

space station authorizations, so long as the repeaters meet all applicable Commission rules.⁶²⁰ In other words, under Sirius' proposal, the holder of a valid SDARS space station license would not need any additional authorization or prior approval for operation of terrestrial repeaters.⁶²¹ Sirius further proposed allowing SDARS licensees to retain repeater authority indefinitely, as long as the licensee maintains a valid space station license.⁶²² In response, the WCS Coalition did not oppose blanket licensing of SDARS repeaters *per se*, although it opposed many of the rules that Sirius proposed to govern operation of such repeaters.⁶²³

268. The 2007 Notice invited comment on Sirius' blanket licensing proposal.⁶²⁴ It also invited comment on adopting a licensing procedure for SDARS repeaters like that prescribed for large networks of very small aperture terminals (VSATs) in the Fixed-Satellite Service (FSS).⁶²⁵ Under the VSAT licensing procedure, the operator applies for an earth station license to operate up to a specific number of remote terminals during a specific license term.⁶²⁶ In addition, it invited comment on using an alternative licensing procedure patterned on the procedure for licensing Mobile Satellite Service (MSS) ancillary terrestrial components (ATCs) to operate in spectrum assigned for MSS operation FCC-licensed space stations, whereby the MSS licensee applies for modification of its space station license.⁶²⁷

269. XM argues that blanket licensing is an efficient method for authorizing new facilities and supports unlimited blanket licensing for repeaters under an SDARS space station license.⁶²⁸ Sirius contends that applying for authority for each repeater individually is cumbersome.⁶²⁹ Sirius stresses that authority for WCS operation is granted by blanket licensing and maintains that blanket licensing should also be available for SDARS repeaters.⁶³⁰

270. *Discussion.* We conclude that SDARS licensees should be able to obtain blanket licenses for terrestrial repeaters that operate in compliance with the rules governing such operation. The Commission issues blanket licenses for earth stations in VSAT networks,⁶³¹ for subscriber mobile devices in MSS networks,⁶³² and for the ancillary terrestrial component (ATC) to MSS networks.⁶³³ In those contexts, the Commission has found that blanket licensing is an efficient mechanism for issuing large

⁶²⁰ 2006 Petition for Rulemaking, Appendix A, proposed Section 25.214(d)(1); cited in 2007 Notice, 22 FCC Rcd at 22139 ¶ 46.

⁶²¹ 2007 Notice, 22 FCC Rcd at 22139 ¶ 46.

⁶²² *Id.*

⁶²³ WCS Coalition July 2007 Letter at 1 n.3; cited in 2007 Notice, 22 FCC Rcd at 22139 ¶ 46. The WCS Coalition opposed many of the rules proposed by Sirius for operation of such repeaters, such as, among other things, the proposal to operate repeaters at power levels greater than 2 kW average EIRP.

⁶²⁴ 2007 Notice, 22 FCC Rcd at 22139 ¶ 47.

⁶²⁵ 2007 Notice, 22 FCC Rcd at 22139 ¶ 47.

⁶²⁶ 2007 Notice, 22 FCC Rcd at 22139 ¶ 47, citing 47 C.F.R. § 25.134(d).

⁶²⁷ 2007 Notice, 22 FCC Rcd at 22139 ¶ 47, citing 47 C.F.R. § 25.149.

⁶²⁸ XM Comments at 41.

⁶²⁹ Sirius Comments at 7-8.

⁶³⁰ Sirius Comments at 9.

⁶³¹ See 47 C.F.R. § 25.134.

⁶³² See 47 C.F.R. §§ 25.135 and 25.136.

⁶³³ See 47 C.F.R. § 25.149.

numbers of authorizations. There is nothing in the record that would warrant precluding SDARS operators from obtaining blanket licenses for their terrestrial repeaters.

271. Our adoption of blanket licensing does not mean that SDARS licensees will be permitted to deploy an unlimited number of terrestrial repeaters. SDARS licensees must specify, as part of their blanket license application, the maximum number of terrestrial repeaters that they propose to operate at power levels greater than 2 W, and the maximum number that they propose to operate at power level of 2 W or less. The Commission retains discretion to determine, when reviewing such applications, whether allowing operation of the proposed maximum numbers of repeaters would be consistent with the public interest. Operation of repeaters in excess of the number specified in the blanket license application would constitute a violation of the license terms and subject the licensee to possible action by the Enforcement Bureau.

272. For purposes of blanket licensing, we adopt a model based on our licensing of VSAT networks. To obtain authority for terrestrial repeaters, SDARS licensees must file an earth station application using Form 312, except that a Schedule B need not be filed since this form asks for technical information that is either inapplicable to SDARS terrestrial repeater operations or immaterial to determining whether such operations would serve the public interest. The application must also specify the maximum number of repeaters that will be deployed under the authorization at 1) power levels equal to or less than 2 W average EIRP, and 2) power levels greater than 2-W average EIRP (up to 12-kW average EIRP). The application must also identify the space station(s) with which the terrestrial repeaters will communicate, the frequencies and emission designations of such communications, and the frequencies and emission designations used to re-transmit the received signals. The application must include a certification that the proposed SDARS terrestrial repeater operations will comply with all the rules adopted for such operations.⁶³⁴ The fees associated with SDARS terrestrial repeater filings shall be those associated with filings for FSS VSAT systems in Section 1.1107 of the Commission's rules.⁶³⁵

273. We conclude the blanket-licensing is inappropriate for repeater operations that do not comply with the rules adopted for SDARS terrestrial repeater operations. Such non-compliant operations may not be applied for, or authorized under, the same blanket authorization as compliant repeater operations. Rather, the operation of such non-compliant repeaters must be applied for and authorized under individual site-by-site licenses using Form 312, and appropriate waiver of the Commission's rules must be requested for non-compliant operations. For example, individual site-by-site licensing will apply to any SDARS terrestrial repeaters that are proposed to operate at power levels greater than 12 kW average EIRP (with a maximum PAPR of 13 dB), that do not comply with applicable OOB attenuation levels, that do not comply with the requirements of Part 1, Subpart I, and Part 17, or that do not meet the requirements of all applicable international agreements. For each such repeater, the application for an individual site-by-site license must contain, as an attachment to the application, the technical information required to be shared with WCS licensees as part of the notification requirements adopted herein.⁶³⁶ Earth station applications for SDARS terrestrial repeaters, under either a blanket or site-by-site approach, will be subject to the Commission's existing rules regarding public notice prior to agency action, which will provide a procedure for interested parties to comment on the contents of specific applications.

⁶³⁴ See *infra*, Appendix B, § 25.144(e)(8)(iii).

⁶³⁵ 47 C.F.R. § 1.1107.

⁶³⁶ See *infra*, Appendix B, § 25.144(c)(9).

274. The license term for such repeater operations will be the same as for SDARS space stations, *i.e.*, 8 years.⁶³⁷ Authorization to operate such repeaters will terminate automatically, however, in the event that programming retransmitted by the repeaters is not also being transmitted by satellite directly to an SDARS licensee's subscribers' receivers. As discussed below, it is our intent that terrestrial repeaters be used solely to simultaneously re-transmit the complete programming, and only that programming, that is also being transmitted by satellite directly to an SDARS licensee's subscribers' receivers, and may not be used to distribute any information not also transmitted to all subscribers' receivers.⁶³⁸ If, during the term of the blanket license for repeater operations, the complete programming re-transmitted by repeaters is not also being transmitted by satellite directly to an SDARS licensee's subscribers' receivers, repeaters must cease operations until such time as the complete programming is being transmitted directly to that SDARS licensee's subscribers' receivers.

275. We decline to adopt a licensing procedure modeled on that used for ATC operations. MSS licensees with FCC-licensed space stations request authority for ATC operation by seeking modification of their space station authorizations. Although SDARS licensees have operated terrestrial repeaters pursuant to grants of space station STAs, it is not in the public interest to continue to use space station authorizations as the vehicle for licensing SDARS terrestrial repeaters. As discussed below, repeater operations are not tied to specific SDARS space stations, and we have concluded that it is permissible for repeaters to re-transmit signals from sources other than SDARS space stations.⁶³⁹ As a result, it is administratively difficult to tie repeaters to a specific space station authorization, since some repeaters may not be communicating with any SDARS space station.⁶⁴⁰ Nor is there any need to do so in order to prevent SDARS repeaters from operating as stand-alone facilities, since we determine below that repeaters, regardless of the source of programming origination, are limited to re-transmitting the complete programming, and only that programming, that is also being transmitted by satellite directly to SDARS subscribers' receivers.⁶⁴¹

2. Notification Requirements

276. *Background.* As discussed above in Section III.E.5., we proposed requiring WCS and SDARS licensees to notify potentially affected licensees in the other service prior to deploying new or modified WCS base stations or SDARS terrestrial repeaters. As a result of these proposals, we have adopted rules requiring WCS licensees to provide informational notifications, as set forth in new Section 27.72 in Appendix B.⁶⁴² In addition, WCS licensees must share with SDARS licensees certain technical information at least 10 business days before operating a new base station, and at least 5 business days before operating a modified base station.⁶⁴³ All WCS licensees and WCS spectrum lessees must also

⁶³⁷ See *infra*, Appendix B, § 25.121. See also 47 C.F.R. § 25.145(d) ("The license term for each digital audio radio service satellite shall commence when the satellite is launched and put into operation and the term will run for eight years.")

⁶³⁸ See *infra*, Section IV.C.1.

⁶³⁹ See *infra*, Section IV.B.4 (concluding that the use of non-SDARS satellites to feed programming to terrestrial repeaters is reasonable and technically-justified).

⁶⁴⁰ See *id.* (observing that Sirius provides programming to its terrestrial repeaters through leased capacity on third-party FSS space stations, not directly through its SDARS space station).

⁶⁴¹ See *infra*, Section IV.C.1.

⁶⁴² See *supra*, paragraph 146. For the sake of brevity, we will not repeat the background and discussion underlying the adoption of these proposed rules here, but rather incorporate these background and discussion sections by reference.

