of this new service, the Commission must permit SDARS licensees to provide advertiser-supported service. This would be consistent with the numerous Commission actions to "foster competition . . . so that free market forces rather than governmental regulation will determine the success or

⁶⁵ See DBS Authorization Order ¶ 81.

⁶⁶ 47 U.S.C. § 151.

⁶⁷ Allocation Order ¶ 1.

failure of new services."⁶⁸ The Commission, in creating a new service which will provide new programming outlets, fulfills its objectives of "fostering a diversity of information sources for the American public."⁶⁹ Only through permitting both advertiser-supported and subscription SDARS can the Commission fulfill these objectives and ensure that the maximum number of Americans will have access to new information and programming sources.⁷⁰

B. Public Interest Obligations.

As discussed in Primosphere's application, the Commission should consider only those public interest obligations which would "strike a balance between insuring that the public interest is served while not impeding the timely introduction of new and innovative services."⁷¹ Primosphere stated its willingness to adhere to the Commission's EEO requirements for broadcasters, to comply with intellectual property obligations applicable to over-the-air broadcasters and to consider the possibility of utilizing a portion of its capacity for programming of an educational or informational nature.⁷²

⁶⁸ Telephone Company-Cable Television Cross-Ownership Rules, 7 FCC Rcd 300 (1991) ¶ 8.

⁶⁹ Id. ¶ 9.

⁷⁰ Moreover, the Commission should not prevent any SDARS licensee, such as Primosphere, from providing a broadcast service, in an effort to ensure that all the applied-for SDARS spectrum could be subject to an auction. Such an approach would be in contravention of the Budget Reconciliation Act which excludes broadcasters from licensing auctions. 47 U.S.C. § 309(j)(2)(A). It should be noted that Primosphere's application to operate solely as a broadcaster was filed long before the enactment of the Commission's auction authority.

⁷¹ Primosphere Application at 32.

⁷² Id. at 32-33.

From the standpoint of creating parity among the SDARS providers, Primosphere believes that any public interest obligations adopted should be applied to all licensees. However, in light of the Daniels Cablevision decision, which struck down provisions of the 1992 Cable Act which imposed certain public interest obligations on DBS operators, Primosphere believes the Commission could face legal challenges to the adoption of such rules for SDARS.⁷³

As discussed elsewhere in these Comments, SDARS is complementary to terrestrial broadcasting. It does not seek to, nor will it, supplant the role of terrestrial broadcasting in providing local news and local sports, weather, school closings, and community announcements. SDARS addresses the national community and will provide an important new national radio service. Such a radio service can only serve to reinforce the value of local programming by terrestrial radio broadcasters.

C. Technical Rules.

To the extent possible, the Commission should leave decisions concerning technical design of the SDARS systems up to the licensees. The Commission, in the case of satellite communications services, generally has left technical design decisions up to "space station licensees because the licensees are in a better position to determine how to tailor their systems to meet the particular needs of their customer base."⁷⁴ The Commission has taken this approach with regard to both the mobile-satellite service as well as the domestic fixed-

⁷³ Daniels Cablevision, Inc. v. U.S., 835 F. Supp. 1 (D.D.C. 1993), app. pending sub nom. National Association of Broadcasters v. FCC, 740 F.2d 1190 (1984).

⁷⁴ Matter of Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands, Notice of Proposed Rulemaking, 9 FCC Rcd 1094 (1994) ("Big Leo NPRM") ¶ 11.

satellite service.⁷⁵ In establishing rules for these services, the Commission permitted applicants to "develop or agree to an engineering solution or sharing scheme by which all proposed systems can be accommodated."⁷⁶ For example, in the case of non-voice, non-geostationary mobile-satellite systems, the Commission did not require specific system design requirements because the applicants developed their own method for accommodating all the applied-for systems.⁷⁷ Although the Commission cites as an example of useful technical regulations for satellite services the requirement for full frequency reuse for space stations in the domestic fixed-satellite service,⁷⁸ this requirement was not adopted until the service had been in operation for many years, providing a technical and operational, as well as policy, basis for such a requirement.

In the case of SDARS, the Commission should adopt the minimum rules necessary to protect the public and promote the prompt implementation of service. SDARS is a new service involving technology that continues to evolve. The applicants, their investors, and spacecraft and receiver manufacturers will have ample incentive to construct systems with operating parameters which will deliver service that the public will want. Developing detailed technical rules for SDARS not only would delay implementation of service, but

⁷⁵ See Assignment of Orbital Locations to Space Stations in the Domestic Fixed-Satellite Service, 3 FCC Rcd 6972 (1988) ("1988 Domsat Processing Order") ¶ 1; see also Domestic Fixed-Satellite Service, 88 FCC 2d 318 (1981).

