

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Amendment of Part 27 of the Commission's)	
Rules to Govern the Operation of Wireless)	WT Docket No. 07-293
Communications Services in the 2.3 GHz Band)	
)	
Establishment of Rules and Policies for the)	IB Docket No. 95-91
Digital Audio Radio Satellite Service in the)	GEN Docket No. 90-357
2310-2360 MHz Frequency Band)	RM-8610

**PETITION OF THE WCS COALITION
FOR PARTIAL RECONSIDERATION**

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EXECUTIVE SUMMARY

While the Commission generally has struck appropriate balances in revising the rules governing satellite Digital Audio Radio Service (“SDARS”) and Wireless Communications Service (“WCS”) operations in the 2.3 GHz band, certain decisions must be revisited for WCS to evolve into a viable home for wireless broadband services.

The petition for reconsideration being filed today by AT&T Inc. (“AT&T”) demonstrates that the newly-adopted WCS performance benchmarks do not provide sufficient time to satisfy the penetration requirements. AT&T establishes that it will take until July 2017 to satisfy the 40% coverage benchmark, and until July 2020 to satisfy the 75% coverage benchmark. The WCS Coalition agrees with AT&T and incorporates its arguments. In addition, given the extent to which the Commission has crippled the ability of licensees to utilize the C and D Blocks, quantitative performance benchmarks are inappropriate for those blocks. Rather, because licensees will have to develop and deploy innovative niche services for that spectrum, the more flexible substantial service standard should be used to evaluate performance at renewal. Neither the record nor precedent supports the Commission’s decision to impose a “death penalty” on those WCS licensees that fail to satisfy their performance benchmarks. On reconsideration, the Commission should apply a “keep what you use” policy to WCS licensees that do not achieve performance benchmarks.

The Commission should substantially modify, if not entirely repeal, its arbitrary imposition of a ban on outdoor antennas associated with fixed WCS customer premises equipment (“CPE”) operating at or below 2 watts average EIRP. WCS licensees have been permitted to utilize outdoor antennas since the service was created in 1997, there is no evidence that the outdoor antennas deployed to date have been the cause of interference, and there is no rational basis for concluding that they will be given the Commission’s findings in the *Report and Order*. In addition, the Commission should clarify that the new restrictions imposed on fixed WCS CPE do not apply to any point-to-point deployments that happen to be located at a subscriber premises.

AT&T’s petition also urges the Commission to revisit the 50 mW/MHz power spectral density imposed on mobile devices, to adopt a 43.333% duty cycle for Long Term Evolution devices, and to eliminate the duty cycle penalty imposed on those that deploy frequency division duplex technologies. The WCS Coalition endorses AT&T’s arguments and incorporates them by reference.

To eliminate the confusion that has arisen, the reference to Recommendation ITU-R M 1459 in Section 27.73(a) of the Rules should be stricken. Paragraph 184 of the *Report and Order* rejects the notion that ITU-R M.1459 is to be slavishly applied, stating in no uncertain terms that “although the interference protection mechanism outlined in Recommendation ITU-R M.1459 has been used in the past for the coordination of base stations and AMT receivers, we will rely upon the AMT entity and the WCS licensee to use accepted engineer practices and/or standards to evaluate each AMT/WCS deployment based on the relevant operating characteristics and to come to a mutually acceptable agreement.” Unless the Commission on reconsideration makes clear that Paragraph 184 means what it says, broadband service offerings in the 2.3 GHz band could unnecessarily be precluded by an overly aggressive application of ITU-R M.1459 during the coordination process.

The Commission should revisit the requirement that five days advance notice be given prior to any WCS base station or SDARS terrestrial repeater modification. The record is clear that benign modifications can be made, and the rules should be changed to permit them so long as notice is given within 24 hours afterwards.

Newly-adopted Section 25.144(e)(9) of the Rules should be revised to incorporate the *Report and Order's* requirement that applications for authority to operate SDARS terrestrial repeaters that do not comply with the blanket licensing rules be accompanied by a waiver, and to require that those applications be served on "potentially affected" WCS licensees. And, finally, the specific rules imposing obligations on WCS and Sirius XM to cooperate in the avoidance of interference should be parallel, as was contemplated by the *Report and Order*

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**PETITION OF THE WCS COALITION
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The WCS Coalition, by its attorneys and pursuant to Section 1.429 of the Commission's Rules, hereby petitions for reconsideration of the *Report and Order and Second Report and Order* in this proceeding.¹ While the Commission generally has struck appropriate balances in revising the rules governing satellite Digital Audio Radio Service ("SDARS") and Wireless Communications Service ("WCS") operations in the 2.3 GHz band, for the reasons set forth below, certain decisions must be revisited for WCS to evolve into a viable home for wireless broadband services.

I. THE NEW WCS PERFORMANCE BENCHMARKS MUST BE REVISITED.

A. The New Rules Do Not Afford WCS Licensees Adequate Time To Satisfy The Performance Benchmarks.

In the petition for reconsideration it is filing today, WCS Coalition member AT&T Inc. ("AT&T") establishes that the new performance benchmarks imposed on WCS licensees in the *Report and Order* are arbitrary and capricious. In its petition, AT&T demonstrates, based on its extensive experience in the deployment of new telecommunications networks, that the Commission's performance requirements for WCS should be modified to require coverage of 40% of a license-area

¹ Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band, *Report and Order and Second Report and Order*, FCC 10-82 (rel. May 20, 2010); *Erratum* (rel. June 8, 2010); *Second Erratum* (rel. July 14, 2010) [collectively "*Report and Order*"].

population by the July 21, 2017 renewal deadline for WCS and 75% of the license-area population by July 21, 2020.² In the interest of brevity, the WCS Coalition will not repeat the arguments advanced by AT&T, but it does endorse them and incorporates them by reference.

B. The More Flexible Substantial Service Standard Should Be Used To Evaluate Performance On The Crippled C and D Blocks.

While, as discussed above, the WCS Coalition has no objection to a quantitative performance benchmark for A and B Block WCS licensees, the C and D WCS blocks should remain subject to a flexible “substantial service” requirement, rather than a quantitative performance benchmark.

Put bluntly, the *Report and Order* has gutted the utility of the C and D Block channels through adoption of several new rules. To wit:

- The Commission has imposed an outright ban on the use of half of each C and D Block channel by mobile or portable devices.³ While the outer 2.5 MHz of each of the two channels can be used for mobile or mobile services, that is not sufficient spectrum for a viable 4G service.
- Because the Commission has imposed a substantially more strict duty cycle requirement on frequency division duplex (“FDD”) operations using the outer 2.5 MHz of the C and D Block channels than those using the remainder of the WCS band,

² The WCS Coalition also endorses AT&T’s request that the deadlines for deploying point-to-point links also should be extended to match those for mobile services in order to allow customer demand rather than the performance deadlines to drive technology choices. Therefore, the Commission should modify Section 27.14(p)(2) such that the 42-month benchmarks will have to be satisfied by July 21, 2017 and the 72-month benchmarks will have to be satisfied by July 21, 2020.