⁶⁴³ *Id.*

provide Sirius XM an inventory of their deployed infrastructure in accordance with and within 30 days of the effective date of new Section 27.72 in Appendix B to this Order.⁶⁴⁴ Although this information need not be provided to the Commission when it is provided to SDARS licensees, a WCS licensee must maintain an accurate and up-to-date inventory of its base stations, including the information set forth in Section 27.72(c)(2), which shall be made available upon request by the Commission.⁶⁴⁵

277. *Discussion.* We adopt parallel requirements for SDARS licensees to notify potentially affected WCS licensees prior to deployment of new or modified SDARS terrestrial repeaters. Our review of the record indicates that the potential for interference between an SDARS repeater and a WCS base station can be mitigated by a streamlined notification process, whereby the SDARS licensees share information regarding new or modified SDARS repeater operations. Specifically, as set forth in new Section 25.263 in Appendix B, we will require SDARS licensees to provide informational notifications as specified in those rules.⁶⁴⁶ The rules we adopt today will require SDARS licensees to share with WCS licensees certain technical information at least 10 business days before operating a new repeater, and at least 5 business days before operating a modified repeater.⁶⁴⁷

278. In order to facilitate the efficient planning of robust WCS future network deployments, we also require SDARS licensees to provide potentially affected WCS licensees an inventory of their terrestrial repeater infrastructure, including the information set forth in Section 25.263 for each repeater currently deployed. Although we do not require this information to be routinely provided to the Commission when it is provided to WCS licensees, an SDARS licensee operating terrestrial repeaters must maintain an accurate and up-to-date inventory of its terrestrial repeaters operating above 2 W EIRP, including the information set forth in Section 25.263(c)(2) for each repeater, which shall be made available to the Commission upon request.⁶⁴⁸ An SDARS licensee may satisfy this requirement, for example, by maintaining this information on a secure website, which can be accessed by authorized Commission staff at any time.

279. WCS and SDARS licensees are required to cooperate in good faith in the selection and use of new or modified station sites and frequencies to reduce interference and make the most effective use of the authorized facilities. Licensees suffering or causing harmful interference must cooperate in good faith to resolve such problems by mutually satisfactory arrangements. If the licensees are unable to do so, the International Bureau, in consultation with the Office of Engineering and Technology and the Wireless Telecommunications Bureau, may impose restrictions, including specifying transmitter power, antenna height, and area or hours of operation of a station. Similarly, the Wireless Telecommunications

⁶⁴⁴ *Id.*

⁶⁴⁵ *Id.*

⁶⁴⁶ We note that if a WCS licensee is party to a *de facto* transfer spectrum leasing arrangement under Part 1, Subpart X of the Commission's rules, its lessee will be required to comply with new Section 25.263, in Appendix B to this Order.

⁶⁴⁷ Specifically, SDARS licensees must share technical information with potentially affected WCS licensees. For these purposes, "potentially affected" is defined in Section 25.263(b)(1) of the Commission's rules as set forth in Appendix B to this Order. Potentially affected WCS licensees include those licenses authorized to operate base stations in the same Major Economic Area (MEA) or Regional Economic Area Grouping (REAG) as that in which the terrestrial repeater is to be located. In addition, in cases in which a terrestrial repeater is to be located within 5 km of the border of an MEA or REAG, the SDARS licensee must provide information to WCS licensees authorized to operate base stations in that neighboring MEA or REAG. There is nothing in the record to suggest that an SDARS repeater greater than 5 km from an MEA or REAG border is likely to cause harmful interference to a WCS base station in a neighboring MEA or REAG.

⁶⁴⁸ See *infra*, Appendix B at § 25.263(c)(2).

Bureau, in consultation with the Office of Engineering and Technology and the International Bureau, may impose such restrictions on WCS licensees.

3. Collocation of SDARS and WCS Stations

280. In the 2007 *Second Further Notice*, the Commission observed that Sirius proposed requiring SDARS licensees planning to collocate a terrestrial repeater with a WCS base station or another SDARS licensee's terrestrial repeater to demonstrate that the collocation would not cause more harmful interference than a single repeater at that location.⁶⁴⁹ Sirius also proposed a similar rule for WCS licensees planning to collocate with SDARS licensees or other WCS licensees.⁶⁵⁰ Alternatively, the WCS Coalition maintained that a coordination requirement would be sufficient, and that no specific collocation requirements are needed.⁶⁵¹

281. The 2007 *Notice* sought comment on the need for collocation rules in general, and for Sirius' proposal in particular. It also invited parties to propose an adequate showing that collocation will not increase aggregate interference. In addition, it invited comment on mechanisms for dispute resolution if parties are unable to agree on a particular showing. Finally, it asked whether the use of multiple sectorized antennas on SDARS repeaters ameliorates or exacerbates collocation concerns. Commenters were encouraged to support their positions on this issue with detailed technical studies.⁶⁵²

282. XM maintains that SDARS operators and WCS licensees can resolve interference issues between themselves in coordination, and asserts that restrictions on collocation are unneeded.⁶⁵³ Similarly, the WCS Coalition asserts that the Commission typically relies on licensees to work out collocation issues privately, and that complex collocation rules are unnecessary for SDARS and WCS base station facilities.⁶⁵⁴

283. *Discussion.* We agree that specific collocation rules are not required. We are adopting a notification procedure that will substantially reduce the probability that SDARS and WCS will cause harmful interference to each other. If SDARS operators and WCS licensees can agree to collocate facilities, we see no public interest benefit in precluding them from doing so.

4. Eligibility to Operate Terrestrial Repeaters

a. Use of Repeaters with Non-SDARS Satellites

284. *Background.* The 2007 *Notice* sought comment on a proposal to prohibit the stand-alone operation of SDARS repeaters by requiring the repeaters to transmit only in conjunction with an operating SDARS satellite.⁶⁵⁵ The Commission reasoned that such a requirement would ensure that SDARS repeaters are used to complement the end-user satellite service, and so would be consistent with the

⁶⁴⁹ See 2007 *Second Further Notice*, 22 FCC Rcd at 22123 ¶ 26.

⁶⁵⁰ See 2007 *Second Further Notice*, 22 FCC Rcd at 22123 ¶ 26.

⁶⁵¹ See 2007 *Second Further Notice*, 22 FCC Rcd at 22123 ¶ 27.

⁶⁵² See 2007 *Notice*, 22 FCC Rcd at 22123 ¶ 28.

⁶⁵³ XM Comments at 38-39.

⁶⁵⁴ WCS Coalition Comments at 35-37.

⁶⁵⁵ 2007 *Notice*, 22 FCC Rcd at 22139 ¶ 48, citing *SDARS Order and FNPRM*, 12 FCC Rcd at 5811 ¶ 139; 2001 *Public Notice* at 3.

frequency allocation for SDARS. It also stated that such a requirement would ensure that there would be no transformation of SDARS into an independent terrestrial network.⁶⁵⁶

285. The 2007 Notice also invited comment on whether SDARS licensees may use non-SDARS satellites to feed terrestrial repeaters.⁶⁵⁷ For example, Sirius currently uses FSS VSAT networks to send to its SDARS repeaters the exact same programming that is sent from Sirius through its SDARS satellites to subscribers.⁶⁵⁸ Sirius states that this distribution method is necessary to avoid self-interference, or “ring around,” which would otherwise be caused by the collocation of a receiver and transmit antenna on the same repeater using adjacent frequencies.⁶⁵⁹ Sirius contends that placing restrictions on its use of repeaters would preclude SDARS licensees from using those repeaters efficiently.⁶⁶⁰ NAB opposes the use of non-SDARS satellites to feed repeaters, arguing that the elimination of a requirement that repeaters be fed from a SDARS satellite paves the way for terrestrial repeaters to act independently from the satellite-based network.⁶⁶¹

286. *Discussion.* We adopt the requirement that only entities holding or controlling SDARS space station licenses may construct and operate SDARS repeaters and only in conjunction with at least one SDARS space station that is concurrently authorized and transmitting directly to subscribers. We conclude that such a requirement is important in ensuring that SDARS repeaters remain complementary to a satellite-based service and that SDARS repeaters are not transformed into terrestrial broadcast network independent of the satellite-based service for which the 2320-2345 MHz band was allocated. We also note the requirement, adopted in Section IV.C.1 *supra*, that SDARS terrestrial repeaters are restricted to the simultaneous retransmission of the complete programming, and only that programming, transmitted by the satellite directly to the SDARS subscribers' receivers, and may not be used to distribute any information not also transmitted to all subscribers' receivers.⁶⁶² Under such eligibility and programming requirements, the operation of SDARS repeaters depends on the operation of the SDARS satellites. Unless SDARS licensees have operational satellites, there will be no programming transmitted via satellite directly to any SDARS subscriber's receiver. In situations where there are no operational SDARS satellites, we prohibit the associated repeaters from transmitting as well.⁶⁶³ Thus, this requirement prohibits stand-alone operation of terrestrial repeaters, absent operational SDARS satellites providing service directly the public. Accordingly, if the same programming provided by terrestrial repeaters is not also being provided to subscriber receivers directly from SDARS satellites, terrestrial

⁶⁵⁶ *SDARS Order and FNPRM*, 12 FCC Rcd at 5811 ¶ 139.

⁶⁵⁷ *2007 Notice*, 22 FCC Rcd at 22139-22140 ¶ 49.

⁶⁵⁸ *2007 Notice*, 22 FCC Rcd at 22139-22140 ¶ 49. Sirius explains that each repeater is co-located with a VSAT antenna, which receives transmissions in the Ku-band (11.7-12.2 GHz space-to-Earth) via a FSS satellite in geostationary orbit. The repeater converts the Ku-band signal into S-band (2.3 GHz-band) frequencies used for SDARS repeater transmissions. *See id.*

⁶⁵⁹ *2007 Notice*, 22 FCC Rcd at 22139-22140 ¶ 49. Unlike XM Radio, which has divided its center terrestrial repeater spectrum into two equal segments, Sirius operates with a single center repeater segment. Sirius' system design will not permit its SDARS repeaters to receive a satellite signal from one of its outer segments of its assigned band and re-transmit it in the center segment without generating self-interference into channels dedicated to subscriber reception. *Id.* at n.131.

