



PUBLIC NOTICE

Federal Communications Commission
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REQUEST FOR FURTHER COMMENT ON SELECTED ISSUES REGARDING THE AUTHORIZATION OF SATELLITE DIGITAL AUDIO RADIO SERVICE TERRESTRIAL REPEATER NETWORKS

IB Docket No. 95-91

RM No. 8610

DA No. 01-2570

Report No. SPB-176

In March 1997, the Commission adopted service rules for satellite digital audio radio service (SDARS) authorizations in the 2320-2345 MHz frequency band.¹ The Commission noted that some SDARS applicants intended to implement, as necessary, repeaters or “gap fillers” in urban canyons and other areas where it may be difficult to receive DARS signals transmitted by a satellite. At that time, however, there was no information in the record on the specific operations of the SDARS repeaters and several issues concerning the licensing and regulation of the repeaters were unresolved. To resolve these issues, the Commission issued a Further Notice of Proposed Rulemaking (Further Notice) seeking comment on the proposed use of SDARS repeaters in conjunction with SDARS systems.² The Commission proposed to license SDARS repeaters on a blanket basis, that is, multiple repeaters under a single authorization, provided there were no unresolved international coordination, antenna clearance, or environmental impact issues. The Commission also tentatively concluded that it would prohibit the use of SDARS repeaters to transmit locally originated programming.

In October 1997, the Commission authorized two licensees, Sirius Satellite Radio and XM Radio, to launch and operate satellites to provide SDARS.³ Both entities have launched all of their authorized

¹ Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, *Report and Order, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 12 FCC Rcd 5745 (1997).

² *Id.* at 5810.

³ See American Mobile Radio Corp., *Order and Authorization*, 13 FCC Rcd 8829 (1997). (American Mobile Radio Corp. is now known as XM Radio Inc.); and Satellite CD Radio, Inc., *Order and Authorization*, 13 FCC Rcd 7971 (1997). (Satellite CD Radio is now known as Sirius Satellite Radio, Inc.) See also Sirius Satellite Radio, Inc., for Minor Modification of License to Construct, Launch and Operate a Non-geostationary Satellite Audio Radio Service System, *Order and Authorization*, 16 FCC Rcd 5419 (Int’l Bur. 2001).

satellites. Recognizing that a repeater network is essential to achieving nationwide service and that the rulemaking to establish operating parameters for repeaters has not been concluded, the International Bureau granted special temporary authority (STA) on September 17, 2001, for each SDARS licensee to operate its repeater network, subject to various conditions.⁴ The STAs permit the licensees to operate SDARS repeaters, for 180 days or until final rules are adopted, on a nationwide, commercial basis, with an Equivalent Isotropically Radiated Power (EIRP) at or below 2 kW (Low Power Repeaters) and with an EIRP above 2 kW (High Power Repeaters), as specified in the STA request.⁵

Since the Further Notice, the Commission has received detailed technical information on the SDARS repeaters and significant comment from the Wireless Communications Service (WCS), Multipoint Distribution Service (MDS), Instructional Television Fixed Service (ITFS) licensees and the SDARS licensees on terrestrial repeater licensing.⁶

PROPOSALS

By this Public Notice, we seek to augment the record on the specific proposals described below for the resolution of issues identified in the record that have not yet been directly addressed by commenters. Specifically, we seek comment on an approach that defines a compensation methodology for SDARS licensees to pay for the components necessary for WCS licensees to eliminate the effects of blanketing interference to their receivers.⁷ This approach is based on features of existing and proposed WCS and SDARS systems as well as on comments received from all licensees. We seek comment on this approach and on any variation or alternatives that commenters have proposed in this proceeding.⁸ We also include for comment various alternatives for a long-term solution to the potential blanketing interference between SDARS and WCS licensees with stations close to high power repeaters. In addition, we seek comment on provisions that would address the effect of SDARS operations on MDS and ITFS licensees. Based on this approach and the comments received to this Public Notice, specific rules will be developed for adoption in the Commission's rules. Commenters should support their views with concrete analysis and documentation.