In addition, the Commission should clarify that while the coverage benchmark of Section 27.14(p)(1) generally applies to point-to-multipoint systems intended to provide ubiquitous broadband service to the general public, Section 27.14(p)(2) applies where a point-to-multipoint system provides a more narrowly focused service that is functionally indistinguishable by an end user from a traditional point-to-point link, the equipment is professionally installed, and the service provider controls both ends of the link. For example, there is interest in the smart grid community in using WCS to provide links to monitoring stations, maintenance instrumentation, automatic metering collection points, video surveillance. While some of these links may be traditional point-to-point links with dedicated RF equipment on both ends, others may be designed as multipoint-to-point systems to reduce equipment costs at the centralized hub. A similar scenario is presented by the current use of WCS as backhaul from WiFi hotspots at coffee shops, fast food restaurants, etc., to the Internet. Given the nature of these services, which does not necessarily require ubiquitous coverage, are not intended to provide service to the general public and have provider control over both ends of the link, measuring performance by the number of links, rather than coverage, is most appropriate.

³ See 47 C.F.R. § 27.50(a)(3)(ii).

the ability of licensees to incorporate even those 2.5 MHz channels into an FDD service using the A and B Blocks has been compromised.⁴ As discussed below, the *Report and Order's* approach to FDD duty cycles is flawed, and could leave WCS as a technological backwater as the remainder of 4G service in the United States moves towards FDD Long Term Evolution (“LTE”) technology. Unless the 2.5 GHz of the C and D Blocks available for mobile and portable use are subject to the same FDD duty cycle as the rest of the band, mobile or portable use of even the available 2.5 MHz of each of those blocks is impractical.

- Fixed opportunities in the C and D Blocks are also restricted. As discussed below, fixed customer premises equipment (“CPE”) operating at power levels at or below 2 watts average EIRP – low power levels which are most protective against interference to Sirius XM – are banned from using outside antennas.
- Fixed point-to-point applications in the C and D Blocks are also constrained. While the entire 5 MHz of each Block can be used for fixed point-to-point, maximum power levels are as much as 13 dB lower than is permitted in the remainder of the band.⁵ Thus, maximum path lengths for point-to-point links in the C and D Blocks are limited. This is unnecessary given that point-to-point links tend to be highly directionalized and do not place undue power at ground level where Sirius XM subscribers are located. Thus, the WCS Coalition urges the Commission to modify Section 27.50(a)(1)(ii) such that point-to-point links operating in the C and D Blocks can transmit at 2000 watts average EIRP. If the Commission does not, the C and D Blocks will have less utility for even point-to-point usage.

Given how the Commission has hamstrung C and D Block operations, it is not surprising that prior business plans for use of the spectrum will have to be largely discarded, and niche applications for those channels will have to be developed. It is unlikely that licensees will be developing services for which the new quantitative performance benchmarks are appropriate – the limits imposed by the Commission are likely too severe for that to occur. As a result, investment in C and D Block services is not likely to occur unless the Commission replaces the strict quantitative benchmark approach it has adopted with a more flexible approach.

The solution most likely to spur investment in the highly-challenged C and D Blocks is to require licensees to demonstrate “substantial service” at the time of their next renewals. The

⁴ *Id.* at § 27.50(a)(3)(i).

⁵ Compare 47 C.F.R. § 27.50(a)(1)(i) with 47 C.F.R. § 27.50(a)(1)(ii). See also *Report and Order* at ¶ 6.

Commission has long recognized that because the “substantial service” approach allows a case-by-case qualitative analysis, rather than just a quantitative analysis, it provides flexibility for licensees to deploy valuable niche services.⁶ Given the limits the *Report and Order* has imposed on the C and D Blocks, the Commission should apply to them the performance requirement that is best-designed to accommodate niche services – substantial service at renewal.

C. The Commission Should Apply A “Keep What You Use” Policy To WCS Licensees That Do Not Achieve Performance Benchmarks.

In addition to modifying the performance benchmarks as discussed above, the Commission should reconsider its refusal to adopt a “keep what you use” policy for those WCS licensee that are unable to meet the performance benchmarks. The record evidence is that, given the more aggressive performance benchmarks adopted in the *Report and Order* (and even if those performance benchmarks are modified as suggested above), a “keep what you use” policy similar to that recently adopted for the 700 MHz band is far more likely to spur investment in WCS.

Those addressing the issue in response to the *Performance PN* were virtually unanimous in urging the Commission to abandon its proposal to impose a death penalty, advocating instead a “keep what you use” approach similar to that applied to 700 MHz licensees.⁷ That should not have come as

⁶ See, e.g., Amendment of Parts 2 and 90 of the Commission's Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz and the 935-940 MHz Bands Allotted to the Specialized Mobile Radio Pool, *Second Report and Order and Second Further Notice of Proposed Rule Making*, 10 FCC Rcd 6884, 6898 (1995) (“We also conclude that a showing of ‘substantial service’ is appropriate for 900 MHz because several current offerings in this band are cutting-edge niche services.”); Amendment of Parts 1, 21, 73, 74 and 101 of the Commission’s Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands, *Order On Reconsideration And Fifth Memorandum Opinion And Order And Third Memorandum Opinion And Order And Second Report And Order*, 21 FCC Rcd 5606, 5719-21 (2006).

⁷ See Comments of Stratos Offshore Services Company, WT Docket No. 07-293, at 2 (filed Apr. 21, 2010); Comments of Horizon Wi-Com LLC, WT Docket No. 07-293, at 5 (filed Apr. 21, 2010); Joint Comments of Green Flag Wireless, LLC, et al., WT Docket No. 07-293, at 6 (filed Apr. 21, 2010); Comments of the WCS Coalition, WT Docket No. 07-293, at 18-19 (filed Apr. 21, 2010); Reply Comments of AT&T Inc., WT Docket No. 07-293, at 3 (filed May 3, 2010); Reply Comments of the WCS Coalition, WT Docket No. 07-293, at 10-11 (filed Apr. 29, 2010). Not surprisingly, the sole outlier was Sirius XM, who failed to make any substantive argument against “keep what you use” other than to cite to the rule adopted in 1997 under which a WCS

a surprise to the Commission, which itself recognized the substantial public interest benefits to “keep what you use” when it adopted rules to govern 700 MHz commercial operations:

[O]ur ‘keep-what-you-use’ rules provide additional methods for making smaller license areas available, thus promoting access to spectrum and the provision of service, especially in rural areas. This rule ensures that others are given an opportunity to acquire spectrum that is not adequately built out and provide services to those who reside in those areas. In this way, our rules are pro-competitive and help ensure service to communities that might otherwise not receive service.⁸

The *Report and Order* justifies the Commission’s refusal to extend the 700 MHz band “keep what you use” policy to WCS on the grounds that the policy is “tied to submarket performance requirements,” noting that 700 MHz C Block licensees meet performance benchmarks in each Economic Area (“EA”) of their Regional Economic Area Grouping license areas.⁹ However, “keep what you use” also applies to all 700 MHz A and E Block licenses, which are issued on an EA basis, and to 700 MHz B Block licenses, which are issued on a Cellular Market Area basis.¹⁰ In none of these cases is “keep what you used” tied to any submarket performance requirement. Indeed, “keep what you use” traces its roots back to the cellular service in the 1980s, again where no submarket performance requirement applied.¹¹ Submarket performance requirements have never been a *quid pro quo* for a “keep what you use policy.”

The *Report and Order* also notes that a death penalty was adopted when WCS was established in 1997.¹² However, the original death penalty was imposed for failure to meet the relatively liberal

licensee that failed to meet the liberal substantial service test would lose its license. See Reply Comments of Sirius XM Radio Inc., WT Docket No. 07-293, at 4-5 (filed May 3, 2010).