⁶⁶⁰ Sirius Comments at 37.

⁶⁶¹ *2007 Notice*, 22 FCC Rcd at 22140 ¶ 49. *See also* NAB Comments at 5-6.

⁶⁶² *See infra* Section IV.C.1.

⁶⁶³ We do not intend for this rule, however, to prohibit SDARS repeaters from operating during limited service outages on SDARS satellites, where at least one SDARS satellite remains operational and transmitting directly to some portion of the public.

repeaters must cease operations until such time as the complete programming is restored and is transmitted directly to SDARS licensee's subscribers' receivers.

287. We also find that it is not necessary to feed SDARS repeaters directly through SDARS satellites. Under the facts presented by Sirius, we conclude that the use of non-SDARS satellites to feed repeaters is a reasonable and technically-justified method to avoid self-interference. We emphasize that, so long as the repeaters are restricted to the simultaneous retransmission of the complete programming, and only that programming, transmitted by the satellite directly to the SDARS subscribers' receivers, and are not used to distribute any information not also transmitted to all subscribers' receivers, the policy objectives of the Commission regarding the appropriate use of SDARS terrestrial repeaters are met.⁶⁶⁴

b. Use of Repeaters Outside of SDARS Satellite Service Area

288. The *2007 Notice* sought comment on whether we should adopt rules governing the ability of SDARS licensees to deploy repeaters in geographic areas not within the service footprint of SDARS satellites and the impact a prohibition on such terrestrial repeater deployments would have on the ability of the American public residing in areas not within the service footprint of SDARS satellites to receive satellite radio.⁶⁶⁵ The *2007 Notice* observed that Sirius had filed requests for special temporary authority to operate terrestrial repeaters in Alaska and Hawaii, where it is difficult to receive a signal directly from the Sirius satellites.⁶⁶⁶ Sirius asserts that restricting its use of repeaters in this fashion would preclude SDARS licensees from extending service to unserved areas.⁶⁶⁷ Sirius further maintains that using repeaters to extend service to new areas is the same as using them to extend service to urban canyons and heavily foliated areas.⁶⁶⁸ NAB and the broadcasters' associations of Alaska and Hawaii oppose such operations, arguing that the repeaters in this instance are not complementary to a satellite service, but are rather stand-alone terrestrial facilities.⁶⁶⁹ They also contend that allowing SDARS licensees to use their repeaters in this manner would harm localism in broadcasting.⁶⁷⁰ We note that, as part of our review of the merger between Sirius and XM, numerous parties called for equal provision of SDARS to all consumers in the United States, regardless of their places of residence.⁶⁷¹ Although we found in that proceeding that expanded SDARS satellite coverage beyond the conterminous United States is not technically feasible or economically reasonable at this time,⁶⁷² we strongly encouraged service to Alaska, Hawaii, the U.S. Virgin Islands and other territories of the United States, where technically feasible and

⁶⁶⁴ See *infra*, Section IV.C.1.

⁶⁶⁵ *2007 Notice*, 22 FCC Rcd at 22140 ¶¶ 50-51.

⁶⁶⁶ *2007 Notice*, 22 FCC Rcd at 22140 ¶ 50, citing Sirius Satellite Radio Inc., *Request for Special Temporary Authority to Operate Four Satellite DARS Terrestrial Repeaters in Alaska and Hawaii*, IBFS File No. SAT-STA-20061107-00131, filed Nov. 11, 2006. In this Order below, we conclude that SDARS licensees should be allowed to provide service to Alaska and Hawaii, through the use of terrestrial repeaters. Since none of the requested repeaters are proposed to be operated at power levels greater than 12-kW average EIRP, we instruct the International Bureau to grant Sirius' pending application to operate terrestrial repeaters in Alaska and Hawaii as part of the framework for transition from STAs to blanket licensing adopted in Section IV.A.3 above.

⁶⁶⁷ Sirius Comments at 37-38.

⁶⁶⁸ Sirius Reply at 37-38.

⁶⁶⁹ *2007 Notice*, 22 FCC Rcd at 22140 ¶ 50. See also NAB Comments at 7-10; Alaska/Hawaii Broadcasters Comments at 3, 5.

⁶⁷⁰ Alaska/Hawaii Broadcasters Comments at 3-5.

⁶⁷¹ See *SDARS Merger Order*, 23 FCC Rcd at 12416 ¶ 148 and n.484.

⁶⁷² See *SDARS Merger Order*, 23 FCC Rcd at 12417-18 ¶150.

economically reasonable to do so.⁶⁷³ We also found in that proceeding that the public interest would be served through a voluntary commitment by the merger applicants to provide the Sirius satellite radio service to the Commonwealth of Puerto Rico using terrestrial repeaters.⁶⁷⁴

289. *Discussion.* We find that the public interest favors the ability of SDARS licensees to operate terrestrial repeaters in Alaska, Hawaii, and other U.S. Territories and Possessions that are not within the service footprint of SDARS satellites. We confirm that use of terrestrial repeaters is a technically and economically feasible way to expand SDARS service to residents of Alaska, Hawaii, and U.S. Territories and Possessions. The Commission has previously stated its commitment to supporting a vibrant and vital terrestrial radio service for the public.⁶⁷⁵ Each time that the Commission has considered the impact of SDARS on terrestrial radio service, it has found insufficient evidence that SDARS necessarily harms the viability of local broadcasters or their ability to air locally oriented programming.⁶⁷⁶ We also find unconvincing the argument that operation of SDARS repeaters in areas not also served through a SDARS satellite footprint transforms the repeaters into stand-alone terrestrial broadcast stations, because the repeaters will not be transmitting content that is different from the content supplied to subscribers in the conterminous United States via satellite. Accordingly, repeaters in Puerto Rico, Alaska, Hawaii, and U.S. Territories and Possessions can be included as part of an application for blanket authority to operate terrestrial repeaters.

5. SDARS Environmental Impact and RF Safety

a. Environmental Assessment

290. *Background.* Section 1.1307(b) of the Commission's rules requires almost all Commission licensees to prepare an Environmental Assessment (EA) if a particular facility, operation, or transmitter would cause human exposure to levels of RF fields in excess of certain specified limits.⁶⁷⁷ For licensees subject to Part 25 and transmitting in frequency bands above 1,500 MHz, those limits are 5 mW/cm² averaged over six minutes for the licensee's employees, provided those employees are "fully aware of the potential for exposure and can exercise control over their exposure," and 1 mW/cm² averaged over 30 minutes for the general population.⁶⁷⁸ For terrestrial cellular and paging services, the radiated power limit for categorical exclusion from the requirement to determine compliance with the exposure limits (routine environmental evaluation) and preparation of an EA if the exposure limits are

⁶⁷³ See *SDARS Merger Order*, 23 FCC Rcd at 12416 ¶ 147, 12417-18 ¶ 150.

⁶⁷⁴ See *SDARS Merger Order*, 23 FCC Rcd at 12416 ¶ 147. Subsequent to the merger, Sirius XM applied for – and was granted – STA to operate terrestrial repeaters in the Commonwealth of Puerto Rico. See *Sirius XM Radio Inc., Order and Authorization*, DA 09-2039 (Int'l Bur., Sat. Div. rel. Sept. 11, 2009).

⁶⁷⁵ See *SDARS Order and FNPRM*, 12 FCC Rcd at 5769 ¶ 33.

⁶⁷⁶ See *SDARS Order and FNPRM*, 12 FCC Rcd at 6768 ¶ 31 ("In sum, although healthy satellite DARS systems are likely to have some adverse impact on terrestrial radio audience size, revenue, and profits, the record does not demonstrate that licensing satellite DARS would have such a strong adverse impact that it threatens the provision of local radio service."); *SDARS Merger Order*, 23 FCC Rcd at 12382-84 ¶¶ 73-74, 12480 ¶ 155 (finding that even when merged, SDARS will not necessarily harm the ability of local broadcasters to air locally oriented programming).

⁶⁷⁷ Section 1.1307(b)(1) of the Commission's rules, 47 C.F.R. § 1.1307(b), cited in *2007 Notice*, 22 FCC Rcd at 22137-38 ¶¶ 41-42. The exception is "portable equipment" subject to the equipment certification requirement in Section 2.1093 of the Commission's rules, 47 C.F.R. § 2.1093. We discuss equipment certification further below.

⁶⁷⁸ Sections 1.1307(b) and 1.1310 of the Commission's rules, 47 C.F.R. §§ 1.1307(b), 1.1310, cited in *2007 Notice*, 22 FCC Rcd at 22137-38 ¶¶ 41-42. The Commission has included compliance with these limits as conditions on Sirius' and XM's terrestrial repeater STAs. See, e.g., *Sirius 2001 STA Order*, 16 FCC Rcd at 16778 ¶ 16.

exceeded is set at 1,640 W EIRP, or 1,000 W ERP.⁶⁷⁹ The *2001 Public Notice* sought comment on requiring an evaluation and preparation of an EA if limits are exceeded only for SDARS terrestrial repeaters intended to be operated at power levels over 2,000 W EIRP.⁶⁸⁰ In the *2007 Notice*, the Commission observed that Sirius did not address this issue in its petition for rulemaking.⁶⁸¹ The first RF-safety issue that we address in this *Second Report and Order* is the RF level at which we should require SDARS terrestrial repeater licensees to perform a routine environmental evaluation to determine compliance and prepare an EA if the exposure limits are exceeded.

