

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)
) IB Docket No. 11-109
LightSquared Inc.'s) ET Docket No. 10-142
Petition for Declaratory Ruling)

REPLY COMMENTS OF LIGHTSQUARED INC.

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LightSquared Inc., together with its affiliates (collectively, “LightSquared”), hereby replies to the comments submitted in this proceeding in response to the Petition for Declaratory Ruling submitted by LightSquared on December 20, 2011 (the “Petition”). The Petition asks the Commission to clarify the regulatory status of commercial Global Positioning System (“GPS”) receivers, particularly with respect to the relative spectrum rights of such receivers vis-à-vis authorized operations in the mobile-satellite service (“MSS”) spectrum bands, including ancillary terrestrial component (“ATC”) operations. As discussed below, the record supports the legal analysis presented in LightSquared’s Petition, and the Commission should grant the Petition on an expedited basis.

I. INTRODUCTION AND SUMMARY

LightSquared’s Petition unequivocally demonstrates that, under the Commission’s *existing* rules, policies, and precedent: (i) unlicensed commercial GPS users lack standing to object to LightSquared’s licensed MSS ATC operations; (ii) unlicensed commercial GPS users do not have any general right to “protection” from LightSquared’s licensed MSS ATC operations; (iii) any use by GPS receivers of the MSS portion of the L Band in order to receive GPS signals is nonconforming and inconsistent with the U.S. Table of Frequency Allocations, and thus unprotected; and (iv) GPS manufacturers, not LightSquared, are responsible under the

Commission's rules and precedent for the costs of making unlicensed GPS receivers compatible with LightSquared's licensed MSS ATC operations.

The record reflects significant support for these propositions, and widespread recognition of the critical role that a stable spectrum rights regime plays in encouraging the substantial investment necessary to spur innovation and the implementation of next-generation broadband networks like LightSquared's, consistent with the Commission's objectives as expressed in the *National Broadband Plan*. Tellingly, GPS interests do not identify a single Commission rule, policy, or precedent that contradicts LightSquared's reasoning.

Instead of engaging LightSquared on the merits, most commenters responding to the Petition simply allege some vague and unsubstantiated right to GPS "protection." A number of commenters also: (i) assert, without foundation, that LightSquared's Petition is procedurally improper; (ii) mischaracterize the nature of the potential for "overload" of certain GPS receivers that gave rise to the Petition; and (iii) engage in a number of factual debates that have nothing to do with the nature or scope of "harmful interference" under the Commission's rules or the merits of the Petition. Such responses underscore the fact that GPS interests have no meaningful refutation of the detailed legal analysis presented in LightSquared's Petition. Thus, the Commission should expeditiously disabuse the GPS industry of its belief that GPS receivers operating in the MSS portion of the L Band are entitled to protection from "overload" effects that may occur when those receivers use a portion of the radiofrequency spectrum that is not allocated for GPS use.

Notably, several parties assert that by filing its Petition, LightSquared is somehow reversing itself on the offers it has made to address receiver "overload" concerns, in an apparent attempt to even further heighten the controversy over this issue. To be clear, LightSquared

stands by all of its commitments made in this docket—commencing operations in the portion of its licensed spectrum most distant from the GPS band, and at 2005 power levels, and so on. These are voluntary commitments intended to allow LightSquared to move forward with deployment of its network while nevertheless addressing the concerns of users of the installed base of GPS receivers that may be susceptible to “overload.” Despite these proposals, GPS manufacturers continue to claim a nebulous right of protection for their receivers: that they are owed these compromises as a matter of legal right, and not as a matter of accommodation. These unfounded assertions demonstrate that the Commission must decide the issues raised by LightSquared’s Petition expeditiously, to provide clarity and remove the ongoing confusion caused by the GPS industry.

LightSquared strongly disagrees with the false characterizations advanced by GPS interests regarding ancillary matters such as the history of LightSquared’s ATC authorization, the testing process of GPS receivers that has occurred over the past year, and the feasibility of implementing technical solutions for the concerns of the GPS industry.¹ Because these matters simply are not germane to the discrete declarations sought by LightSquared’s Petition, LightSquared will not attempt a point-by-point rebuttal in this pleading. Such matters will be fully addressed in comments to be filed by LightSquared later this week, in this docket, in response to the Commission’s February 15, 2012 *Public Notice*.²

¹ See, e.g., Comments of the Coalition to Save Our GPS at 2-16 (“Coalition Comments”); Comments of the U.S. GPS Industry Council at 3-7 (“USGIC Comments”).

² See *International Bureau Invites Comment on NTIA Letter Regarding LightSquared Conditional Waiver*, Public Notice, DA 12-214 (Feb. 15, 2012) (“*February 15 Public Notice*”).

II. THE COMMISSION SHOULD ADDRESS THE DISCRETE LEGAL ISSUES PRESENTED IN LIGHTSQUARED’S PETITION

LightSquared’s Petition presents four discrete legal issues for resolution by the Commission. More specifically, the Petition expressly seeks declarations that:

- (i) Manufacturers and users of unlicensed commercial GPS receivers lack standing to file complaints or other pleadings seeking “protection” from allegedly incompatible operations in adjacent MSS bands—including ATC operations—that are expressly permitted by the Commission’s rules and the U.S. Table of Frequency Allocations;
- (ii) Commercial GPS receivers have no independent right to “protection” from operations in adjacent MSS bands, independent of the license conditions that limit the out-of-band power that may be emitted by MSS band transmitters into the radionavigation-satellite service (“RNSS”) band used by GPS, and other than the benefit afforded by the guard band that should separate LightSquared’s terrestrial operations in the MSS band from commercial GPS operations in the RNSS band;
- (iii) Commercial GPS receivers that receive GPS signals in the MSS band are “nonconforming” and inconsistent with the MSS allocation in that band, and as such are not entitled to any “protection” regardless of whether they are licensed; and
- (iv) The costs of ensuring that GPS devices are compatible with adjacent band operations—including any costs necessary to retrofit legacy devices—are the responsibility of GPS manufacturers or, at a minimum, are not the obligation of MSS/ATC licensees.³