⁸ Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, *Second Report and Order*, 22 FCC Rcd 15289, 15349 (2007) (citation omitted).

⁹ *Report and Order* at ¶¶ 215-16.

¹⁰ See 47 C.F.R. § 27.14(g)(2).

¹¹ See Amendment of the Commission’s Rules for Rural Cellular Service, *Second Report and Order*, 2 FCC Rcd 2306, 2308-09 (1987). See also Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, *Report and Order and Further Notice of Proposed Rulemaking*, 22 FCC Rcd 8064, 8078 (2007).

¹² See *Report and Order* at ¶ 214.

“substantial service” test.¹³ The new WCS a performance benchmark regime, even if modified as suggested above, will be far more difficult for licensees to meet. Thus, the risk of license revocation has sharply increased, and investment will be more difficult to justify unless a “keep what you use” approach replaces the current death penalty. The Commission should not be taking comfort in the fact that tens of billions of dollars have been invested under death penalty regulatory regimes -- that investment has been in services subject to liberal build-out or substantial service requirements, not where performance benchmarks of the magnitude at issue here have been imposed.¹⁴

Finally, the *Report and Order* does not address the Commission’s acknowledgement that a “keep what you use” holds great promise for bringing broadband to rural areas that otherwise might not be able to secure service. Imposing the death penalty, and then reauctioning the same license for the same large geographic area, will not alter the economic considerations that tend to focus deployment on more urban and suburban areas. A “keep what you use” policy, on the other hand, can result in smaller, more manageable service rural service areas becoming available to those interested in serving rural America, but unable to afford large license territories.

As such, the Commission should adopt for WCS the same approach taken with respect to 700 MHz – those who fail to meet the final benchmark should lose the territory they are not adequately serving.¹⁵ Replacing the death penalty in this fashion will promote investment in WCS and provide a vehicle for making affordable spectrum available to smaller operators in rural areas.

¹³ See Amendment of the Commission’s Rules to Establish Part 27, the Wireless Communications Service (“WCS”), *Report and Order*, 12 FCC Rcd 10785, 10903 (1997).

¹⁴ *Report and Order* at ¶ 214.

¹⁵ To implement a “keep what you use” policy for point-to-point links, those WCS licensees that have deployed point-to-point networks, but fail to satisfy the final benchmark, would be precluded from adding additional links.

II. THE DUTY CYCLE RULES MUST BE REVISITED TO PROVIDE TECHNOLOGICAL NEUTRALITY.

One of the givens of wireless broadband communications is that technologies are continuing to evolve. Affording licensees technological flexibility is essential to assuring that America's broadband infrastructure is not only state-of-the-art today, but that it remains state-of-the-art tomorrow. The WCS Coalition thus applauds the *Report and Order's* goal of "adopt[ing] rules that remain technology neutral instead of adopting rules that mandate the use of a particular technology or service."¹⁶ While, the WCS industry's advocacy initially focused on TDD WiMAX technology, (which was the sole 4G technology available at the time), the record in response to the *Technical Public Notice* establishes that the Commission's rules must also accommodate new technologies, such as LTE, which is finding increasing popularity in the marketplace in both its TDD and FDD variants.¹⁷

To this end, the WCS Coalition endorses the proposal being submitted today by AT&T for modification of the duty cycle requirements imposed on WCS fixed CPE mobile and portable devices. Specifically, the WCS Coalition agrees with AT&T that the maximum duty cycle for TD-LTE should be set at 43.333% and that there is no basis for imposing a duty cycle penalty on system operators that deploy FDD technology. Again, in the interest of brevity, the WCS Coalition will not repeat the arguments advanced by AT&T, but it does endorse them and incorporates them by reference.

¹⁶ *Report and Order* at ¶ 28.

¹⁷ See Comments of Telecommunications Industry Association, WT Docket No. 07-293, *et al.*, at 3-4 (filed Apr. 23, 2010); Comments of Ericsson Inc., WT Docket No. 07-293, *et al.*, at 2-5 (filed Apr. 22, 2010); Comments of the WCS Coalition, WT Docket No. 07-293, *et al.*, at App. A, xi (filed Apr. 23, 2010); Letter from Paul J. Sinderbrand, Counsel to WCS Coalition, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 07-293 and IB Docket No. 95-91 (filed May 12, 2010) ["WCS Coalition 5/12/10 Letter"]; Letter from Paul J. Sinderbrand, Counsel to WCS Coalition, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 07-293, Attachment at 1 (filed May 11, 2010); Letter from Paul J. Sinderbrand, Counsel to WCS Coalition, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 07-293 and IB Docket No. 95-91 (filed Apr. 30, 2010).

III. THE RULES RESTRICTING THE USE OF WCS OUTDOOR ANTENNAS SHOULD BE MODIFIED, IF NOT REPEALED.

From the creation of WCS in 1997 until the *Report and Order*, the Part 27 WCS rules made no distinction whatsoever between fixed WCS equipment located at customer premises and that located elsewhere. As a result, WCS system operators have been free to deploy fixed equipment at a subscriber's location that could operate with a maximum peak EIRP of 2000 watts, without any restriction whatsoever on the use of outdoor antennas.¹⁸ The rules permitting WCS fixed deployments were adopted prior to the SDARS auction -- the predecessors of Sirius XM actively participated in that proceeding, and did not object to the adoption of this regime to govern fixed WCS.

Presumably, the SDARS industry did not object to such WCS operations because they recognized that the geographic separation between fixed subscriber locations and the roadways would mitigate potential interference. Subsequent history certainly has borne out that fixed WCS CPE is benign -- although DigitalBridge Communications, Main Street Broadband and AT&T have all deployed fixed WCS-based broadband services to the residential marketplace utilizing outdoor antennas, the WCS Coalition is not aware of any complaint ever having been lodged at the Commission to the effect that fixed WCS equipment deployed at a subscriber's location caused interference to a Sirius XM subscriber.

Not surprisingly, the *Technical Public Notice* did not propose any ban on fixed WCS outdoor antennas whatsoever. However, less than two months later, the Commission reversed course -- newly-adopted Section 27.50(a)(2) precludes fixed WCS devices operating at 2 watts average EIRP or less from being mounted outside or being connected to an outdoor antenna. The record does not support adoption of this ban, and on reconsideration it must be reversed.

¹⁸ See Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service ("WCS"), Memorandum Opinion and Order, 12 FCC Rcd 3977, 3983-84 (1997). See 47 C.F.R. § 27.50(a)(1)(2009). Of course, such deployments were subject to the Commission rules designed to regulate human exposure to radiofrequency exposure.

Indeed, the restriction on outdoor antennas is impossible to square with the Commission's recognition that "[a]uthorized WCS fixed CPE devices have been operating at EIRPs up to 20 W for some time in the 2.3 GHz band, but SDARS licensees have not reported any instances of interference" and its conclusion that "if we were to continue to allow WCS fixed CPE devices to use up to 20 W per 5-megahertz peak EIRP, SDARS operations would not experience any appreciable increase in interference from these WCS operations."¹⁹ That conclusion is grounded in the record. As the Commission acknowledges, "[i]n a fixed scenario, there exists an increased separation distance between WCS CPE and SDARS receivers than would exist in a vehicle-to-vehicle scenario."²⁰ Moreover, between a fixed WCS outdoor CPE installation and a Sirius XM receiver, there are likely to be a variety of blockages – foliage, parked cars, etc. Indeed, the Commission recognizes that "structural blockages are more likely to exist between fixed WCS CPE devices and SDARS receivers", which results in "increased propagation losses."²¹ So, why impose a ban on outdoor antennas used in connection with fixed WCS CPE operating at or below 2 watts?