291. *Discussion.* Sirius recommends requiring environmental evaluations for outdoor SDARS repeaters operating at over 1,640 W EIRP, and for indoor repeaters operating at over 2 W EIRP.⁶⁸² According to Sirius, allowing two watts for low power satellite radio repeaters would parallel its recommendations for power limits on fixed WCS subscriber devices and should be sufficient for most in-building satellite radio applications.⁶⁸³ We adopt Sirius' proposal. Sirius' proposed requirement would be consistent with the Commission's proposal in the *2001 Public Notice*.⁶⁸⁴ It is also consistent with the Commission's RF safety requirements for terrestrial cellular and paging services.⁶⁸⁵

b. Blanket Licensing for High-Powered Repeaters

292. *Background.* In the *1997 Further Notice*, the Commission proposed to preclude SDARS licensees from deploying any terrestrial repeater pursuant to a blanket license if the repeater requires an EA pursuant to the rules limiting human exposure to RF energy.⁶⁸⁶ In other words, the Commission proposed that authority for operation of SDARS repeaters that would generate cumulative radiation levels in excess of the exposure guidelines in Section 1.1310 would have to be sought by filing an individual license application for each such repeater. In the *2007 Notice*, the Commission observed that Sirius did not address this issue in its petition for rulemaking.⁶⁸⁷ Accordingly, we must determine whether to allow blanket licensing for outdoor SDARS repeaters operating at over 1,640 W EIRP, and for indoor repeaters operating at over 2 W EIRP.

293. *Discussion.* None of the parties filing comment in response to the *2007 Notice* addressed this issue. As discussed above, we decide to adopt a blanket-licensing procedure for SDARS terrestrial repeaters.⁶⁸⁸ We also decide to model this blanket licensing on our licensing provision for VSATs. Applicants seeking blanket licensing for VSATs must demonstrate that the terminals will comply with the

⁶⁷⁹ Section 1.1307(b)(1) of the Commission's rules, 47 C.F.R. § 1.1307(b), cited in *2007 Notice*, 22 FCC Rcd at 22137-38 ¶¶ 41-42.

⁶⁸⁰ *2001 Public Notice*, 16 FCC Rcd at 19442, cited in *2007 Notice*, 22 FCC Rcd at 22137-38 ¶¶ 41-42. An EIRP of 2,000 watts is equivalent to an ERP of 1219.5 watts.

⁶⁸¹ *2007 Notice*, 22 FCC Rcd at 22137 ¶ 41.

⁶⁸² Sirius Comments at 11.

⁶⁸³ *Id.*

⁶⁸⁴ See *2001 Public Notice*, 16 FCC Rcd at 19442, cited in *2007 Notice*, 22 FCC Rcd at 22137-38 ¶¶ 41-42.

⁶⁸⁵ Section 1.1307(b)(1) of the Commission's rules, 47 C.F.R. § 1.1307(b), cited in *2007 Notice*, 22 FCC Rcd at 22137-38 ¶¶ 41-42.

⁶⁸⁶ *1997 Further Notice*, 12 FCC Rcd at 5845 (Appendix C), cited in *2007 Notice*, 22 FCC Rcd at 22137 ¶ 40. See also 47 C.F.R. §§ 1.1301-1319.

⁶⁸⁷ *2007 Notice*, 22 FCC Rcd at 22137-38 ¶ 42.

⁶⁸⁸ See *supra*, Section IV.B.1.

Commission's rules regarding environmental impact.⁶⁸⁹ Accordingly, to be consistent with the VSAT blanket licensing provisions, we will require SDARS applicants seeking blanket licensing of terrestrial repeaters to certify that those repeaters will comply with the environmental impact rules. Although we will not require routine submission of a demonstration of compliance with the environmental impact rules as part of a blanket license application to operate terrestrial repeaters, SDARS licensees must maintain demonstrations of compliance with such rules and make such demonstrations available to the Commission upon request within 3 business days.⁶⁹⁰

294. We conclude that a prohibition on blanket-licensed facilities that require an EA, as was proposed in the *2007 Notice*, is not necessary. In addition to specifying the RF level at which an EA is needed, Part 1, Subpart I of the Commission's rules specifies procedures for ensuring that the Commission considers any significant environmental impact that could result from granting any application.⁶⁹¹ Those procedures apply both to individually licensed facilities and to blanket-licensed facilities. There is nothing in the record that would suggest that the RF safety standards and procedures currently in Part 1, Subpart I are insufficient for blanket-licensed facilities. Therefore, we conclude that we need not adopt any additional safeguards against RF exposure from blanket-licensed SDARS terrestrial repeaters, other than the safeguards currently in Part 1, Subpart I.

c. Radio Frequency Safety Requirements for Very Low-Powered Repeaters

295. *Background.* In the *2007 Notice*, the Commission requested comment on whether to adopt any additional RF safety measures for very low power repeaters, 10 W or less, deployed indoors where members of the general public may be present. Specifically, the *2007 Notice* asked whether warning labels or a professional installation requirement might be necessary.⁶⁹²

296. *Discussion.* No comments were received on this proposal. The RF safety rules in Part 1, Subpart I already take into account the need for warning labels or other mitigating factors in cases where a transmitter may have a significant environmental impact.⁶⁹³ The record in this proceeding does not provide any support for adopting additional labeling requirements for SDARS terrestrial repeaters.

6. Compliance with International Agreements

297. *Background.* The *2007 Notice* sought comment regarding SDARS repeater operations and obligations under international agreements between the U.S. Government and the administrations of Canada and Mexico.⁶⁹⁴ The agreements specifically contemplate the use of SDARS repeaters as part of the U.S.-licensed SDARS systems and establish maximum PFD levels for U.S. SDARS repeater

⁶⁸⁹ See 47 C.F.R. Section 25.134(d) (VSAT license applicants must file applications on Form 312, which includes Question 28, requiring the submission of a radiation hazard study).

⁶⁹⁰ See *infra*, Appendix B, at Section 25.263(c)(2).

⁶⁹¹ See, e.g., 47 C.F.R. §§ 1.1307, 1.1308.

⁶⁹² *2007 Notice*, 22 FCC Rcd at 22138 ¶ 43.

⁶⁹³ See 47 C.F.R. § 1.1307(b).

⁶⁹⁴ *2007 Notice*, 22 FCC Rcd at 22136-22137 ¶¶ 37-39, citing Agreement Concerning the Coordination Between U.S. Satellite Digital Audio Radio Service and Canadian Fixed Service and Mobile Aeronautical Telemetry Service in the Band 2320-2345 MHz (Aug. 25, 1998) ("U.S.-Canada Agreement"); Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Use of the 2310-2360 MHz Band (July 24, 200) ("U.S.-Mexico Agreement"). The texts of these agreements are available via the Internet at <http://www.fcc.gov/ib/>.

operations in the vicinity of the U.S.-Mexico and U.S.-Canada borders.⁶⁹⁵ The *2007 Notice* noted a proposal to require prior Commission approval of any SDARS repeater that exceeds the power levels and/or proximity restrictions contained in these international agreements.⁶⁹⁶ It also observed that, as part of its *2006 Petition for Rulemaking*, Sirius proposed to require SDARS repeaters to conform to the terms of the U.S.-Mexico Agreement entered into in 2000 (or any successor agreement), but was silent on whether SDARS repeaters must conform with the agreement between the U.S. and Canada.⁶⁹⁷ The *2007 Notice* sought comment on Sirius' proposal and invited comment on any alternatives that may be appropriate.⁶⁹⁸

298. *Discussion.* We adopt a rule requiring SDARS repeater operations to comply with these agreements.⁶⁹⁹ Sirius and XM do not oppose requiring compliance with the international agreements between the U.S. Government and the administrations of Canada and Mexico.⁷⁰⁰ Should an SDARS licensee wish to operate SDARS repeaters that will not comply with the international agreements with Canada and Mexico (or any successor agreements), it must seek a modification of its blanket license to authorize such repeater operations and must seek a waiver of this rule. An SDARS licensee may not operate repeaters that do not comply with international agreements unless the SDARS licensee has received explicit authority from the Commission to do so.

7. Marking and Lighting of Antenna Structures

299. *Background.* Part 17 of the Commission's rules⁷⁰¹ requires all Commission licensees to comply with Federal Aviation Administration (FAA) requirements regarding the marking and lighting of antenna structures that may become a menace to air navigation.⁷⁰² In the *2007 Notice*, the Commission requested comment on whether SDARS licensees should be required to demonstrate compliance with Part 17 as part of any request for blanket authorization of SDARS terrestrial repeaters.⁷⁰³

300. *Discussion.* XM and Sirius do not oppose the imposition of this requirement.⁷⁰⁴ We see no reason to exempt SDARS repeaters from the Part 17 requirements that are generally applicable to all Commission licensees.⁷⁰⁵ Accordingly, we adopt the proposal from the *2007 Notice* to require SDARS

⁶⁹⁵ See U.S.-Canada Agreement at 5 (coordination of terrestrial repeaters not necessary provided individual repeaters do not exceed PFD limit of -119 dB (W/m²/4kHz) at and beyond common border); U.S.-Mexico Agreement, Appendix I (setting PFD limit for terrestrial repeaters at -154 dB (W/m²/4kHz) at the U.S.-Mexico border). See also *2007 Notice*, 22 FCC Rcd at 22136 ¶ 37.

⁶⁹⁶ *2007 Notice*, 22 FCC Rcd at 22136 ¶ 38.

⁶⁹⁷ *2007 Notice*, 22 FCC Rcd at 22137 ¶ 39.

⁶⁹⁸ *2007 Notice*, 22 FCC Rcd at 22137 ¶ 39.

⁶⁹⁹ We note that this rule is the same as the condition regarding compliance with international agreements that has been placed on all SDARS repeater STAs to date.

⁷⁰⁰ Sirius Comments at 38; XM Comments at 40.

⁷⁰¹ 47 C.F.R. Part 17.

⁷⁰² See 47 C.F.R. § 17.1.

⁷⁰³ *2007 Notice*, 22 FCC Rcd at 22138 ¶ 44.

⁷⁰⁴ XM Comments at 40; Sirius Comments at 10.