⁴ See XM Radio, Inc., Application for Special Temporary Authority to Operate Satellite Digital Audio Radio Service Complimentary Terrestrial Repeaters, *Order and Authorization*, DA 01-2172 (rel. September 17, 2001) and Sirius Satellite Radio, Inc., Application for Special Temporary Authority to Operate Satellite Digital Audio Radio Service Complimentary Terrestrial Repeaters, *Order and Authorization*, DA 01-2171 (rel. September 17, 2001).

⁵ *Id.* at para. 17.

⁶ *Ex Parte* Communications have been filed by: Sirius Satellite Radio, Inc., XM Radio Inc., Aerospace & Flight Test Radio Coordinating Council; AT&T Wireless Services, Inc., Alabama Broadcasters Association, BeamReach Networks, Inc., BellSouth Corporation and BellSouth Wireless Cable, Cellular Phone Taskforce, Consumer Electronics Manufacturers Association, Entercom Communications Corp., General Motors Corp., MCI WorldCom, Inc., WorldCom, Inc., and WorldCom Broadband Solutions, Inc., Metricom, Inc., Mt. Wilson Broadcasters, Inc., National Association of Broadcasters, Navini Networks, Inc., Radio Operators Caucus, Spike Broadband Systems, Inc., Susquehanna Radio Corp., Verizon Wireless and Wireless Communications Association International, Inc. We have considered aspects of these filings in formulating our proposals set forth in this Public Notice.

⁷ See 47 CFR § 27.58. The rules require WCS licensees to resolve interference to MDS/ITFS licensees at no cost to the licensee experiencing interference. See also 47 CFR § 73.318. The rules require new FM broadcast stations to resolve interference within their blanketing contour at no cost to the complainant for one year after commencing operations.

⁸ See *Supra* n. 6.

I. Repeater Requirements

We seek comment on the sufficiency of an approach that would require SDARS repeaters to meet the following:

A. Definitions.

1. Low Power Repeaters (LPRs) are limited to an EIRP less than or equal to 2 kW.
2. High Power Repeaters (HPRs) are limited to an EIRP greater than 2 kW and less than or equal to 40 kW.

B. Authorized transmissions. SDARS repeaters shall be used only to transmit the complete programming, and only that programming that is also transmitted by an authorized DARS satellite and in such a way that the satellite signal and the terrestrial repeater signal are received nearly simultaneously by SDARS subscriber receivers.

C. Eligibility and frequencies. Authorization to operate SDARS repeaters is granted only to licensees of SDARS systems with operational space stations. An SDARS licensee shall locate repeater frequency assignments in the center of its exclusively licensed frequency band, with the edge of the repeater band being no less than four megahertz from the edge of the SDARS spectrum at 2320 MHz and 2345 MHz.

D. Emission limits.

1. SDARS repeater out-of-band emission levels shall comply with 47 C.F.R. § 25.202(f) within the 2320-2332.5 MHz and 2332.5-2345 MHz frequency bands.
2. Below 2320 MHz and above 2345 MHz, the power of any SDARS repeater emission shall be attenuated below the peak equivalent isotropically radiated power (P_{eirp}) within the assigned frequency band(s) of operation between 2320 MHz and 2345 MHz, measured in watts, by a factor not less than $75 + 10\log(P_{\text{eirp}})$ dB, where P_{eirp} is measured in watts.
3. Compliance with the above provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or more, but at least one percent of the emission bandwidth of the fundamental emission of the transmitter, provided the measured energy is integrated over a 1 MHz bandwidth.

II. Prior Approval

We also seek comment on SDARS licensees obtaining prior Commission approval to operate: (1) any SDARS repeater that exceeds the power levels and/or proximity restrictions specified in existing international agreements with Canada and Mexico covering the use of SDARS frequency bands, except that Commission approval shall not be required for SDARS repeaters already coordinated successfully with Canada or Mexico; (2) any SDARS repeater that fails to comply with the requirements of 47 CFR § 17.4 of the Commission's rules; (3) any SDARS repeater that will have significant environmental effects, as defined by 47 CFR § 1.1301 through 1.1319 of the Commission's rules. We seek comment on the feasibility of this requirement.

III. Low Power Repeater (LPR) Operations

A. LPR Operation. We seek comment on permitting an SDARS licensee to operate an unlimited number of LPRs without prior coordination as of the effective date of the Commission Order adopting final rules governing SDARS repeaters and where prior approval is not required.