Unfortunately, the *Report and Order* provides little insight into why the Commission believed that a restriction on the use of outdoor antennas is necessary to protect Sirius XM. Given the dramatic reversal from the *Technical Public Notice*, the WCS Coalition can only presume the ban was somehow predicated on the "Technical Appendix" that Sirius XM filed in response to the *Technical Public Notice*. Sirius XM reported on "testing" that purported to demonstrate the vulnerability of Sirius XM receivers to WCS fixed transmissions. That Sirius XM conducted this "testing" under the cloak of darkness, without giving the Commission or WCS community advance notice or an opportunity to participate, speaks volumes about the legitimacy of those tests. As has been the case

¹⁹ *Report and Order* at ¶ 141.

²⁰ *Id.* at ¶ 142.

²¹ *Id.*

whenever Sirius XM has rolled out the results of testing conducted in secret, the WCS Coalition does not know the details as to how the facilities utilized were configured or operated.²² Thus, the WCS Coalition was not then, and is not now, in a position to fully comment on the purported testing.

What little is known, however, evidences that the testing was flawed. For example, Sirius XM appears not to have employed the stepped mask that the *Technical Public Notice* proposed for devices operating at 2 watts average EIRP or less – instead it appears to have employed a flat mask of $55+10\log(p)$. Moreover, Sirius XM does not appear to have incorporated automatic transmit power control (“ATPC”), which will tend to equalize the undesired signal present at a Sirius XM receiver regardless of whether indoor or outdoor antennas are used. Where an indoor antenna is used, the ATPC-equipped transmitter will tend to operate at higher power levels, to overcome the attenuation of the building structure. Where an outdoor antenna is used, ATPC will reduce the transmitted power because higher power is not necessary to overcome building attenuation. The net result is that in most cases the signal received on the street by a car equipped with a Sirius XM receiver is likely to be similar, without regard to where the WCS CPE antenna is placed. In addition, the Sirius XM test assumes that the Sirius XM receiver is stationary and directly in line with the WCS antenna -- in the real world the SDARS receiver will generally be moving through the interference, substantially mitigating the potential for interference.

Indeed, Sirius XM’s portrayal of purported interference cannot be squared with the results of the open and transparent live testing of an actual WCS system that the WCS Coalition demonstrated in Ashburn, VA. Nor can it be squared with the record before the Commission – despite years of fixed

²² See, e.g., Letter from Paul J. Sinderbrand, Counsel to WCS Coalition, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 07-293 (filed Feb. 21, 2009); Letter from Paul J. Sinderbrand, Counsel to WCS Coalition, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 07-293 and IB Docket No. 95-91 (filed Mar. 9, 2009); Letter from Paul J. Sinderbrand, Counsel to WCS Coalition, to Paul Murray, Legal Advisor, Office of Acting Chairman Michael Capps, FCC, *et al.*, WT Docket No. 07-293 and IB Docket No. 95-91 (filed Mar. 19, 2009); Letter from Paul J. Sinderbrand, Counsel to WCS Coalition, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 07-293 and IB Docket No. 95-91, at 2 (filed Jan. 29, 2010); WCS Coalition 5/12/10 Letter at 2.

WCS operations with outdoor antennas; interference has not been an issue. In short, just as proved to be the case with earlier Sirius XM testing, the simulated WCS operations reported on by Sirius XM at the eleventh hour, and on which the Commission may have mistakenly relied, were not designed or implemented to portray how an actual WCS system will perform, but to maximize interference.

Unless changed on reconsideration, the outdoor ban effectively will preclude WCS licensees from providing a variety of valuable services. Outdoor antennas are often critical to the provision of broadband services in remote areas – the gain associated with the outdoor antenna and the elimination of attenuation associated with in-building penetration allow service to be provided at locations too far from the base station to be served with an indoor antenna.²³ Moreover, the ban effectively precludes innovative future uses of the WCS band. For example, WCS interests have had discussion with smart grid proponents about integrating RF devices in electric meters to automate meter reading and control usage. This likely will require mounting a small antenna to outside of the meter housing – something that the newly-adopted rules ban unless in excess of 2 watts average EIRP is used. Yet, that power level is unnecessary and undesirable in urban areas covered by a dense network of base stations, and the extra costs of installing over-powered transmitters at each meter could be the difference between success and failure for smart grid deployments using WCS.

Given the lack of any reliable record supporting a ban on outside antennas for WCS devices operating at or below 2 watts average EIRP, the Commission should repeal the rule and return to the *status quo* under which antennas placement was dictated by technical need, not Commission fiat. To the extent, however, that the Commission believes some restrictions on outdoor antennas are

²³ Last week, for example, the Commission granted AT&T a temporary waiver of the outdoor antenna band to allow continued provision of service of residential service to one hundred users in Alaska. Letter from Roger S. Noel, Chief, Mobility Division, FCC, to James J.R. Talbot, Attorney, AT&T Inc., DA 10-1642 (rel. Aug. 27, 2010).

necessary in light of the new reduced OOB limits, WCS Coalition suggests that the Commission modify Section 27.53(a)(2) and (3) of the Rules as follows:

- Fixed WCS CPE authorized to operate²⁴ with an average EIRP at or below 250 milliwatts could be installed outdoors or connected to an outdoor antenna, provided that the gain of that antenna is no greater than 3 dB in any direction.²⁵ Such equipment would be subject to the OOB limits set forth in newly-adopted Section 27.53(a)(3) (*i.e.* the same limits that are also imposed on mobile and portable devices). Although such equipment would not be subject to the 2.5 MHz guardband requirement imposed on mobile and portable devices, the fact that these very low-power fixed devices likely will have a greater separation distance from Sirius XM receivers and likely will have foliage, vehicular or other blockages attenuating their signal levels balances out any minor increase in OOB caused by the use of this low-gain antenna.
- Fixed WCS CPE authorized to operate at no greater than 2 watts average EIRP could be installed outdoors or connected to an outdoor antenna without any limitation as to antenna gain, provided that it complies with the OOB limits set forth in newly-adopted Section 27.53(a)(2) (*i.e.* the fixed CPE rules now applicable above 2 watts).²⁶ This modification eliminates the counter-intuitive penalty imposed under the *Report and Order* against fixed CPE authorized to operate at no greater than 2 watts. By clearly subjecting such devices to the same OOB limits as fixed WCS CPE authorized to operate above 2 watts, any potential adverse impact on Sirius XM is mitigated.
- All other fixed WCS CPE would be subject to the rules adopted in the *Report and Order*.