⁷⁰⁵ We note that the existing STAs for SDARS repeater condition operations on compliance with Part 17 of the Commission's rules. See, e.g., *Sirius 2001 STA Order*, 12 FCC Rcd at 16780 ¶ 18.

licensees applying for blanket terrestrial repeater authority to certify in their applications that they will comply with the requirements of Part 17.⁷⁰⁶

8. Equipment Authorization

301. *Background.* The Communications Act authorizes the Commission to make regulations to ensure that devices that emit radio-frequency (RF) energy comply with applicable technical rules to ensure that they will not cause harmful interference before they enter the stream of commerce in the United States.⁷⁰⁷ Pursuant to that authority, the Commission has adopted rules that require many types of RF-emitting equipment to be authorized for importation or commercial distribution in accordance with one of three procedures – Certification, Declaration of Conformity, and Verification – which are defined in Part 2 Subpart J of the rules.⁷⁰⁸ Together, these procedures are commonly known as the equipment authorization rules.⁷⁰⁹ The technical standards for equipment authorization vary by device, but today the majority of radio transmitters that "intentionally radiate" radio waves must be found to be compliant with the governing rules before being marketed, sold, or imported into the United States.⁷¹⁰ In particular, the Commission requires Certification of "portable earth station transceivers"⁷¹¹ and ATC transmitters.⁷¹² Under Part 27 of the Commission's rules, WCS transmitters are subject to the Certification procedure contained in the Commission's equipment authorization rules.⁷¹³ In the *2007 Notice*, the Commission questioned whether a Certification requirement should be adopted either for SDARS terrestrial repeaters operating at very low power repeaters or for repeaters operating at higher power levels.⁷¹⁴

302. Sirius supports an equipment authorization process for SDARS terrestrial repeaters that is comparable to the process that has been required for WCS transmitters (*i.e.*, Certification).⁷¹⁵ Sirius XM, however, requests that it be given at least a 24-month long window of time to complete Certification of existing repeaters, or that it be allowed to use a procedure other than Certification – such as Verification

⁷⁰⁶ Sections 25.113(c), (d), and (e) of the Commission's rules, 47 C.F.R. § 25.113(c), (d), (e), state that all Part 25 licensees are subject to Part 17 of the Commission's rules. Because we have decided not to exempt SDARS terrestrial repeater licensees from these requirements, it is not necessary to revise these rules.

⁷⁰⁷ 47 U.S.C. § 302.

⁷⁰⁸ Certification is an equipment authorization issued by the Commission or by a recognized Telecommunication Certification Body (TCB) on behalf of the Commission based on an application and test data submitted by the responsible party (manufacturer or importer). Declaration of Conformity (DoC) is an equipment authorization procedure that requires the responsible party to make measurements or take other necessary steps to ensure that the equipment complies with the appropriate technical standards. See 47 C.F.R. §§ 2.906, 2.909. Verification is an equipment authorization procedure under which the responsible party makes measurements or takes the necessary steps to ensure that the equipment complies with the appropriate technical standards. See 47 C.F.R. §§ 2.909(b), 2.953.

⁷⁰⁹ See 47 C.F.R. § 2.901 *et seq.*

⁷¹⁰ See, e.g., 47 C.F.R. §§ 24.51, 27.51, which require that personal communications services (PCS) and WCS devices be authorized under the Certification procedure, respectively.

⁷¹¹ Currently, Part 25 defines earth station transceivers as portable if the transceivers' radiating element would be used within 20 centimeters of the operator's body while the devices are in use. See 47 C.F.R. § 25.129 (requiring Certification for portable earth station transceivers).

⁷¹² See 47 C.F.R. § 25.149(c).

⁷¹³ See 47 C.F.R. § 27.51, *citing* Part 2, Subpart J of the Commission's rules, 47 C.F.R. § 2.901 *et seq.*

⁷¹⁴ *2007 Notice*, 22 FCC Rcd at 22138 ¶ 43.

⁷¹⁵ Sirius Comments at 10.

or Declaration of Conformity – to authorize makes and models of terrestrial repeaters currently in operation.⁷¹⁶ The WCS Coalition, in its *ex parte* filings, did not oppose the 24-month window proposed by Sirius XM. The WCS Coalition also recommends imposing the same equipment authorization procedure on SDARS terrestrial repeaters that has been imposed on WCS transmitters. According to the WCS Coalition, Certification of SDARS terrestrial repeaters is necessary to ensure that the repeaters being deployed are compliant with the Commission's technical rules, especially given that XM and Sirius have a track record of deploying equipment that does not meet the Commission's technical rules.⁷¹⁷

303. *Discussion.* We agree with Sirius and the WCS Coalition that requiring Certification for SDARS terrestrial repeaters is in the public interest since it will create a parallel regulatory process for both SDARS and WCS transmitters, and will help ensure compliance with the technical standards that are necessary for co-existence of SDARS and WCS operations in the 2.3 GHz band. Accordingly, we require that SDARS terrestrial repeaters be authorized under the Certification procedure before they are imported or commercially distributed in the United States. In addition, to ensure that SDARS terrestrial repeaters comply with the power, PAPR, and OOB limits that we adopt in this Order, we require that the tests performed as part of the Certification procedure be completed in accordance with prescribed procedures.⁷¹⁸

304. As such, Sirius XM must request Certification for any terrestrial repeater models that it intends to deploy in the future, including models of repeaters that have been deployed previously in other locations under an STA. An SDARS licensee applying for blanket authority to operate terrestrial repeaters must certify, as part of its application, that each SDARS terrestrial repeater it plans to use has been authorized by the Commission under its Certification equipment authorization procedure. We recognize that it will take time to complete the Certification equipment authorization procedure for all terrestrial repeater models that are to be deployed under the initial blanket license application that is expected to be filed after adoption of this *Second Report and Order*. Accordingly, Sirius XM may request a waiver, as part of its initial blanket license application, of the requirement that it certify that all repeater models intended to be deployed have been authorized by the Commission under its Certification equipment authorization procedure. Instead, Sirius XM may request that any grant be conditioned on Sirius XM providing this Certification within 24 months of the grant of the authorization.⁷¹⁹ This would allow time sufficient time to establish and complete Certification procedures for the initial deployment of terrestrial repeaters under the rules adopted today. This waiver request may also seek to exempt from the initial blanket license application certification any models of terrestrial repeaters currently deployed, but that are no longer being manufactured and that will not have additional deployments in the future. We find that exempting such discontinued models from the Certification equipment authorization procedure will not undermine the purpose of the rule, since the exemption is likely to cover a limited number of already-deployed repeaters, and that it would be an undue hardship for Sirius XM to undergo the expense of Certification for models of repeaters that it does not intend to deploy in the future. Such repeaters,

⁷¹⁶ Sirius XM Comments at 38, filed April 23, 2010.

⁷¹⁷ WCS Coalition, July 22, 2008, *Ex Parte* at 2, n.3.

⁷¹⁸ The Commission's rules provide for "Commission-approved measurement techniques" in other contexts. See Sections 24.232(d), 27.50(b)(12), and 90.542(a)(8)(ii) of the Commission's rules, 47 C.F.R. §§ 24.232(d), 27.50(b)(12), 90.542(a)(8)(ii). See Section 25.144(e)(7) of the Commission's rules, in Appendix B to this Order for the terrestrial repeater equipment authorization requirements we are adopting. Specifically, Sections 25.144(e)(7)(i) and (iii) correspond to Sections 27.51(a) and (b), respectively. Section 25.144(e)(7)(ii) includes the new equipment authorization procedures we adopt here.

⁷¹⁹ Sirius XM requested this 24-month period to complete the equipment Certification procedures in comments in response to the *WCS/SDARS Technical Rules Public Notice*. See Sirius XM Comments at 38, filed April 23, 2010. No party opposed this request.

however, must still meet the power, PAPR, and OOB limits for SDARS terrestrial repeaters adopted in this *Second Report and Order*.

C. Other SDARS Repeater Issues

1. Local Programming Origination from SDARS Repeaters

305. *Background.* The Commission tentatively concluded that a prohibition on the use of terrestrial repeaters to originate local programming would serve the public interest as part of the *1997 Further Notice* and the *2007 Notice*.⁷²⁰ Terrestrial radio broadcasters support such a prohibition on transmission of local programming by SDARS repeaters, arguing that absent such a prohibition, SDARS licensees could compete with local radio for advertising, which in turn could limit local radio's ability to provide valuable public services.⁷²¹

306. *Discussion.* We affirm the Commission's tentative conclusion to impose a prohibition on the use of SDARS terrestrial repeaters to originate local programming and advertising. Since the release of the *2007 Notice*, the Commission has approved the merger of the two SDARS licensees, Sirius and XM.⁷²² As part of that merger proceeding, the Commission considered requests from terrestrial broadcasters to prohibit the merged companies from carrying local programming and local advertising in order to protect the ability of terrestrial broadcasters to provide free over-the-air radio.⁷²³ In response to the concerns expressed by the terrestrial broadcasters, Sirius and XM reiterated their commitment not to originate local programming or advertising through their repeater networks.⁷²⁴ In approving the merger request, the Commission observed that the existing STAs to operate terrestrial repeaters prohibit the licensees from using terrestrial repeaters to distribute localized content that is different from that provided via satellite to subscribers in the conterminous U.S., and thus prohibits SDARS licensees from distributing local programming as well as advertising.⁷²⁵

307. In order to effect the prohibition on the origination of local programming and advertising, we are adopting as a rule the following rule for all SDARS repeater operations: "SDARS terrestrial repeaters are restricted to the simultaneous retransmission of the complete programming, and only that programming, transmitted by the SDARS licensee's satellite directly to the SDARS licensee's subscribers' receivers, and may not be used to distribute any information not also transmitted to all subscribers' receivers." This language differs from the local programming restriction placed on SDARS repeater STAs in that it adds the phrase "and may not be used to distribute any information not also transmitted to all subscribers' receivers," which is not part of the repeater STA condition.⁷²⁶ The additional phrase results from an agreement reached by NAB and XM Radio subsequent to the creation of the SDARS repeater STA condition.⁷²⁷ Sirius XM states in recent comments that the additional phrase is

⁷²⁰ See *SDARS Order and FNPRM*, 12 FCC Rcd at 5812; *2007 Notice*, 22 FCC Rcd at 22142 ¶ 55.