B. Notification of LPRs to WCS, MDS/ITFS licensees. We seek comment on imposing a notification requirement on SDARS licensees to provide notice to any WCS, MDS, or ITFS licensee that may be operating in the vicinity of an LPR brought into operation after the final SDARS rules are effective. At least 30 days prior to commencing operations from any new LPR transmitting station, or with increased power from any existing LPR up to 2 kW EIRP, the SDARS licensee shall notify all WCS, and MDS/ITFS licensees in or through whose licensed service area they intend to operate, and provide the technical parameters of the SDARS terrestrial repeater transmission facility.

C. LPR interference to MDS/ITFS receivers. To provide parity with the requirements imposed on WCS licensees to remedy blanketing interference caused to MDS/ITFS receivers,⁹ as proposed by several commenters in this proceeding, we seek comment on requiring SDARS licensees to remedy any blanketing interference caused to MDS/ITFS receivers from LPRs. We also seek comment on requiring the SDARS licensees to bear the full financial obligation to remedy interference from their repeaters to MDS/ITFS block downconverters if all of the following conditions are met:

- (1) The complaint is received by the SDARS licensee prior to February 20, 2002;
- (2) The MDS/ITFS downconverter was installed prior to August 20, 1998;
- (3) The SDARS terrestrial repeater station transmits at 50W or more peak EIRP; and
- (4) The MDS/ITFS downconverter is located within a SDARS terrestrial repeater's free space power flux density contour of -34 dBW/m².

We also seek comment on the following concepts: that if the SDARS licensee cannot otherwise eliminate any interference that its repeater causes to MDS/ITFS reception, then that SDARS licensee must cease operations from the offending LPR facility. In addition, if SDARS licensees collocate their repeater antennas on the same tower, they shall assume shared responsibility for remedying interference complaints within the area determined by the -34 dBW/m² power flux density contour, unless the offending station can be readily determined and then that station operator shall assume full financial responsibility. Also, if the complainant is also entitled to compensation from one or more licensees in the Wireless Communications Service pursuant to 47 CFR § 27.58, we seek comment on whether the cost should be shared equally among all WCS and SDARS licensees that cause such interference.

IV. High Power Repeater (HPR) Operations

We seek comment on the following compensation methodology that will apply to SDARS licensees operating HPRs. This concept establishes a safe harbor in which SDARS licensees would not be required to coordinate with or compensate WCS licensees to resolve blanketing interference that may be caused to WCS receiving stations from SDARS repeaters. It also establishes "zones" outside of this safe harbor in which WCS licensees would be entitled to compensation to resolve interference from HPR operations. The methodology includes a schedule for providing compensation. We seek comment on this proposal and its implementation as well as any variations of this concept as set forth below. Specifically, we solicit comment on whether or not compensation should be provided for consumer premises equipment (CPE) and on whether or not there should be a limit of the SDARS licensees' financial liability.

⁹ See 47 CFR § 27.58.

A. Permitted HPR Operations. We seek comment on whether SDARS licensees should be permitted to operate HPRs at locations with technical parameters as limited by the Commission in the XM and Sirius STA Orders¹⁰ for 18 months after the effective date of the final rules and whether, within 15 days from the release date of these rules, the SDARS licensees should be required to file with the Commission technical information on HPRs that have been moved to an alternate location, reduced in power, or no longer in operation as a result of interference concerns with WCS, MDS or ITFS facilities prior to the release date of the final SDARS repeater rules.

B. Safe Harbor. We seek comment on whether SDARS licensees should have any obligation to coordinate with WCS stations, including WCS customer premises equipment, located within the power level contour that would be generated by a 2 kW EIRP LPR, and using free space loss and the specified receive system threshold characteristics of the affected WCS licensee, as follows:

Maximum LPR EIRP (kW)	LPR EIRP (dBm)	Maximum Safe Harbor Distance from LPR to edge of contour (miles)			
		-25 dBm contour	-35 dBm contour	-45 dBm contour	-58 dBm contour
2	63	0.16	0.50	1.56	6.97

Free space path loss is defined as:

$$\text{Loss}_{\text{dB}} = 32.5 + 20\log(\text{distance in km}) + 20\log(\text{frequency in MHz})$$