²⁴ If the Commission does nothing else on reconsideration, it should confirm that the outdoor ban does not apply to fixed WCS CPE transmitter/antenna combination that is authorized by the Office of Engineering and Technology to operate above 2 watts average EIRP, regardless of the power at which it may actually be operating from time to time. The actual EIRP at which a device operates will depend on a wide range of factors that will vary from installation to installation and moment to moment. For example, the mandatory ATPC circuit will reduce the power of the device based upon such factors as distance from the base station and RF path losses (including foliage losses that can change with the seasons). The Commission certainly could not have meant that a device which operates at 2.1 watts in the summer, when foliage is out and more power is needed, cannot operate in the winter, when the trees are bare and less power needed. Similarly, where an outdoor antenna is used, the EIRP will depend upon the distance between the indoor and outdoor units, with longer cable runs generally resulting in lower EIRP. Again, there is nothing in the *Report and Order* to suggest that the Commission intended for the legality of an installation to be determined by the cable losses. Indeed, the result would be contrary to the Commission's goal of mitigating interference to Sirius XM – WCS licensees should be encouraged to make installations in a manner that reduces power, rather than maximizing power to permit an outdoor antenna.

²⁵ Although mobile and portable device antenna gains can vary somewhat, a 3 dB maximum gain will likely not be atypical. Thus, fixed WCS CPE coming within the ambit of this first bullet could be similar in terms of power and EIRP to mobile and portable devices, but would likely be located with large separation distances from Sirius XM receivers.

²⁶ As such, this proposal is consistent with the Commission's notation that "the SDARS licensees recognize that WCS fixed CPE devices operating at or below 2 W per 5-megahertz average EIRP do not require the same safeguards against interference to SDARS operations as fixed stations transmitting at higher power levels." *Report and Order* at ¶ 143 (citation omitted).

IV. THE COMMISSION SHOULD CLARIFY THAT POINT-TO-POINT DEPLOYMENTS ARE NOT CONSIDERED WCS CPE.

Prior to the *Report and Order*, there was no distinction between the maximum power level of fixed point-to-point links and fixed WCS CPE – both were permitted to operate at power levels of up to 2000 watts peak EIRP and were not subject to any duty cycle limits.²⁷ However, newly-adopted Section 27.50(a)(2) now restricts fixed WCS CPE to a maximum power of just 20 watts peak EIRP.²⁸ Moreover, while fixed operations generally are not subject to any duty cycle requirements, Section 27.50(a)(2) has imposed for the first time duty cycle limits on fixed WCS CPE.²⁹ The Commission has done so, however, without clearly defining what constitutes fixed WCS CPE.

Specifying what constitutes CPE is particularly important because the WCS community has deployed, and intends to continue to deploy, point-to-point links that in some cases are located on a subscriber's premises. The WCS Coalition understands that the Commission did not intend for Section 27.50(a)(2) to apply to point-to-point links, regardless of where they may be located. Nothing in the *Report and Order* even remotely implies that the Commission intended to impose the Section 27.50(a)(2) limits on point-to-point facilities. Rather, the *Report and Order* clearly evidences that fixed CPE should only include devices deployed as part of a ubiquitous broadband system that are controlled by subscribers and authorized to transmit at or below 20 watts peak EIRP, such as the devices deployed by DigitalBridge Communications and Main Street Broadband.³⁰

²⁷ See 47 C.F.R. § 27.50(a)(1)(2009).

²⁸ As noted above, this distinction is unnecessary to protect Sirius XM from interference caused by C and D Block point-to-point links, and thus the Commission should permit all point-to-point links to operate at 2000 watts average EIRP.

²⁹ The *Report and Order* acknowledges that because fixed CPE is likely to be much further removed from Sirius XM receivers, Sirius XM receivers should be able to tolerate higher power levels than are permitted for mobile devices. See *Report and Order* at ¶ 140. However, other than to note that the Commission's original WCS rules imposed a 20 watt peak EIRP limit on mobile devices, the *Report and Order* does not discuss how the Commission concluded that a 20 watt peak EIRP limit on fixed CPE would be appropriate.

³⁰ See *id.* at 141 ("An examination of the Commission's Equipment Authorization Database shows that although most 2.3 GHz WCS fixed CPE devices are authorized to use significantly lower EIRP levels (*e.g.*, in the 1 to 2

However, absent the adoption of a clarifying definition, there may be confusion in the future where point-to-point links are located at a subscriber's premise. Section 21.50(a)(2) does not permit sufficient power for traditional point-to-point applications that require long path lengths. And, point-to-point facilities cannot efficiently comport with the 12.5% and 25% duty cycles imposed by new Section 27.50(a)(2) on operations in the 2305-2320 MHz band. Imposing duty cycle requirements will require a major redesign of point-to-point equipment, as well as replacement of deployed facilities. For what reason? The Commission has correctly found that point-to-point links operating at the power levels specified in Section 21.50(a)(1) without any duty cycle can protect Sirius XM, and whether a point-to-point link is located at a subscriber location, or at a third-party location, has nothing to do with its propensity to cause interference to Sirius XM. Thus, there is no rationale for imposing stringent power and duty cycle limit on fixed point-to-point links that happen to be located on subscriber property.

V. NO POWER SPECTRAL DENSITY LIMITS SHOULD BE IMPOSED ON MOBILE OPERATIONS.

In its petition for reconsideration, AT&T demonstrates that the eleventh-hour imposition of a 50 mW per MHz power spectral density limit on mobile devices will have an adverse impact on mobile use of WCS and that it should be removed from Section 27.50(a)(3)(i) of the Rules. The WCS Coalition endorses AT&T's request and incorporates it by reference.

VI. TO ELIMINATE CONFUSION, THE REFERENCE IN SECTION 27.73(A) OF THE RULES TO RECOMMENDATION ITU-R M.1459 SHOULD BE STRICKEN.

Particularly now that the Commission has adopted large coordination zones around Aeronautical Mobile Telemetry ("AMT") facilities, it is imperative that the coordination process between WCS licensees and the AMT representative, Aerospace and Flight Test Radio Coordinating

W range), some WCS fixed CPE devices are authorized to operate up to the 20-W EIRP currently allowed for WCS mobile devices.") (citation omitted).

Council (“AFTRCC”) mandated by newly-adopted Section 27.73(a) of the Commission’s Rules not impose undue impediments to the widest possible deployment of WCS-based broadband facilities. To further that goal, on reconsideration the Commission should modify Section 27.73(a) of the Rules to eliminate the confusion that has arisen regarding the role that Recommendation ITU-R M.1459 (“ITU-R M.1459”) is to play in the Section 27.73(a) coordination process.

The confusion has arisen because of a disconnect between Paragraph 184 of the *Report and Order* and a reference to ITU-R M.1459 in newly-adopted Section 27.73(a) of the Commission’s Rules. As adopted by the *Report and Order*, Section 27.73(a) provides:

(a) Wireless Communications Service (WCS) licensees operating base stations in the 2345-2360 MHz band shall, prior to operation of such base stations, achieve a mutually satisfactory coordination agreement with the Aerospace and Flight Test Radio Coordinating Council (AFTRCC) for any AMT receiver facility within 45 kilometers or the radio line of sight, whichever distance is larger, of the intended WCS base station location. *This coordination is necessary to protect AMT receive systems consistent with Recommendation ITU-R M.1459.* The locations of the current and planned Federal and non-Federal AMT receiver sites may be obtained from AFTRCC. (emphasis added).