⁷²¹ NAB Comments at 10-12.

⁷²² See *Sirius XM Merger Order*, 23 FCC Rcd at 12420 ¶ 155.

⁷²³ *Id.*

⁷²⁴ Sirius Comments at 38; XM Comments at 41-42.

⁷²⁵ See *SDARS Merger Order*, 23 FCC Rcd at 12420 ¶ 155.

⁷²⁶ The requirement we adopt today also slightly modifies the language of the condition placed on grants of STA to operate terrestrial repeaters, in that we make explicit that the programming retransmitted by terrestrial repeaters must be the same that is simultaneously transmitted to SDARS subscribers' receivers by a satellite licensed to a SDARS licensee, not just any satellite.

⁷²⁷ NAB Comments at 12-13.

unnecessary because it accomplishes the same objective as the STA condition: requiring Sirius XM offer only programming stream nationwide, which is available to all satellite receivers, in order to prevent Sirius XM from using terrestrial repeaters to originate local content to compete with terrestrial radio broadcasters on a local basis.⁷²⁸

308. Sirius XM does not, however, identify any concrete harm from inclusion of this language. It states that this additional phrase could cause confusion and harm if it were interpreted to restrict non-programming related activities unrelated to the concerns of terrestrial broadcasters, such as the origination and transmission of diagnostic data.⁷²⁹ In order to address this concern, we make clear that prohibition applies only to subscriber-received programming and does not restrict Sirius XM from originating internal diagnostic or network maintenance transmissions from terrestrial repeaters. Finally, XM asks us to clarify that this language does not prohibit the slight delay caused by retransmission of the satellite signal through a terrestrial repeater.⁷³⁰ We confirm that slight transmission delays inherent from RF propagation delays, signal processing, and the use of time diversity techniques do not violate the prohibition on the use of SDARS repeaters to originate local programming and advertising, so long as all programming and advertising transmitted by the licensee's SDARS repeaters is the same and complete programming and advertising that is received from, and transmitted by, the licensee's satellite to all end users. Such technical delays do not violate our intent that the use of SDARS repeaters remains complementary to a satellite service, and interpreting the prohibition not to cover such technical delays is supported both by the SDARS operators and by NAB.⁷³¹

2. Use of SDARS Spectrum for Repeaters

309. *Background.* In the 1997 *Further Notice*, the Commission proposed allowing SDARS licensees to use their licensed spectrum for both satellite and terrestrial repeater transmissions.⁷³² A terrestrial broadcast radio licensee, Mt. Wilson FM Broadcasters, claimed that the Table of Frequency Allocations permits SDARS spectrum to be used only for satellite transmissions, and that use of satellite spectrum for terrestrial repeater transmissions would be inconsistent with the Table of Frequency Allocations.⁷³³ In the 2007 *Notice*, the Commission invited interested parties to update the record on this issue.⁷³⁴ No one commented on this issue.

310. *Discussion.* We disagree that SDARS operators should be required to operate their repeaters in a frequency band different from that in which they operate their satellites. First, such a requirement would be inconsistent with the international and domestic spectrum allocations for SDARS.

⁷²⁸ Sirius XM Comments at 41, filed April 23, 2010.

⁷²⁹ *Id.*

⁷³⁰ XM Comments at 42 n.95.

⁷³¹ See XM Radio 2001 Public Notice Reply Comments at 22; NAB 2001 Public Notice Comments at 5.

⁷³² See *SDARS Order and FNPRM*, 12 FCC Rcd at 5845 (App. C), cited in 2007 *Notice*, 22 FCC Rcd at 22140-41 ¶ 52.

⁷³³ Mt. Wilson *Further Notice* Comments at 2, cited in 2007 *Second Further Notice*, 22 FCC Rcd at 22141 ¶ 53. See also Susquehanna *Further Notice* Comments at 5, cited in 2007 *Notice*, 22 FCC Rcd at 22141 ¶ 53 (arguing that diverting spectrum from SDARS satellite transmissions to terrestrial repeater transmissions would be inconsistent with finding in the 1997 *SDARS Service Rules Order*, 12 FCC Rcd at 5776 ¶ 49, that the SDARS licensees will need 12.5 megahertz of spectrum to be economically viable).

⁷³⁴ 2007 *Notice*, 22 FCC Rcd at 22141 ¶ 53.

Those allocations expressly state that SDARS spectrum is allocated “to the broadcasting-satellite service (sound) and a complementary terrestrial broadcasting service” on a primary basis (emphasis added).⁷³⁵

311. In addition, as the Commission stated in the *1997 SDARS Order*, satellite system design requires a balancing of various factors that is best made by the system operators.⁷³⁶ In order to allow SDARS licensees maximum flexibility to implement their satellite system designs, the Commission adopted flexible technical rules for the service, which in turn has allowed the licensees to implement robust systems that are both viable and competitive.⁷³⁷ Pursuant to this policy of permitting licensees flexibility in designing their systems, licensees should have the ability to decide whether to use a portion of their exclusively assigned spectrum to implement SDARS repeaters. In other words, the use of spectrum within a particular system represents a decision best made by the licensee to maximize the number of programming channels available and to provide a reliable, ubiquitous, and high quality programming service to consumers represents a decision best made by the licensee.⁷³⁸

3. Retransmission of Regional Spot Beams

312. *Background.* In response to the *1997 Further Notice*, one commenter urged the Commission to prohibit SDARS repeaters from re-transmitting satellite spot beams, arguing that providing localized programming via spot beams would in effect transform SDARS repeater networks into terrestrial radio services and undermine the viability of terrestrial broadcasters.⁷³⁹ Similarly, NAB has urged the Commission to prohibit SDARS licensees from delivering different programming to consumers in different markets.⁷⁴⁰ The *2007 Notice* invited commenters to update the record on this issue, observing that no SDARS licensee has constructed, or has proposed to construct, regional spot beams as part of its system.⁷⁴¹

313. *Discussion.* No comments were received on this issue in response to the *2007 Notice*. We conclude that SDARS operators should not use their SDARS repeaters to retransmit regional spot beams. Permitting SDARS licensees the ability to use their repeater networks to provide terrestrial radio programming that varies by region, including via the incorporation of spot beam technology in its satellite networks, would be in direct contradiction to the Commission’s intent for the use of terrestrial repeaters. Restricting the SDARS repeater’s operations to transmitting only the programming transmitted from the SDARS satellite directly to subscribers will more appropriately ensure that the Commission’s stated policy goals regarding a repeater’s ability to originate local programming, as discussed above in Section IV.C.1., are met.

⁷³⁵ 47 C.F.R. § 2.106 Footnote US 327 to U.S. Table of Frequency Allocations; International Telecommunication Union, Radio Regulations, Article S5.393 to the International Table of Frequency Allocations.

⁷³⁶ See *SDARS Order and FNPRM*, 12 FCC Rcd at 5800 ¶ 112.

⁷³⁷ *Id.*

⁷³⁸ Although SDARS licensees have the flexibility to determine whether to utilize their spectrum for use by complementary terrestrial repeaters and to determine how much of their licensed spectrum to set aside for such use, the rules we adopt in this *Second Report and Order* to minimize out-of-band emissions are premised on the location of repeater frequency assignments in the center of each SDARS licensee’s exclusively licensed frequency band.

⁷³⁹ Mt. Wilson Further Notice Comments at 1, 5, cited in *2007 Notice*, 22 FCC Rcd at 22141 ¶ 54.

⁷⁴⁰ Letter from Jack N. Goodman, Senior Vice President and General Counsel, NAB, to William F. Caton, Acting Secretary, FCC (dated Mar. 14, 2002), cited in *2007 Notice*, 22 FCC Rcd at 22141 ¶ 54.

⁷⁴¹ *2007 Notice*, 22 FCC Rcd at 22141 ¶ 54.

D. Petitions for Reconsideration

314. We deny the petitions for reconsideration of the 1997 *SDARS Order*⁷⁴² filed by the Consumer Electronics Manufacturing Association (CEMA)⁷⁴³ and the Cellular Phone Taskforce.⁷⁴⁴ CEMA filed a petition for reconsideration of the 1997 *SDARS Order* urging the Commission to adopt rules governing the build-out of SDARS repeaters and regulating the overall performance of SDARS systems, particularly in urban and mobile environments.⁷⁴⁵ CEMA expresses concern that SDARS licensees will resist bearing the costs associated with deployment of SDARS repeaters without the imposition of specific repeater build-out requirements.⁷⁴⁶ We conclude that there is no need for additional build-out, coverage, quality, or performance requirements for SDARS repeaters. We conclude that competitive market forces will provide ample incentives for the SDARS licensees to deliver high quality, nationwide service in a timely manner. This conclusion is supported by the fact that, since the filing of CEMA's petition for reconsideration, the SDARS licensees have in fact extensively built out their repeater networks without the imposition of a build out requirement. Consequently, we deny CEMA's petition and will not impose any mandatory build out requirements for the deployment of SDARS repeaters.

315. The Cellular Phone Taskforce opposes licensing SDARS repeaters because of their alleged environmental effects.⁷⁴⁷ In its comments, the Cellular Phone Taskforce does not raise specific environmental concerns regarding our proposed rules for SDARS. Rather, it argues that the Commission's environmental rules are generally inadequate. Because the Cellular Phone Taskforce did not raise any specific concerns regarding SDARS repeater operations, we find that it is unnecessary and inappropriate to impose additional environmental restrictions on the operations of SDARS repeaters based on its petition. We also conclude that it is not appropriate to address its general concerns about the sufficiency of the Commission's environmental rules in this particular licensing proceeding.

V. PROCEDURAL MATTERS

316. *Final Regulatory Flexibility Analysis.* As required by the Regulatory Flexibility Act (RFA),⁷⁴⁸ Initial Regulatory Flexibility Analyses (IRFA) for WT Docket No. 07-293 and IB Docket No. 95-91 were incorporated into the *2007 Notice*.⁷⁴⁹ The Commission sought written public comments on the possible significant economic impact of the proposed policies and rules on small entities in the *2007 Notice*, including comments on the IRFAs. No one commented specifically on the IRFAs. Pursuant to the RFA,⁷⁵⁰ Final Regulatory Flexibility Analyses are contained in Appendices C and D.