C. Liability Zone. We seek comment on whether SDARS licensees should be required to coordinate in good faith with WCS licensees with respect to WCS stations located outside of the Safe Harbor but located within the Liability Zone defined by the power level contour generated by the actual HPR EIRP, and using free space loss and the specified receive system threshold characteristics of the “affected” WCS licensee (i.e. the affected licensee is that licensee with one or more stations inside the Liability Zone). At any stage in the 18-month period following the effective date of the SDARS repeater rules, an SDARS licensee may elect to reduce its HPR power level to any level that would reduce its Liability Zone. The edge of the Liability Zone shall not extend beyond the distances from the HPR according to the following:

HPR EIRP (kW)	HPR EIRP (dBm)	Maximum Liability Zone Distance from HPR to edge of contour (miles)			
		-25 dBm contour	-35 dBm contour	-45 dBm contour	-58 dBm contour
40	76	0.70	2.20	6.97	31.13

Free space path loss is defined as:

$$\text{Loss}_{\text{dB}} = 32.5 + 20\log(\text{distance in km}) + 20\log(\text{frequency in MHz})$$

These tables are intended to provide generic rules that take into account the fact that the technical parameters of WCS systems may vary. The Safe Harbor and Liability Zone sizes depend upon the

¹⁰ XM STA Order *Supra* n. 4 at para. 17, Sirius STA Order *Supra* n. 4 at para. 17.

overload threshold of the affected WCS receiver. The tables provide the range of sensitivities of the WCS receivers to be deployed as stated in the record. For example, if the WCS licensee deploys receivers that overload at -25dBm, the first table indicates that the Safe Harbor maximum radius distance will be 0.16 miles. If the SDARS repeater operates at 40 kW with an omni-directional antenna, the second table indicates that the Liability Zone will have a maximum radius of 0.70 miles. If the SDARS licensee uses a 10 kW repeater, the Liability Zone radius would be calculated using the free space path loss formula to be 0.35 miles.

D. Blanketing interference to WCS stations. We seek comment on whether a WCS station located within the Liability Zone is considered to potentially receive blanketing interference from the notified HPR(s) and the affected WCS licensee is entitled to compensation according to the Compensation Schedule below. Under this approach, SDARS and WCS licensees would be expected to coordinate in good faith to avoid interference problems and to allow the greatest operational flexibility in each other's operations. To remedy actual blanketing interference to WCS stations already in operation or planned for operation in the 18-month period, either by compensation or power reductions, the licensees must, in as expeditious a manner as possible, exchange information about WCS station deployment (e.g., the number of base stations planned to be in operation in the 18 months following the effective date of the SDARS rules; the station locations within the Liability Zone in order of anticipated deployment, if known; the technical characteristics of those stations; and the estimated reasonable cost to resolve interference to the WCS stations receiving blanketing interference from the specified HPR(s)).

E. Compensation Schedule. If an SDARS licensee is notified by an affected WCS licensee that it is receiving blanketing interference within the Liability Zone that prevents the provision of commercial service, the SDARS licensee shall immediately pay the reasonable costs of eliminating or mitigating such interference. This is similar to what the Commission has required of WCS licensees to do for MDS/ITFS licensees and of new FM broadcast licensees to do for complainants.¹¹ The SDARS licensee shall compensate the WCS licensee for the cost of the components to protect its station receivers from blanketing interference caused by the HPRs (e.g. filters for base stations or RF Automatic Gain Control for CPE). The following schedule sets forth the timeframes during which WCS licensees' interference complaints shall be remedied and the prorated financial liability of SDARS licensees following the effective date of the rules governing SDARS repeaters:

- 0 to 6 months – SDARS licensee pays 100% of components for base stations;
- 6 to 12 months – SDARS licensee pays 50% of components for base stations;
- 12 to 18 months – SDARS licensee pays 25% of components for base stations;
- after 18 months – SDARS licensee has no financial liability.

Under this approach, for 18 months after the final rules are effective, the SDARS HPR operations would be limited to the locations and parameters identified in the STA requests. That is, the population of HPRs would be frozen. After the 18 month period, any new HPR would have to be coordinated with affected WCS operations or would be limited in maximum power, as described below in section V., B. There would also be an obligation on SDARS licensees to abide by the final rules to ensure future protection to WCS licensees.