AFTRCC appears to believe that the reference to the ITU-R M.1459 in Section 27.73(a) has the effect of requiring WCS licensees to satisfy the protection levels set forth in the ITU-R Recommendation.³¹ However, Paragraph 184 of the *Report and Order* rejects the notion that ITU-R M.1459 is to be slavishly applied, stating in no uncertain terms that “although the interference protection mechanism outlined in Recommendation ITU-R M.1459 has been used in the past for the

³¹ See, e.g., Letter from William K. Keane, Counsel to AFTCC, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 07-293, *et al.*, at 1 (filed June 22, 2010) [“AFTRCC 6/22/10 Letter”]. The WCS Coalition has previously raised the ambiguity between Section 27.73(a) and Paragraph 184 of the *Report and Order* in both oral and written *ex parte* presentations to the staff. See Letter from Paul J. Sinderbrand, Counsel to WCS Coalition, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 07-293 and IB Docket No. 95-91, at 1 (filed June 1, 2010); Letter from Paul J. Sinderbrand, Counsel to WCS Coalition, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 07-293, at 1 (filed June 16, 2010) [“WCS Coalition 6/16/10 Letter”]. See also Letter from Thomas Gutierrez, Counsel to Horizon Wi-Com, L.L.C., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 07-293, *et al.*, at 1-3 (filed June 17, 2010). However, effort to have this matter clarified without the need for formal reconsideration was stymied when it was opposed by AFTRCC. See AFTRCC 6/22/10 Letter at 1-2.

coordination of base stations and AMT receivers, we will rely upon the AMT entity and the WCS licensee to use accepted engineer practices and/or standards to evaluate each AMT/WCS deployment based on the relevant operating characteristics and to come to a mutually acceptable agreement.”³² Unless the Commission on reconsideration makes clear that Paragraph 184 means what it says, the WCS Coalition fears that broadband service offerings in the 2.3 GHz band will unnecessarily be delayed, if not, precluded by AFTRCC’s overly aggressive application of ITU-R M.1459.³³

The language of Paragraph 184 was hardly a surprise – to the contrary, it is fully consistent with the record before the Commission. That record establishes that, whatever merit ITU-R M.1459 might have for its intended purpose, it is a poor tool for predicting whether a given WCS base station will cause interference to a given AMT receiver. The record demonstrates, for example, that ITU-R M.1459 does not reflect the vulnerability of any given AMT receiver to interference. As the WCS Coalition has previously noted,³⁴ ITU-R M.1459 states in no uncertain terms that “telemetry stations in the aeronautical mobile service have a wide range of characteristics and some may have less stringent protection criteria values.”³⁵ This is perhaps best illustrated by the fact that not all AMT

³² *Report and Order* at ¶ 184 (citations omitted).

³³ The WCS Coalition’s concern regarding the specification of ITU-R M.1459 is heightened by the record evidence that AFTRCC has misapplied ITU-R M.1459 to seek greater protection for its constituents than is necessary. *See, e.g.*, Letter from Ari Q. Fitzgerald, Counsel to GE Healthcare, to Marlene H. Dortch, Secretary, FCC, ET Docket No. 08-59, at 2 (filed Nov. 7, 2008) (“the AFTRCC analysis inappropriately substitutes an admittedly stringent absolute power flux density (“PFD”) threshold from ITU-R Recommendation M.1459 for the actual AMT link criteria (*i.e.*, AMT signal-to-interference ratio).”); Letter from Paul J. Kolodzy, PhD, Kolodzy Consulting, LLC, to Marlene H. Dortch, Secretary, FCC, ET Docket No. 08-59 (filed Oct. 20, 2008) (“AFTRCC’s analysis completely fails to account for the actual characteristics of the AMT link and the resulting received AMT signal levels, and instead uses the M.1459 power flux density limit, which is computed from noise-limited analysis and is thus most likely an inappropriate criterion by which to predict harmful interference.”).

³⁴ *See, e.g.*, WCS Coalition 6/16/10 Letter at 2-3.

³⁵ Recommendation ITU-R M.1459, *Protection Criteria for Telemetry Systems in the Aeronautical Mobile Service and Mitigation Techniques to Facilitate Sharing with Geostationary Broadcasting-Satellite and Mobile-Satellite Services in the Frequency Bands 1452-1 525 MHz and 2 310- 2 360 MHz*, at 2 (2002) [“ITU-R M.1459”]. Similarly, ITU-R M.1459 states that “pfd’s are currently specified in a 4 kHz bandwidth [and that] limiting the interference levels in such a narrow bandwidth may lead to overly protective criteria.” *Id.* at 13.

receivers will employ a 41 dBi gain antenna, as is assumed by ITU-R M.1459. Assume, for purposes of argument, that ITU-R M.1458 is correct in suggesting that a power flux density (“PFD”) of -181 dBW/m²/4kHz will not interfere with an AMT receiver with a 41 dBi gain antenna. Where lower gain AMT antennas have been deployed, it stands to reason that WCS base stations can exceed that PFD level at the AMT receiver site without causing harmful interference. Why, then, should WCS wireless broadband service in a given area be precluded to provide an artificial level of protection that ITU-R M.1459 concedes can be far more than is needed by the AMT receiver to be protected? Paragraph 184 of the *Report and Order* says it should not, and adopts the better course of having the coordination process focus on the specific capabilities of the AMT receiver.

Moreover, as the *Report and Order* recognizes, ITU-R M.1459 “provides the framework for conducting sharing studies between the mobile aeronautical test service and the mobile satellite service.”³⁶ Its purpose is protect AMT systems in the 1425-1525 and 2310-2360 MHz band from satellite interference, and, not surprisingly, it offers no insight into the appropriate mechanism for protecting AMT systems in the 2360-2395 MHz band from WCS or any other terrestrial service.³⁷ Given that it is intended for the evaluation of interference coming from space, rather than from terrestrial sources, it is not surprising that ITU-R M.1459 fails to fully consider, among other things, the directional nature of AMT receive antennas and the critical role of the direction in which the AMT directional antenna is pointing.

³⁶ *Report and Order* at ¶ 184 n.458. See also Amendment of the Commission’s Rules to Provide Spectrum for the Operation of Medical Body Area Networks, *Notice of Proposed Rulemaking*, 24 FCC Rcd 9589, 9606-07 (2009).

³⁷ It is presumably for this reason that the Commission, with Paragraph 184, implicitly rejected AFTRCC’s argument that ITU-R M.1459 should be applied here because it was the result of extensive efforts before the ITU led by the United States. See Reply Comments of Aerospace and Flight Test Radio Coordinating Counsel, WT Docket No. 07-293, *et al.*, at 6 (filed Apr. 30, 2010). The question here is not whether ITU-R M.1459 has merit for the purpose it was adopted (analyzing potential interference from satellites to AMT in the 1425-1525 and 2310-2360 MHz bands), it is whether ITU-R M.1459 has merit for a purpose never considered by the United States in advocating the recommendation (analyzing potential terrestrial interference to AMT in the 2370-2400 MHz band).

The fact that AMT receivers employ a directional antenna with a limited field of view is essential to any analysis of potential terrestrial interference from WCS base stations. A WCS deployment will likely consist of more than one base station with line of sight to an AMT facility. Assume, for example, a situation where there are two WCS base stations, one due east and one due west of the AMT receiver, each of which individually comports with the -180 dBW/m²/4kHz benchmark, but which cumulatively exceed that level. Because the AMT receiver field of view will be limited (the exact size of the field of view being dependent upon the antenna design), the two base stations likely can be deployed so that as the AMT antenna sweeps the test range, only one of the base stations will be within the field of view of the AMT receiver at one time. The discussion in Paragraph 184 of the *Report and Order* establishes that the directional nature of the AMT receive antenna should be considered during the coordination process so as to not unnecessarily preclude WCS deployments that are not a threat of interference, notwithstanding the limitations of ITU-R M.1459.