⁷⁴² 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 5754 (1997) ("*SDARS Order and FNPRM*").

⁷⁴³ Petition for Reconsideration of the Consumer Electronics Manufacturing Association, IB Docket No. 95-91 (Mar. 27, 1997) ("*CEMA Reconsideration Petition*").

⁷⁴⁴ Petition for Partial Reconsideration of the Cellular Phone Taskforce, IB Docket No. 95-91 (Apr. 9, 1997) ("*Cellular Phone Taskforce Reconsideration Petition*").

⁷⁴⁵ *See id.* at 7-8.

⁷⁴⁶ *See* CEMA Reconsideration Petition at 2.

⁷⁴⁷ *See* Cellular Phone Taskforce Reconsideration Petition at 1.

⁷⁴⁸ *See* 5 U.S.C. § 603.

⁷⁴⁹ *2007 Notice*, 12 FCC Rcd at 22146-50 (Appendix A and Appendix B).

⁷⁵⁰ *See* 5 U.S.C. § 604.

317. *Paperwork Reduction Act.* This Order contains new and modified information collections subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the PRA. The Commission will publish a separate notice in the Federal Register inviting comment on the new or revised information collection requirements adopted herein. The requirements will not go into effect until OMB has approved it and the FCC has published a notice announcing the effective date of the information collection requirements. In addition, we note that pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. 3506(c)(4), we previously sought specific comment on how the Commission might “further reduce the information collection burden for small business concerns with fewer than 25 employees.” In this present document, we have assessed the potential effects of the various policy changes with regard to information collection burdens on small business concerns, and find that these requirements will benefit WCS licensees with fewer than 25 employees. In addition, we have described impacts that might affect small businesses, including most businesses with fewer than 25 employees, in the Final Regulatory Flexibility Analysis in Appendix C, *infra*.

VI. ORDERING CLAUSES

318. Accordingly, IT IS ORDERED, pursuant to Sections 4(i), 7(a), 303(c), 303(f), 303(g), and 303(r), and 307 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 157(a), 303(c), 303(f), 303(g), 303(r), 307, that this *Report and Order* in WT Docket No. 07-293 and *Second Report and Order* in IB Docket No. 95-91 is hereby ADOPTED.

319. IT IS FURTHER ORDERED that the rules adopted herein WILL BECOME EFFECTIVE 30 days after the date of publication in the Federal Register, except for Sections 25.214(d), 25.263, 27.14(p)(7), 27.72, and 27.73, which contain new or modified information collection requirements that require approval by the OMB under the PRA and WILL BECOME EFFECTIVE after the Commission publishes a notice in the Federal Register announcing such approval and the relevant effective date.

320. IT IS FURTHER ORDERED THAT, pursuant to Sections 4(i) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(r), and Section 1.115 of the Commission's Rules, 47 C.F.R. § 1.115, the application for review of the Wireless Telecommunications Bureau's Horizon Order,⁷⁵¹ jointly filed by Green Flag Wireless, LLC and James McCotter on February 10, 2009, IS DISMISSED AS MOOT.

321. IT IS FURTHER ORDERED THAT, pursuant to Sections 4(i) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(r), the applications for additional time to meet the 2.3 GHz Wireless Communications Service substantial service performance requirement listed in Appendix F ARE DISMISSED AS MOOT.

322. IT IS FURTHER ORDERED THAT, pursuant to Section 5(c) of the Communications Act of 1934, as amended, 47 U.S.C. § 5(c), the Wireless Telecommunications Bureau IS GRANTED DELEGATED AUTHORITY to implement the policies set forth in the Report and Order in WT Docket No. 07-293 and the rules, as revised, set forth in Appendix B hereto.

323. IT IS FURTHER ORDERED, that the International Bureau is instructed to extend all grants of STA to operate SDARS repeaters currently in effect for a period of 180 days from the effective

⁷⁵¹ Applications of Horizon Wi-Com, LLC, File Nos. 0003014435, 0003014449, 0003014463, 0003014470, 0003045272, 0003045277, 0003045282, and 0003067727, *Memorandum Opinion and Order*, 24 FCC Rcd 359 (WTB Mobility Div. 2009) (*Horizon Order*).

date of this Order, or until the date on which the Commission grants blanket licenses to operate SDARS repeaters, whichever comes first.

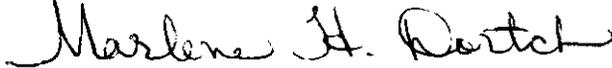
324. IT IS FURTHER ORDERED, that the International Bureau is instructed to grant all pending requests for STA to operate SDARS terrestrial repeaters for a period of 180 days from the effective date of this Order, or until the date on which the Commission grants blanket licenses to operate SDARS repeaters, whichever comes first.

325. IT IS FURTHER ORDERED that the petition for reconsideration filed in 12 FCC Rcd 5754, IB Docket No. 95-91, GEN Docket No. 90-357, on March 27, 1997 by the Consumer Electronics Manufacturers Association, and the petition for partial reconsideration filed in 12 FCC Rcd 5754, IB Docket No. 95-91, GEN Docket No. 90-357, on April 9, 1997 by the Cellular Phone Taskforce ARE DENIED.

326. IT IS FURTHER ORDERED that the Commission will send a copy of this Report and Order and Second Report and Order, including the Final Regulatory Flexibility Analysis and Final Regulatory Flexibility Certification, in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, *see* 5 U.S.C. 801(a)(1)(A).

327. IT IS FURTHER ORDERED, pursuant to Sections 4(i) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(r), and Sections 1.9030(c) and 1.9035(c) of the Commission's rules, 47 C.F.R. §§ 1.9030(c), 1.9035(c), that all licensees and de facto transfer lessees of spectrum in the 2305-2320 MHz and 2345-2360 MHz bands are HEREBY DIRECTED to provide Sirius XM Radio, Inc. an inventory of their deployed infrastructure consistent with, and within 30 days of the effective date of, new Section 27.72.

FEDERAL COMMUNICATIONS COMMISSION



Marlene H. Dortch
Secretary

APPENDIX A**List of Parties Filing Pleadings****I. Pleadings Filed in IB Docket No. 95-91 in Response to the 1997 *Further Notice*****A. Comments (filed on or before June 13, 1997)**

Alabama Broadcasters Association
American Mobile Radio Corporation (AMRC)
CD Radio, Inc. (CD Radio)
Consumer Electronics Manufacturers Association (CEMA)
Mt. Wilson FM Broadcasters, Inc.
National Association of Broadcasters (NAB)
Susquehanna Radio Corp.

B. Reply Comments (filed on June 27, 1997)

AMRC
CD Radio
CEMA
NAB
Radio Operators Caucus

C. *Ex Parte* Filings (June 28, 1997 through December 17, 1999)

AMRC
CD Radio
CEMA
Mt. Wilson FM Broadcasters, Inc
NAB
XM

II. Supplemental Pleadings Filed in IB Docket No. 95-91 ¹**A. Supplements to 1997 Filings**

Supplemental Comments of XM, filed Dec. 17, 1999 (XM 1999 Supplement)
Supplemental Comments of Sirius, filed Jan. 18, 2000 (Sirius 2000 Supplement)

B. Comments (filed on February 22, 2000)

BellSouth Corporation and BellSouth Wireless Cable, Inc. (BellSouth)
NAB
Wireless Communications Association International, Inc. (WCA)

¹ "Satellite Policy Branch Information," *Public Notice*, IB Docket No. 95-91, GEN Docket No. 90-357, rel. Jan. 21, 2000.

C. Reply Comments (filed on March 8, 2000)

Aerospace & Flight Test Radio Coordinating Council (AFTRCC)
MCI WorldCom, Inc.
Metricom, Inc. (Metricom)
Sirius
XM

D. Ex Parte Filings (from March 8, 2000 through December 13, 2001)

AFTRCC, Sirius, and XM
ATT&T Wireless Services, Inc. (ATTWS)
ATTWS, BeamReach Networks, Inc. (BeamReach), BellSouth, Metricom, WCA, and WorldCom
ATTWS, BeamReach, BellSouth, Metricom, Navini Networks Inc. (Navini Networks), Sirius, Verizon
Wireless, Inc. (Verizon Wireless), WCA, WorldCom, and XM
ATTWS, BellSouth, Metricom, Verizon Wireless, WCA, and WorldCom, Inc. (WorldCom)
ATTWS, BellSouth, Metricom, and WCA
ATTWS, BellSouth, Metricom, WCA, and WorldCom
ATTWS and Verizon Wireless
BeamReach
BellSouth, Metricom, Shell Offshore Service Company, Sirius, WCA, WorldCom, and XM
Fusion Lighting (Fusion)
Metricom
NAB
Navini Networks
Sirius
Sirius and XM
Spike Broadband Systems Inc.
Verizon Wireless
WCA
XM

III. 2001 Public Notice Pleadings Filed in IB Docket No. 95-91 (DA 01-2570) ²**A. Comments (filed on or before December 14, 2001)**

ATTWS, BeamReach, BellSouth Corporation, Metricom, Verizon Wireless, WorldCom, and WCA
(WCS Coalition)
KJNP AM/FM
NAB
National ITFS Association
Sirius
S-R Broadcasting Co., Inc.
WCA
XM

² "Request for Further Comment on Selected Issues Regarding the Authorization of Satellite Digital Audio Radio Service Terrestrial Repeater Networks," *Public Notice*, IB Docket No. 95-91, RM-8610, DA 01-2570, 16 FCC Rcd 19435 (2001).