We also seek comment on the appropriateness of including the cost of resolving interference to WCS CPE in the Compensation Schedule. We seek comment on the time within which SDARS licensees must mitigate interference to WCS CPE and whether or not we should require SDARS licensees to pay any compensation or provide compensation for up to 18 months for WCS CPE. We seek further comment on whether the SDARS licensees should be required to provide filters for WCS base stations or to pay all the costs associated with eliminating the interference for both base stations and CPE, including

¹¹ See CFR 47 § 27.58, § 73.318.

labor, as well as on any other aspects of possible interference mitigation. Moreover, we seek comment on whether the SDARS licensee's monetary liability to WCS licensees should be limited to a particular amount. If so, what is that amount and the rationale for it? We also generally seek comment on whether the resolution of interference should be left to the SDARS and WCS licensees.

F. Blanketing interference to MDS/ITFS receivers. Similar to the approach for SDARS licensees to remedy blanketing interference caused to MDS/ITFS receivers from LPRs until February 20, 2002 in Section III. C., we seek comment on applying this approach with regard to HPRs. Specifically, we seek comment on whether SDARS licensees should bear the full financial obligation to remedy interference to MDS/ITFS block downconverters if all of the following conditions are met:

- (1) The complaint is received by the SDARS licensee prior to February 20, 2002;
- (2) The MDS/ITFS downconverter was installed prior to August 20, 1998; and
- (3) The MDS/ITFS downconverter is located within a SDARS HPR station's free space power flux density contour of -34 dBW/m².

We seek comment on requiring that if the SDARS licensee cannot otherwise eliminate interference caused to MDS/ITFS block downconverters, the SDARS licensee must reduce its power or cease operations from the offending SDARS HPR station. If SDARS licensees collocate their antennas on the same tower, they shall assume shared responsibility for remedying interference complaints within the area determined by the -34 dBW/m² power flux density contour, unless an offending station can be readily determined in which case the offending SDARS should be required to assume full financial responsibility. If the MDS/ITFS complainant is also entitled to compensation from one or more licensees in the Wireless Communications Service pursuant to section 27.58 of this part, the cost shall be shared equally among all WCS and SDARS licensees with stations causing such interference.

V. Operation of HPRs after the compensation schedule to WCS/MDS/ITFS licensees no longer applies

In addition to a methodology to limit interference and establish compensation to WCS and MDS/ITFS licensees, we seek comment on how to facilitate the future deployment of HPRs. We seek comment on whether to establish a power cap and a notification process for HPRs. We also request comment on a possible requirement that operator-to-operator agreements among SDARS and WCS/MDS/ITFS licensees be established before an SDARS licensee would be permitted to commence further HPR operations or other similar alternatives. Specifically, we seek comment on the following:

A. MDS/ITFS Receivers. We seek comment on imposing a requirement on SDARS licensees to provide notice to any MDS/ITFS licensee that may be operating in the vicinity of an HPR station: at least 90 days prior to commencing operations from any new HPR, the SDARS licensee shall notify all MDS/ITFS licensees, in or through whose licensed service area an SDARS licensee intends to operate, of the technical parameters of the SDARS terrestrial repeater transmission facility.

B. WCS Stations. We seek comment on how to regulate HPRs after the 18-month compensation period described above has expired. One alternative would be to place a power cap on HPRs and establish a notification process for them similar to that proposed for MDS/ITFS receivers. Under this approach, all existing HPRs would be grandfathered and the power cap would apply to new repeaters after expiration of the compensation schedule in the approach described above. Prior to commencing operation from any new HPR, the SDARS licensee would be required to provide a 90-day notice to WCS licensees. We specifically seek comment on what an appropriate power cap should be in the range of 2 kW to 40 kW. For example, is a 9 kW EIRP level (39.5 dBW, which is midway between the 2 kW (33 dBW) and 40 kW (46 dBW) powers established in the record as acceptable to WCS/MDS/ITFS licensees and desired by SDARS licensees, respectively) appropriate to apply to future HPRs? Would this power cap distribute

equally among WCS and SDARS licensees the responsibility to manage their operations in the presence of each other's service and provide for the ability of all services to deploy expeditiously? If applied to existing repeaters, what transition period would be necessary or appropriate?