Elimination of the reference to ITU-R M.1459 in Section 27.73(a) is the best available approach to providing the WCS and AMT communities with clarity regarding the interplay between Paragraph 184 and newly-adopted Section 27.73(a). Doing so should facilitate the coordination process that will have to be completed prior to deployment of many WCS base stations.

VII. THE COMMISSION SHOULD NOT REQUIRE FIVE DAYS NOTICE PRIOR TO EVERY BASE STATION OR REPEATER MODIFICATION.

As a general proposition WCS Coalition has no quarrel with the Commission's adoption of rules requiring data exchanges between WCS and SDARS licensees to facilitate the coordination of facilities and the prevention of intervention. The Commission's decision to require that key data be exchanged at least 10 business days before a new WCS base station or new SDARS terrestrial repeater strikes an appropriate balance between the need to avoid excessive delays in the deployment

of new facilities and the protection of subscribers from interference.³⁸ However, the Commission's decision to require five business days advance notice before any WCS base station modification imposes undue burdens on WCS licensees that will frustrate the ability of system operators to provide the ubiquitous coverage that consumers demand from their wireless operators.

The problem was explained in detail in the WCS Coalition's comments in response to the *Technical Public Notice*:

Focusing on mobile broadband offerings, it is important for the Commission to keep in mind that the process of deploying a network capable of providing ubiquitous mobile service is an iterative one.³⁹ Licensees are not only adding new base stations, but they are constantly "tweaking" their existing facilities as necessary to eliminate "dead zones" in coverage, avoid self-interference between the operator's own cell sites and otherwise improve service to the public. Invariably, one iteration begets another – for instance, a slight modification of one antenna's orientation to improve coverage may require a corresponding modification of a second antenna to avoid self-interference, which in turn might require a reorienting of a third antenna to fill-in coverage, and so on. Often, the need for these network modifications cannot be predicted beforehand, as propagation modeling tools are imperfect (particularly in urban areas with substantial man-made clutter).⁴⁰ Thus, they must be effectuated in real time – adjustments are made, signal levels measured, further adjustments made, etc., by field personnel until the system is in balance.

Under the rules proposed by the staff [and now adopted in the *Report and Order*], what often must take place over the course of hours or a few days would be stretched out for months, as each individual modification would require delays. Take the example above – if the first antenna reorientation results in unexpected self-interference, the network operator will be precluded from fixing the problem until it provides an additional five business days notice. In the interim, it must either return the first base station to its prior condition (restoring the dead zone where it was not serving the public), or suffer the self-interference (and in the process degrade its service to the public). And, what public interest objective is advanced by this result? Sirius XM will have been on notice of the location of every WCS base station being modified and should have no difficulty identifying WCS as a potential source in the unlikely event any new interference arises.⁴¹

³⁸ See *Report and Order* at ¶¶ 151, 277.

³⁹ See WCS Coalition Technical PN Comments at 14-15.

⁴⁰ Of course, it is in these very same urban areas where SDARS terrestrial repeaters provide substantial coverage, and thus the risk of interference from WCS mobile operations is substantially mitigated.

⁴¹ WCS Coalition Technical PN Comments at 15.

To avoid the unnecessary adverse impact on WCS network deployment, the WCS Coalition proposed that base station modifications, other than changes in base station location, be permitted without prior notice, so long as notice is provided within 24 hours of the change.⁴²

In a subsequent filing, Sirius XM conceptually agreed, recommending “that the Commission limit the 24 hour notification rule to only those changes that do not increase the desired signal level, and the potential for interference on the ground.”⁴³ Yet, the *Report and Order* does not acknowledge Sirius XM’s position, much less address the WCS Coalition’s proposal. On reconsideration, the Commission can and should adopt a middle ground approach that will provide WCS broadband service providers, and their customers, relief from the overly protective approach that Sirius XM proposes, while providing Sirius XM with greater protection than the WCS Coalition had initially provided.

The Sirius XM proposal is flawed because it presumes that WCS operations only provide marginal protection to Sirius XM, and thus any increase in base station signal level at the ground will result in interference to Sirius XM. This is simply not true – given the height at which most base stations will be located and the need to spread the signal relatively equally within the service area, there are unlikely to be “hot spots” where a minor increase in WCS signal level will prove devastating to Sirius XM. Thus, WCS licensees should be permitted to modify facilities, other than changes in location, without prior notice so long as the result of the change does not increase the predicted power flux density at ground level by more than 2 dB and notice of the change is given within 24 hours of the change. Along similar lines, Sirius XM should be permitted to modify its repeaters, other than changes in location, without prior notice so long as the result of the change is not predicted to increase

⁴² *See id.* at 16.

⁴³ *See* Comments of Sirius XM Radio Inc., WT Docket No. 07-293, *et al.*, at 5-6 (filed May 13, 2010) [“Sirius XM 5/13/10 Comments”].

the power flux density at any WCS base station antenna by more than 2 dB. By allowing a modest 2 dB predicted increase in signal strength, the Commission will materially reduce the burden of the advance notification requirement, without significantly increasing the risk of interference. And, of course, this proposal is procedural only – adoption of the WCS Coalition’s proposal will not change the parties’ substantive rights and obligations to each other where interference does occur.

VIII. SECTION 25.144(E)(9) SHOULD BE REVISED TO PROTECT WCS LICENSEES AGAINST INTERFERENCE FROM SDARS REPEATERS THAT DO NOT COMPLY WITH THE BLANKET LICENSING RULES.

Consistent with the position expressed in the *WCS Coalition Technical PN Comments*, the WCS Coalition has no objection to the provisions of newly-adopted Section 25.144(e)(8) authorizing the blanket licensing of SDARS terrestrial repeaters, so long as those repeaters comply with the power limits set forth in Section 25.214(d)(1) and the OOB limits set forth in Sections 25.202(h)(1) and (2).

Paragraph 273 of the *Report and Order* leaves no doubt that deviations from the new terrestrial repeater and OOB limits will be the exception, not the rule. There, the Commission made clear that “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.”⁴⁴ Yet, Section 25.144(e)(9) does not specifically require that an application seeking authority to operate a non-compliant repeater include a waiver.⁴⁵ On reconsideration, the Commission should modify Section 25.144(e)(9) to incorporate its determination that a SDARS licensee seeking to deploy a terrestrial repeater that is non-compliant with the Commission’s technical rules must demonstrate that a waiver of those technical rules is warranted.

⁴⁴ *Report and Order* at ¶ 273 (emphasis added).

⁴⁵ Section 25.133(c) of the Commission’s Rules, for example, does specifically require a waiver showing for non-compliant earth station applications. See 47 C.F.R. § 25.133(c).