⁷⁶ Big LEO NPRM, supra note 74.

⁷⁷ Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Non-Voice, Non-Geostationary Mobile-Satellite Service, 8 FCC Rcd 8450 (1993).

⁷⁸ Notice ¶ 42, citing Licensing Space Stations in the Domestic Fixed-Satellite Service, Notice of Proposed Rulemaking, 101 FCC 2d 223 (1985).

would be counterproductive by tending to "freeze" technology as of a given date.⁷⁹ The SDARS licensees should be given the opportunity to utilize the very best technology for satellite construction and receiver development available during the process of system construction. The public would not be served by constraining the licensees to technical values which the Commission might adopt at this time.

Service Area. Primosphere, as well as one of the other applicants, proposes service to the continental United States. Provision of service beyond the continental United States would require the use of satellite spot beams and considerable use of the spacecraft power that would compromise the quantity and quality of service throughout the service area. In the 2310-2360 MHz band more than 2.5 times as much satellite power is required to provide an adequate signal to mobile receivers than is required in the 1452-1492 MHz band which will be used for SDARS in most parts of the world. This power requirement substantially impacts the cost of the space and user segment, as well as the practicality and trade-offs of serving a larger geographic area than the continental United States.

As in the case of DBS, the Commission should not require first generation SDARS to provide service beyond CONUS.⁸⁰

⁷⁹ The Commission is well aware of the folly of developing technology-based rules in the case of satellite services. A case in point was the adoption by the International Telecommunication Union in 1977 of a plan for direct broadcast satellites in Regions 1 and 3 which utilized technical requirements which were years out of date when the first DBS systems were implemented. As a result, the upcoming 1995 World Radiocommunication Conference is addressing the scheduling of a new conference to modify the 1977 plan. The Commission notes the possible impact of such modification on DBS service in the United States in its Report in preparation for WRC-95. See Preparation for International Telecommunication Union World Radiocommunication Conferences, IC Docket No. 94-31, FCC 95-256 (released June 15, 1995).

⁸⁰ It should be noted that most Ku-band fixed satellite service satellites provide only CONUS coverage. Furthermore, the Hughes DirecTV as well as the planned Echostar DBS satellites provide CONUS coverage only.

Service Link Margin. As discussed in the Joint Comments, Primosphere agrees with the other SDARS applicants that the Commission should not adopt a service link margin requirement nor require the applicants to "demonstrate that their systems will provide that service link margin in a mobile environment, under clear sky conditions, to the geographic areas they intend to service."⁸¹ The Commission notes that the service link margins identified in the pending applications range from 4 dB to 14 dB and states that "parties question whether the satellite DARS proposals provide the amount of service link margin for urban and suburban environments."⁸² Further the Commission asks for comment on whether a specific value should be used to define an adequate service link margin "for the specified service areas in urban and suburban environments."⁸³

The Commission should follow the precedent set in the Big LEO Report which, for a new service involving transmissions to and from mobile receivers, did not specify a required service link margin.⁸⁴ As is the case with SDARS, the proposed service link margin was different for each of the Big LEO applicants, with the choice of service link margin affected by a variety of factors, including use of various modulation and access techniques, as well as the use of satellite diversity.⁸⁵ Despite these variations, the Commission did not propose

⁸¹ Notice ¶ 46.

⁸² Id. ¶ 45.

⁸³ Id. ¶ 46.

⁸⁴ See Big LEO Report & Order.

⁸⁵ See Final Report of the Majority of the Active Participants of Informal Working Group 1 to the Above 1 GHz Negotiated Rulemaking Committee and the Report of Motorola on Band Segmentation to Working Group 1, (April 6, 1993), cited in Big LEO Report & Order, supra note 36 at n. 23.

adoption of a required service link margin, nor did it require the applicants to demonstrate the adequacy of the link margins they proposed to utilize. No public interest rationale has been provided by the Commission or other parties for the requirement for such demonstrations or the adoption of a required service link margin in the case of SDARS. Thus the Commission should not adopt a service link margin standard.