Another alternative would be to permit HPR operations at power levels up to 40 kW EIRP only after prior agreement among SDARS and affected WCS licensees has been reached. In this case, each SDARS licensee would be required to exchange information with affected WCS licensees about its repeater deployment and technical parameters. The SDARS licensee would be required also to take all practical steps to locate additional HPRs in areas that will mitigate the potential for blanketing interference to WCS operations. Prior to commencing operation of an additional HPR, the SDARS licensee would be required to certify to the Commission that it has completed coordination of the HPR with all affected WCS licensees. We seek comment on these options and any other alternatives for the deployment of HPRs after the 18-month period has expired.

VI. Radio Frequency (RF) Safety

In February 1997, the Commission adopted rules for Wireless Communications Services.¹² In that Report and Order, the Commission modified Section 1.1307(b) of its rules to require applicants proposing to operate fixed terrestrial stations in the 2305-2320 MHz and 2345-2360 MHz frequency bands to perform routine environmental evaluations if their station's EIRP exceeds 1640 Watts.¹³ We now seek comment on modifying this Section of the Commission's rules to accommodate SDARS repeaters governed by Part 25, which will operate in the 2320-2345 MHz frequency bands. The proposal is based on suggestions offered by the DARS and WCS licensees. The WCS licensees propose to require routine environmental evaluation for SDARS repeaters operating above 1640 Watt EIRP level, the same requirement for terrestrial stations in the WCS bands (2305-2320 MHz and 2345-2360 MHz). SDARS licensees propose to increase the level to 2000 Watts EIRP presumably because that power level reflects the technical distinctions between SDARS repeaters and WCS stations throughout the other proposals set forth in this Public Notice. We seek comment on the following proposed modification to Table 1 in Section 1.1307 particularly from the standpoint of RF safety to the public. We specifically propose that actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared for:

Table 1: Transmitters, Facilities, and Operations Subject to Routine Environmental Evaluation

Service (title 47 CFR rule part)	Evaluation required if
Satellite Communications (part 25)	<p style="text-align: right;">*****</p> <p style="text-align: center;"><i>Satellite DARS Terrestrial Repeaters: >2000 W</i> EIRP All others included.</p>

Procedural Matters: Pursuant to Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415 and 1.419, interested parties may file supplemental comments limited to the issues raised in this Public Notice no later than **21** days after this Public Notice appears in the Federal Register and supplemental reply comments no later than **28** days after this Public Notice appears in the Federal Register. Because the DARS repeaters STAs expire on March 18, 2002 or on the implementation of

¹² Report and Order, Amendment to the Commission's Rules to Establish Part 27, the Wireless Communications Service ("WCS"), February 19, 1997.

¹³ See 47 CFR § 1.1307(b), Table 1, Transmitters, Facilities, and Operations Subject to Routine Environmental Evaluation.

permanent rules for repeater operations, whichever occurs first, we must adhere to the schedule set forth in this Public Notice and do not contemplate granting extensions of time. Comments should reference IB Docket No. 95-91 and should include the DA number on the front of this Public Notice. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS).¹⁴ Comments filed through the ECFS can be sent as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. In completing the transmittal screen, parties responding should include their full name, mailing address, and the applicable docket number, IB Docket No. 95-91. Parties filing comments on paper must file an original and four copies of each filing. All filings must be sent to the Commission's Secretary, Magalie Roman Salas, Office of the Secretary, Federal Communications Commission, 445 12th Street, SW, Room TW-A325, Washington, D.C. 20554. An additional copy of all pleadings should also be sent to Rockie Patterson, International Bureau, FCC Room 6-B524, 445 12th Street, SW, Washington, D.C. 20554. One copy of all comments should also be sent to the Commission's copy contractor, Qualex International, 445 12th Street, SW, Room CY-B402, Washington, D.C. 20554. Copies of all filings are available for public inspection and copying during regular business hours at the FCC's Reference Information Center, 445 12th Street, SW, telephone 202-857-3800; facsimile 202-857-3805.

For *ex parte* purposes, this proceeding continues to be a "permit-but-disclose" proceeding, in accordance with Section 1.1200(a) of the Commission's rules, and is subject to the requirements set forth in Section 1.1206(b) of the Commission's rules.