B. Reply Comments (due on or before December 21, 2001)

BeamReach
NAB
NIA
Sirius
WCA
WCS Coalition
XM

IV. Pleadings Filed between Dec. 22, 2001 and Feb. 12, 2008**A. Ex Parte Filings**

ATTWS
BeamReach
BellSouth
Cox Radio, Inc. (Cox)
Fusion
Green Flag Wireless, LLC
NAB
NAB and XM
NextWave Broadband Inc. (NextWave)
XM

B. Selected Pleadings

White Paper: Interference to the SDARS Service from WCS Transmitters, attached to Letter from Carl R. Frank, Counsel to Sirius Satellite Radio Inc., to Marlene H. Dortch, Secretary, FCC (dated Mar. 29, 2006) (Sirius 2006 White Paper)
Sirius Satellite Radio Inc. Petition for Rulemaking and Comments, filed Oct. 17, 2006 (Sirius Petition for Rulemaking)
Letter from Paul J. Sinderbrand, Counsel to the WCS Coalition, to Marlene H. Dortch, Secretary, FCC (dated July 9, 2007) (WCS July 2007 Letter)

V. Pleadings Filed in Response to 2007 Notice**A. Comments in IB Docket No. 95-91 (due on or before February 14, 2008)**

AFTRCC
Alaska Broadcasters Association and Hawaii Association of Broadcasters (Alaska/Hawaii Broadcasters)
Motorola, Inc. (Motorola)
NAB
Sirius
AT&T, Inc., Comcast Corporation (Comcast), Horizon Wi-Com LLC (Horizon), NTELOS Inc. and NextWave Broadband Inc., WCA (WCS Coalition)
WiMAX Forum
XM Radio, Inc. (XM)
XM Supplement, filed Feb. 15, 2008
XM and Sirius Letter, filed Feb. 28, 2009

B. Comments in WT Docket No. 07-293 (due on or before February 14, 2008)

George Bednekoff (Bednekoff)

C. Reply Comments in IB Docket No. 95-91 (due on or before March 17, 2008)

NextWave Wireless, Inc. (NextWave)

Sirius

WCS Coalition

WiMAX Forum

XM

VI. Comments Filed in WT Docket No. 07-293 in Response to WCS Performance Requirements Public Notice (FCC 10-46)**A. Comments (due on April 21, 2010)**

Broadband South LLC (Broadband South)

Green Flag Wireless, LLC, CWC License Holding, Inc. and James McCotter, Joint Comments of Horizon

Sirius XM

Stratos Offshore Services Company (Stratos)

WCS Coalition

B. Reply Comments for WCS Performance Requirements Public Notice (due on or before May 3, 2010)

AT&T Inc

Broadband South

Comcast

Green Flag Wireless, LLC, CWC License Holding, Inc., James McCotter

Horizon

Sirius XM

WCS Coalition

C. Late-filed Comments

Grid Net (Apr. 29)

VII. Filings in Response to Interference Rules Public Notice (DA 10-592 and DA 10-622)³**A. Comments Filed in WT Docket No. 07-293 (due on or before April 23, 2010)**

AFTRCC

Alliance of Automobile Manufacturers (filed under Robert Strassburger)

Association of International Automobile Manufacturers, Inc. (AIAM), Technical Affairs Committee of

Boeing Company, The (Boeing)

Ericsson Inc

GE Healthcare

³ The Commission extended the comment date to April 23, 2010. "Commission Staff Requests That Interested Parties Supplement the Record on Draft Interference Rules for Wireless Communications Service and Satellite Digital Audio Radio Service," WT Docket No. 07-293, *Order Extending Comment Period*.

Hyundai Motor America
Mercedes-Benz USA, LLC
National Automobile Dealers Association (NADA)
Nissan North America, Inc.
Philips Healthcare Systems
Satellite Industry Association
Sirius XM
Stratos
Telecommunications Industry Association (TIA)
Vogel, Wolfhard (Balcones Industrial R&D Corporation)
WCS Coalition

In addition, 353 short comments were filed in WT Docket No. 07-293 between March 6, 2010 and April 26, 2010, from parties generally requesting that the Commission protect the reception of Sirius XM's programming.

B. Late-filed Comments

AFTRCC ("Reply Comments" filed on Apr. 30)
AIAM (Apr. 29)
American Trucking Associations (Apr. 26)
Chrysler (May 3)
Ford Motor Company (May 3)
Sirius XM ("Supplemental Comments" filed on Apr. 29; "Comments" filed on May 13)

VIII. 2010 *Ex Parte* Filings

AFTRCC
AFTRCC, Boeing, Raytheon Company, Textron Corporation, Lockheed Martin Corporation, and Dr. Jablonski
AFTRCC, Boeing, Raytheon Company, Textron Corporation, and Dr. Jablonski
Alcatel-Lucent
Alliance of Automobile Manufacturers
Anthony Weiner, Gary Ackerman, Joseph Crowley, Steve Israel, and Louise Slaughter – Members of Congress
Boeing
Chrysler
Columbia Capital
Ford Motor Company
Fred Upton and Mike Rogers – Members of Congress
General Motors North American Operations
Horizon
Horizon, Kolodzy Consulting Inc., NextWave, NRTC, and WCS Coalition
Horizon and NextWave
Horizon, NextWave, National Rural Telecommunications Cooperative, and WCS Coalition
Hyundai Motor America
Kia Motors America, Inc.
Land Rover North America Inc.
NextWave
Olympia Snowe, United States Senator
Sirius XM
Sprint Nextel
Stratos

TIA
Toyota Motor Sales, USA, Inc.
Volvo Cars of North America, LLC
WCS Coalition

APPENDIX B**Rule Revisions**

For the reasons discussed above, the Federal Communications Commission amends Title 47 of the Code of Federal Regulations, Part 25, as follows:

PART 25 – SATELLITE COMMUNICATIONS

1. The authority citation for Part 25 continues to read as follows:

Authority: 47 U.S.C. 701-744. Interprets or applies Sections 4, 301, 302, 303, 307, 309, and 332 of the Communications Act, as amended, 47 U.S.C. Sections 154, 301, 302a, 303, 307, 309, and 332, unless otherwise noted.

2. Amend Section 25.121 by revising paragraph (a) to read as follows:

§ 25.121 License term and renewals.

(a) **License Term.** (1) Except for licenses for DBS space stations, SDARS space stations and terrestrial repeaters, and 17/24 GHz BSS space stations licensed as broadcast facilities, licenses for facilities governed by this part will be issued for a period of 15 years.

(2) Licenses for DBS space stations and 17/24 GHz BSS space stations licensed as broadcast facilities, and for SDARS space stations and terrestrial repeaters, will be issued for a period of 8 years. Licenses for DBS space stations not licensed as broadcast facilities will be issued for a period of 10 years.

* * * * *

3. Amend Section 25.144 by revising paragraph (d) and adding paragraph (e), to read as follows:

§ 25.144 Licensing provisions for the 2.3 GHz satellite digital audio radio service.

* * * * *

(d) The license term for each digital audio radio service satellite and any associated terrestrial repeaters are specified in § 25.121 of this chapter.

(e) SDARS Terrestrial Repeaters.

(1) Only entities holding or controlling SDARS space station licenses may construct and operate SDARS terrestrial repeaters and such construction and operation is permitted only in conjunction with at least one SDARS space station that is concurrently authorized and transmitting directly to subscribers.

(2) SDARS terrestrial repeaters will be eligible for blanket licensing only under the following circumstances:

(i) The SDARS terrestrial repeaters will comply with all applicable power limits set forth in § 25.214(d)(1) of this chapter and all applicable out-of-band emission limits set forth in § 25.202(h)(1) and (2) of this chapter.

(ii) The SDARS terrestrial repeaters will meet all applicable requirements in part 1, subpart I, and part 17 of this chapter. Operators of SDARS terrestrial repeaters must maintain

demonstrations of compliance with part 1, subpart I, of this chapter and make such demonstrations available to the Commission upon request within three business days.

(iii) The SDARS terrestrial repeaters will comply with all requirements of all applicable international agreements.

(3) After [Insert release date of Order], SDARS licensees shall, before deploying any new, or modifying any existing, terrestrial repeater, notify potentially affected WCS licensees pursuant to the procedure set forth in § 25.263 of this chapter.

(4) SDARS terrestrial repeaters are restricted to the simultaneous retransmission of the complete programming, and only that programming, transmitted by the SDARS licensee's satellite(s) directly to the SDARS licensee's subscribers' receivers, and may not be used to distribute any information not also transmitted to all subscribers' receivers.

(5) Operators of SDARS terrestrial repeaters are prohibited from using those repeaters to retransmit different transmissions from a satellite to different regions within that satellite's coverage area.

(6) Operators of SDARS terrestrial repeaters are required to comply with all applicable provisions of part 1, subpart I, and part 17 of this chapter.

(7)(i) Each SDARS terrestrial repeater transmitter utilized for operation under this paragraph must be of a type that has been authorized by the Commission under its certification procedure.

(ii) In addition to the procedures set forth in subpart J of part 2 of this chapter, power measurements for SDARS repeater transmitters may be made in accordance with a Commission-approved average power technique. Peak-to-average power ratio (PAPR) measurements for SDARS repeater transmitters should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that the PAPR will not exceed 13 dB for more than 0.1 percent of the time or another Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

(iii) Any manufacturer of radio transmitting equipment to be used in these services may request equipment authorization following the procedures set forth in subpart J of part 2 of this chapter. Equipment authorization for an individual transmitter may be requested by an applicant for a station authorization by following the procedures set forth in part 2 of this chapter.

(8) Applications for blanket authority to operate terrestrial repeaters must be filed using Form 312, except that Schedule B to Form 312 need not be filed. Such applications must also include the following information as an attachment:

(i) The space station(s) with which the terrestrial repeaters will communicate, the frequencies and emission designators of such communications, and the frequencies and emission designators used by the repeaters to re-transmit the received signals.

(ii) The maximum number of terrestrial repeaters that will be deployed under the authorization at 1) power levels equal to or less than 2-watt average EIRP, and 2) power levels greater than 2-watt average EIRP (up to 12-kW average EIRP).

(iii) A certification of compliance with the requirements of § 25.144(e)(1) through (7) of this chapter.