Receiver Inter-Operability and Tunability. The Commission need not address the issue of receiver inter-operability and tunability at this time, nor should it consider government involvement in the development of a receiver standard. As the Commission notes in the Notice, a number of industry groups are currently evaluating and testing digital audio radio technologies. Primosphere monitors these activities and plans to participate in any industry group which addresses the development of a common SDARS receiver. However, at this time, the Commission should not mandate such a requirement⁸⁶

Data Rates. Primosphere supports the Commission's proposal to allow SDARS licensees "to implement a mix of audio formats at variable data rates."⁸⁷ In this regard, Primosphere currently plans a conservative data rate and compression ratio, which will enable it to provide approximately 19 high-quality music channels, music-quality and seven to nine non-music quality channels. However, Primosphere believes that it is inappropriate

⁸⁶ Primosphere notes that the Commission never addressed the subject of transceiver interoperability for Big LEO service providers. Many of the concerns raised by the Commission with regard to SDARS receiver inter-operability — costs, varying formats, opportunity for consumers to easily switch service providers — would be equally applicable to MSS service. However, these concerns did not lead the Commission in the case of Big LEO MSS to depart from its tradition of the past 20 years of leaving such decisions up to the marketplace. By contrast, the Commission, without any public interest rationale, suggests that extensive technical regulation may be appropriate for SDARS.

⁸⁷ Notice ¶ 54.

for the Commission to seek a demonstration of how each applicant's space station "will deliver signals at variable rates and how its individual satellite DARS receivers would be capable of adjusting the coding rate to provide less than CD quality audio channel selections to the end user."⁸⁸ While Primosphere will be pleased to provide technical briefings to the Commission concerning any aspect of its proposal, it believes that matters of this complexity should not form the basis for any Commission rules.⁸⁹ Moreover, Primosphere proposes that the Commission modify the definition for Satellite Digital Audio Radio Service contained in the proposed Section 25.201 of its Rules. Since the Commission has stated that it is not mandating CD-quality, the phrase "compact disc quality" should be removed from the proposed definition. Nowhere in the Commission's rules is "compact disc quality" defined and inclusion of the phrase can only lead to confusion.⁹⁰

Terrestrial Gap Fillers. Primosphere proposes to construct, launch and operate two satellites for the provision of SDARS. It is not currently planning to implement terrestrial "gap-fillers." However, based on evolution in system design and response of the consumer, it may be possible that gap-fillers can improve the coverage and signal strength of SDARS and consequently, might be considered in the future. It is clear from the record that the Commission does not have sufficient information to proceed now with regulations for terrestrial gap-fillers. When the Commission does address the matter of rules, it will be

⁸⁸ Id.

⁸⁹ Primosphere's proposed satellite design is essentially a "bent pipe" and can support almost an infinite variety of audio coding. The matter of receiver design should be left to the industry.

⁹⁰ In fact, the meaning of such a term most likely will change as technology improves and consumers demand better quality. See supra note 21.

important to provide a flexible scheme to permit their implementation without the necessity for a DARS provider to seek separate licenses for each instance in which a gap-filler is required. Primosphere agrees that it may be useful to require separate applications for complementary terrestrial DARS authorizations. Nonetheless, Primosphere agrees that any terrestrial gap-fillers should be used only to re-transmit SDARS programming, with no local program or commercial inserts at the gap-filler level.

Cross-Polarized Emissions. The Commission proposes that SDARS licensees, pursuant to mutual agreement with other SDARS licensees, be permitted to transmit on cross-polarized frequencies in frequency assignments of other licensees.⁹¹ If this technique can be utilized, it could result in additional capacity and more service to the public. However, Primosphere does not agree that mutual agreements to share cross-polarized frequencies should be subject to a spectrum cap should one be adopted. It is unknown whether this technique can be utilized and speculative as to whether SDARS licensees would be able to reach agreement to operate in such a manner. Consequently, any rules beyond permitting what the Commission proposes would be premature.

Inter-Service Sharing. The Commission addresses three areas of sharing: (1) among the applicants; (2) between SDARS licensees and other domestic users of the spectrum; and (3) between SDARS licensees and users of the band in Canada. Primosphere agrees with the Commission's proposal that licensees may reach mutual agreements with other licensees to maximize efficient use of the spectrum. In fact, the applicants, in agreeing to divide the spectrum into 12.5 MHz segments, have already taken the first step in achieving such mutual agreement. Thus, with the exception of objecting to the setting aside of the lower 10 MHz

⁹¹ Notice ¶ 59.

of the band, Primosphere agrees with the Commission that the usable bandwidth — 50 MHz — be divided into four frequency assignments and that these frequency assignments be distributed equally among the four pending applicants. Moreover, Primosphere agrees with the prior proposals of Satellite CD Radio and DSBC that should any system license be cancelled, the usable bandwidth should be re-divided, pro-rata, among the remaining applicants. Primosphere also supports the Commission's proposal that "licensees be permitted to acquire additional spectrum from other licensees."⁹² Frequency assignments, if not otherwise proposed through joint agreement of the applicants, should be made by the Commission at the time of licensing.