The Commission's Consumer Information Bureau Reference Information Center shall send a copy of this Notice, including the Initial Regulatory Flexibility Analysis to the Chief Counsel for Advocacy of the Small Business Administration.

For further information, please contact Rockie Patterson, Satellite Engineering Branch at 202-418-1183.

Action by the Chief, International Bureau, November 1, 2001.

Initial Regulatory Flexibility Act Analysis

1. As required by the Regulatory Flexibility Act (RFA),¹⁵ the Bureau has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in the International Bureau's Public Notice Requesting Further Comment on Selected Issues Regarding the Authorization of Satellite Digital Audio Radio Service Terrestrial Repeater Networks (Notice). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadline for comments on the Notice provided above on pages 8-9. The Bureau will send a copy of the Notice, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.¹⁶ In addition, the Notice and IRFA (or summaries thereof) will be published in the Federal Register.

2. **Need for and Objections of the Proposed Rules.** This Notice seeks comments on specific proposals to resolve issues regarding the proposed use of satellite digital audio radio service (SDARS) terrestrial repeaters in conjunction with SDARS systems.

¹⁴ See Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24121 (1998).

¹⁵ See 5 U.S.C. § 603.

¹⁶ *Id.* at § 603(a).

The Bureau intends to evaluate whether the proposed rules will facilitate the efficient implementation of SDARS while seeking to limit or mitigate interference to terrestrial operators. The proposals define a compensation methodology for SDARS licensees to pay for the components necessary for WCS licensees to eliminate the effects of blanketing interference to WCS receivers. It also seeks comment on provisions that would resolve potential interference to MDS and ITFS licensees.

3. **Legal Basis.** This Notice is adopted pursuant to Sections 1, 4(i), 4(j), 303(c), 303(f), and 303(g) of the Communications Act of 1934, as amended, 47 U.S.C. § 151(i), 154(i), 154(j), 303(c), 303(f) and 303(g).

4. **Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply.** The RFA directs agencies to provide a description of, and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.¹⁷ The RFA defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” or “small concern” under Section 3 of the Small Business Act.¹⁸ A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.¹⁹ A small organization is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”²⁰ Nationwide, as of 1992, there were approximately 275,801 small organizations.²¹ “Small governmental jurisdiction”²² generally means “governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than 50,000.”²³ As of 1992, there were approximately 85,006 governmental entities in the United States.²⁴ This number includes 38,978 counties, cities, and towns; of these 37,566, or 96%, have populations of fewer than 50,000.²⁵ The Census Bureau estimates that this ratio is approximately accurate for all governmental entities. Thus, of the 85,006 governmental entities, we estimate that 81,600 (96%) are small entities.

5. **SDARS.** The Commission has not developed a definition of small entities applicable to geostationary or non-geostationary orbit broadcast satellite operators. Therefore, the applicable definition of small entity is the definition under Small Business Administration (SBA) rules applicable to the Communications Services, Not Elsewhere classified. This definition provides that a small entity is one with \$11.0 million or less in annual receipts.²⁶ There are only two SDARS providers authorized to provide service in the DARS spectrum band, XM Radio, Inc. and Sirius Satellite Radio, Inc. While neither has implemented nationwide service, both entities have financing of over \$100 million. In

¹⁷ *Id.* at § 604(b)(3).

¹⁸ *Id.* at § 601(3).

¹⁹ *Id.* at § 632.

²⁰ 5 U.S.C. § 601(4).

²¹ 1992 Economic Census, U.S. Bureau of the Census, Table 6 (special tabulation of data under contract to the Office of Advocacy of the U.S. Small Business Administration).

²² 47 C.F.R. § 1.1162.

²³ 5 U.S.C. § 601(5).

²⁴ U.S. Department of Commerce, Bureau of the Census, “1992 Census of Governments.”

²⁵ *Id.*

²⁶ 13 C.F.R. § 121.201, NAICS Code 4899.

addition, the DARS licensees have significant partnership interests with large corporations: General Motors in XM Radio, Inc. and DaimlerChrysler in Sirius Satellite Radio. Because of the above and the high implementation and operating costs for SDARS systems, we do not believe either DARS licensee qualifies as a small entity.