In addition, the Commission should require that any site-based repeater application seeking a waiver be served by the SDARS licensee upon each “potentially affected WCS licensee,” as such term is defined in newly-adopted Section 25.263(b) of the Rules. While the WCS Coalition appreciates that the Commission anticipates giving public notice of waiver applications,⁴⁶ given the extraordinary relief waiver applications seek WCS licensees require as much advance notice as practicable to evaluate the potential impact of any proposed non-compliant SDARS terrestrial repeater operations. Requiring service at the time an application is filed imposes only a minimal burden on SDARS, but will go far to assure that the International Bureau has all of the facts regarding potential adverse consequences a waiver of the rules will have on WCS service offerings. *Indeed, in a May 13, 2010 filing in this proceeding, Sirius XM stated that “Sirius XM does not object to a requirement that it serve potentially affected WCS licensees with copies of any applications for satellite radio terrestrial repeaters that do not comply with the terms of the blanket authorization”*⁴⁷ Yet, no requirement was written into the new rules.

IX. THE DUTIES IMPOSED ON WCS AND SIRIUS XM TO COOPERATE IN THE AVOIDANCE OF INTERFERENCE SHOULD BE IDENTICAL.

Newly-adopted Sections 25.263(e) and 27.72(e) should be conformed to impose equal obligations on WCS licensees and Sirius XM to share information regarding new deployments.⁴⁸

⁴⁶ See *Report and Order* at ¶ 273 (“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.”).

⁴⁷ Sirius XM 5/13/10 Comments at 5 (emphasis added).

⁴⁸ Along similar lines, the WCS Coalition is concerned about the lack of a provision parallel to Paragraph 327 of the *Report and Order*, which orders WCS licensees provide to Sirius XM the information regarding their existing infrastructure, including the information specified in newly-adopted Section 27.72, and that they do so within thirty days of the effective date of that section. See *Report and Order* at ¶ 327. For some unexplained reason, there is no parallel ordering clause requiring Sirius XM to turn over its infrastructure inventory to potentially affected WCS licensees within 30 days of the effective date of Section 25.263 (the SDARS analog to Section 27.72). This omission of a parallel ordering clause appears to have been nothing more than an oversight, since Paragraph 278 of the *Report and Order* states that “we also require SDARS licensees to provide

Section 27.72(e) of the Rules obligates a WCS licensee to cooperate in the avoidance of interference as follows:

(e) Duty to Cooperate. WCS licensees must cooperate in good faith in the selection and use of new station sites and new frequencies to reduce interference and make the most effective use of the authorized facilities. *WCS licensees should provide SDARS licensees as much lead time as practicable to provide ample time to conduct analyses and opportunity for prudent base station site selection prior to WCS licensees entering into real estate and tower leasing or purchasing agreements. WCS licensees must have sufficient operational flexibility in their network design to implement one or more technical solutions to remedy harmful interference.* Licensees of stations suffering or causing harmful interference must cooperate in good faith and resolve such problems by mutually satisfactory arrangements. If the licensees are unable to do so, the Wireless Telecommunications Bureau, in consultation with the Office of Engineering and Technology and the International Bureau, will consider the actions taken by the parties to mitigate the risk of and remedy any alleged interference. In determining the appropriate action, the Bureau will take into account the nature and extent of the interference and act promptly to remedy the interference. The Bureau may impose restrictions on WCS licensees, including specifying the transmitter power, antenna height, or other technical or operational measures to remedy the interference, and will take into account previous measures by the licensees to mitigate the risk of interference. (emphasis added).

The WCS Coalition is troubled by the fact that the italicized language above does not appear in Section 25.263(e) – the analogous SDARS rule.⁴⁹ Why, for example, are WCS licensees required to have “sufficient operational flexibility in their network design to implement one or more technical

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.” *Id.* at ¶ 278. It is the WCS Coalition’s hope that Sirius XM will moot this concern by turning over its infrastructure inventory, including the information specified in Section 25.263, no later than the effective date of that rule. But out of an abundance of caution should that not occur, the WCS Coalition urges the Commission to order compliance by Sirius XM with the spirit of Paragraph 278.

⁴⁹ It should be noted that the italicized language was not proposed in the *Technical PN*, nor was it proposed by Sirius XM in its formal comments on the *Technical PN*, or even Sirius XM’s subsequent unauthorized supplemental comments. To the contrary, it appears to have first surfaced when Sirius XM filed unauthorized “comments” on May 13, 2010 – the day the Commission’s May meeting agenda was released – precluding a response from the WCS Coalition. Sirius XM 5/13/10 Comments at 3. Interestingly enough, however, the Sirius XM proposal called for the rules to be equally applicable to SDARS and WCS. *See id.* (“Sirius XM envisions an alternative process where WCS licensees and Sirius XM exchange technical information and parameters on potential new sites, with appropriate protections for confidentiality, even before site leases are signed and finalized.”). Why Sirius XM’s eleventh hour proposal was incorporated into the WCS rules, but not the SDARS rules, is a mystery, unexplained by the *Report and Order*.

solutions to remedy harmful interference”, but Sirius XM is not? There is nothing in the *Report and Order* to explain why WCS licensees are subject to more burdensome obligations than SDARS. Nor should there be – the two services were created simultaneously, and are both primary in their respective bands. Indeed, Paragraph 277 of the *Report and Order* makes clear the Commission’s intent that the new information exchange requirements were to be parallel between the two services.⁵⁰

As such, on reconsideration the Commission should conform the two rules by striking the italicized language from Section 27.72(e).⁵¹ If WCS licensees are to provide the levels of service required by the Commission (even if those levels are modified as suggested above), there is simply no time to allow Sirius XM to routinely interject itself into the middle of the WCS site acquisition process, with the attendant delays. The WCS Coalition appreciates that under Section 27.72(e), the Commission will be taking into consideration coordination efforts should it be called upon to address interference complaints; thus, WCS licensees have every incentive to consult with Sirius XM as early in the site acquisition process as practicable in those cases where there is a potential for interference. However, requiring such consultation in all cases, even where the potential for interference is inconsequential, will merely slow WCS deployments and harm consumers who are anxious for access to additional sources of high speed broadband services. By relying on marketplace incentives and eliminating the italicized language, the Commission can have the best of both worlds – advance consultation will occur where it is likely to be of benefit, but unnecessary delays will be avoided.

Finally, the Commission should clarify the role that *de facto* transfer leases play in the new information sharing rules. Under the Commission’s Rules, a *de facto* transfer lessee has “primary responsibility for complying with the Communications Act and applicable Commission policies and

⁵⁰ See *Report and Order* at ¶ 277.

⁵¹ Although not the preferred approach, an alternative would be to add the italicized language to Section 25.263(e).

rules.”⁵² As a result, the notification and coordination obligations imposed on WCS licensees under sections 27.72, and 27.73 of the Commission’s Rules are transferred to the *de facto* lessee upon the effective date of a *de facto* transfer lease. The Commission should clarify that, where applicable, the information sharing requirements imposed on SDARS licensees under Section 25.263 include the *de facto* lessee as a “potentially affected WCS licensee.” Thus, for example, where a new SDARS terrestrial repeater is being constructed in an area where there is a WCS *de facto* lessee, the SDARS licensee should be required to serve the notice required pursuant to Section 25.263(b) on the *de facto* lessee.

* * *

WHEREFORE, for the foregoing reasons, the Commission should modify the rules adopted in the *Report and Order* in accordance with the proposals set forth above.

Respectfully submitted,

THE WCS COALITION

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⁵² See 47 C.F.R 1.9030(c)(1).