With regard to other domestic users of the spectrum, Primosphere agrees that SDARS is primary to other services, so no rules are required. Concerning coordination with Canada, Primosphere has discussed above its objection to the Commission's proposal that the U.S. licensees limit operations to the 2320-2360 MHz band to facilitate such coordination. For the reasons discussed in Section IV herein, the Commission should not give up the lower 10 MHz of the SDARS allocation. The entire 50 MHz should be allocated for U.S. SDARS and the Commission should then work cooperatively with the licensees to coordinate the entire band with Canada.⁹³

With regard to out-of-band emissions, SDARS systems should be governed by Section 25.202(f) of the Commission's rules.

⁹² Notice ¶ 80.

⁹³ As discussed herein, Primosphere could operate in 10 MHz of spectrum; however, the number of channels would be reduced, resulting in less service to the public.

Feeder Links. Primosphere supports the use of the 7025-7075 MHz band for SDARS feeder links, as applied for in Primosphere's application. The band is lightly used for FSS and the highly directional uplink antenna used to transmit signals to the SDARS satellites will avoid interference to terrestrial television broadcast auxiliary microwave systems. The satellite uplink stations also can be located so as to minimize interference both from the uplink station to the broadcast auxiliary station and from the broadcast auxiliary station to the uplink station. Primosphere is willing to work with the other SDARS applicants as well as other users of the 7025-7075 MHz band, or whichever band is chosen by the Commission for SDARS feeder links, to minimize potential for interference.⁹⁴

Interim Frequency Assignments. Primosphere does not believe the public interest would be served by permitting SDARS operators to temporarily occupy frequency assignments other than its own, even if its transmissions could be reconfigured to use only its own frequency assignments.⁹⁵ Primosphere agrees with the Commission that an interim license would be contrary to the public interest because of possible service interruption or reduction, and moreover, could cause confusion for consumers. The Commission should not authorize interim frequency assignments.

⁹⁴ If the band 7025-7075 MHz is allocated at WRC-95 for use by non-geostationary MSS feeder downlinks, Primosphere will conduct appropriate sharing analyses to ascertain compatibility between its feeder uplink and non-geostationary MSS feeder downlinks.

⁹⁵ Notice ¶ 86, citing Satellite CD Radio's Supplemental Comments.

VII. THE COMMISSION SHOULD ADOPT THE FINANCIAL QUALIFICATIONS REQUIREMENTS PROPOSED IN ITS NOTICE.

Primosphere supports the Commission's proposal financial qualifications standard as well as the milestones required of SDARS licenses. The Commission's proposal recognizes that permitting the applicants to demonstrate financial qualifications in stages "will not preclude another from implementing its system" because "all pending applicants can be granted if the Commission chooses to license the current applicants and not reopen the processing group."⁹⁶ The Commission, through its proposed standard, recognizes that new services often are implemented by entrepreneurial enterprises rather than well-established companies.⁹⁷

The milestones require licensees to demonstrate full funding within one year of license, begin construction within one year of license, launch within four years and commence full operation of a multi-satellite system within six years. These milestones also are appropriate.⁹⁸ In order to receive a license, applicants would be required to provide evidence of financial capability, through a variety of means.⁹⁹

This financial standard recognizes the high costs of satellite systems, the need to ensure that licenses proceed to implement service and the risks and uncertainties associated

⁹⁶ Notice ¶ 90.

⁹⁷ For example, in the case of domestic MSS, the Commission did not impose strict financial standards, instead requiring each of the participants in the MSS consortium to deposit \$5 million in a common fund. See MSS Consortium Order, 2 FCC Rcd 485 (1987).

⁹⁸ See Advanced Communications Corporation, DA 95-944, (released April 27, 1995).

⁹⁹ Evidence of financial capability can be demonstrated through a balance sheet showing the funding, a commitment from a corporate parent or showing of estimated income or revenues anticipated from proposed operations. Notice ¶ 90.