Wireless Communications Services (WCS). This service can be used for fixed, mobile, radiolocation and digital audio broadcasting satellite uses. The Commission defined "small business" for the wireless communications services (WCS) auction as an entity with average gross revenues of \$40 million for each of the three preceding years, and a "very small business" as an entity with average gross revenues of \$15 million for each of the three preceding years. The SBA has approved these definitions.²⁷ The FCC auctioned geographic area licenses in the WCS service. In the auction, there were seven winning bidders that qualified as very small business entities, and one that qualified as a small business entity. We conclude that the number of geographic area WCS licensees affected includes these eight entities.

Multipoint Distribution Service (MDS). The Commission refined the definition of "small entity" for the auction of MDS as an entity that together with its affiliates has average gross annual revenues that are not more than \$40 million for the preceding three calendar years.²⁸ This definition of a small entity is described in the Commission's Report and Order concerning MDS auctions, and has been approved by the SBA.²⁹ The Commission completed its MDS auction in March 1996 for authorizations in 493 basic trading areas (BTA's). Of 67 winning bidders, 61 qualified as small entities. Five bidders indicated that they were minority owned and four winners indicated that they were women owned businesses. MDS is an especially competitive service, with approximately 1,573 previously authorized and proposed MDS facilities. Information available to us indicates that no MDS facility generates revenue in excess of \$11 million annually. We tentatively conclude that for purposes of IRFA, there are 1,634 small MDS providers as defined by the SBA and the Commission's auction rules.

Instructional Television Fixed Service (ITFS). There are presently 2,032 ITFS licensees. All but one hundred of these licenses are held by educational institutions. Educational institutions are included in the definition of a small business. We do not, however, collect annual revenue data for ITFS licensees and are not able to ascertain how many of the 100 non-educational licensees would be categorized as small under the SBA definition. Thus, we tentatively conclude that at least 1,932 ITFS licensees are small businesses.

6. Description of Projected Reporting, Record keeping and Other Compliance Requirements. Under the proposals licensees, such as WCS, MDS and ITFS, potentially affected by the operation of SDARS repeaters will have to undertake a minimal engineering analysis to determine whether it has operations within the liability zone or the safe harbor as defined in the Notice. This analysis can be completed using the technical information provided by the DARS licensees and basic commercially available software. Thus, there may be minimal costs to these licensees associated with conducting the engineering study. As noted below, resolution of any actual interference would be at the expense of the DARS licensee provided the WCS, MDS or ITFS licensees are in the established vicinities and file timely complaints as set forth in the Notice.

7. Compliance requirements for the DARS licensees, if it is determined that there is actual interference, include contacting the affected licensee and remedying the interference. The remedy may

²⁷ See Letter from A. Alvarez, Administrator, SBA to Amy Zoslov, Chief, Auctions and Industry Analysis Division, FCC (December 2, 1998).

²⁸ 47 C.F.R. § 21.961(b)(1).

²⁹ Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act – Competitive Bidding, MM Docket No. 94-31 and PP Docket No. 93-253, *Report and Order*, 10 FCC Rcd 9589 (1995).

involve weighing options such as reducing the repeater's power or compensating the affected licensees by providing equipment and labor to alter the affected licensee's receivers. Costs to the DARS licensees may relate to engineering studies, cost analyses and expenses in equipment and labor. These costs may be determined on a case-by-case basis.

8. **Steps Taken to Minimize Significant Economic Impact on Small Entities and Significant Alternatives Considered.** The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) use of performance, rather than design standards; and (4) and exemption from coverage of the rule, or any part thereof, for small entities.³⁰

9. The proposed rule represents an alternative to extremes presented by the licensees involved in this proceeding and spreads the economic impact and business decisions to resolve interference among the licensees. Our proposed alternatives are based on the actual performance of equipment deployed and would benefit small entities affected by interference from the SDARS use of their terrestrial repeaters by providing assurances that interference to their operations will be resolved by the DARS licensees within the parameters set forth in the Notice. In addition, we have sought comment on whether the proposed compensation schedule and associated time frames are sufficient, and especially seek comment from small entities, given that they may be some of the potentially affected licensees.³¹

10. **Federal Rules that duplicate, Overlap or Conflict with the Commission's Proposals.**
None.

³⁰ 5 U.S.C. § 603(c).

³¹ See Sections III B & C; IV E & F, *supra*.