LightSquared’s Petition includes detailed legal analysis demonstrating that each of these declarations would be consistent with the Commission’s *existing* rules, policies, and precedent. Instead of engaging LightSquared on the merits and attempting to address this legal analysis, GPS interests try to distract attention from their legal vulnerability by: (i) asserting, without foundation, that LightSquared’s Petition is procedural improper; (ii) mischaracterizing the nature of the potential for GPS receiver “overload” that gave rise to the Petition; and (iii) advancing a number of arguments that have nothing to do with the nature or scope of “harmful interference” under the Commission’s rules or the rights of commercial users of GPS receivers

³ See LightSquared Petition at 2-3.

under existing law. The Commission should see these efforts for what they are—a smokescreen to try to cover the inability of GPS interests to identify *a single* Commission rule, policy, or precedent establishing that commercial GPS receivers are entitled to “protection” when they “listen” in the MSS portion of the L Band in order to receive GPS signals.

III. THE PROCEDURAL ARGUMENTS ADVANCED BY GPS INTERESTS ARE BASELESS

GPS interests initially attempt to mischaracterize the nature of LightSquared’s Petition and ask the Commission to dismiss it on procedural grounds. More specifically, GPS interests claim that: (i) LightSquared’s Petition is moot; (ii) LightSquared’s Petition constitutes an improper attempt to seek reconsideration of the *Conditional Waiver Order*;⁴ and (iii) LightSquared’s Petition is improper because the relief sought cannot be granted through a declaratory ruling. Each of these claims is unavailing.

A. LightSquared’s Petition Is Not Moot

Certain GPS interests claim that LightSquared’s Petition has been rendered moot by the Commission’s February 15, 2012 *Public Notice*, in which the Commission has sought comment on, but has not effectuated, possible modifications to LightSquared’s existing MSS ATC authority.⁵ Not only has no action been taken under the *Public Notice*, but nothing in the *Public Notice* purports to alter the relative spectrum rights of commercial GPS users vis-à-vis licensed spectrum users in the MSS portions of the L band. This is consistent with the fact that a party’s relative spectrum usage rights are independent of the testing described in the *Public Notice*. Regardless of what unwanted effects such testing can be argued to measure, laboratory

⁴ See *LightSquared Subsidiary LLC*, 26 FCC Rcd 566 (2011) (“*Conditional Waiver Order*”).

⁵ See Comments of T-Mobile USA Inc. at 2 (“T-Mobile Comments”); Comments of Deere & Company at 3-6 (“Deere Comments”); USGIC Comments at 2.

testing does not determine the legal significance of those unwanted effects or whether they constitute cognizable “harmful interference” under existing law. *That* classification is wholly dependent on the relative spectrum usage rights of the parties, as determined by the U.S. Table of Frequency Allocations and Commission authorizations, rules, and precedent.

Moreover, as will be demonstrated in comments in response to the February 15, 2012 *Public Notice* to be filed by LightSquared later this week, the reasoning underlying the *Public Notice* is manifestly deficient—in large part because that *Public Notice* does not account for the legal analysis presented in LightSquared’s Petition. Thus, as a matter of law and logic, the Commission *must* resolve the issues raised in LightSquared’s Petition *before* considering further the actions proposed in that *Public Notice*. After all, if GPS users have no legal right to protection from any “overload” that may occur “when signals are received by GPS receivers *outside the frequency band allocated to GPS*,”⁶ there is no legal or rational basis to take action against LightSquared for its failure to provide that “protection.”

Nor does LightSquared’s willingness to work with the Commission and the GPS industry to find a technical solution to the stated GPS concerns in any way moot LightSquared’s legal rights.⁷ LightSquared’s actions are entirely consistent with conditions imposed by the Commission in the *Conditional Waiver Order*,⁸ and reflect LightSquared’s willingness to implement its network in phases to facilitate the adaptation of the commercial GPS industry to an operating environment where ATC is present. Critically, LightSquared has *never* offered to surrender its spectrum rights. Rather, LightSquared has made various “staged” implementation

⁶ *February 15 Public Notice* at 2 n.6 (emphasis added).

⁷ See USGIC Comments at 17-19, Deere Comments at 9-10; Comments of Lockheed Martin Corporation at 3 (“Lockheed Comments”).

⁸ See *Conditional Waiver Order* ¶¶ 41-43.

proposals in order to expedite the partial implementation of its network and initiate commercial service consistent with Commission-imposed deadlines.⁹ It would be perverse to punish LightSquared for attempting to cooperate with the commercial GPS industry in this fashion. Punishing LightSquared for being *more* accommodating than its status as a licensed user demands would encourage other entities to take a “hard line” in future interference disputes and undermine any incentive for them to pursue cooperative solutions to such disputes.¹⁰

B. LightSquared’s Petition Does Not Seek Improper Reconsideration of the Conditional Waiver Order

GPS interests assert that LightSquared’s Petition is somehow improper because of conditions imposed on LightSquared by the *Conditional Waiver Order*. For example, Deere & Company maintains that LightSquared’s Petition “should be dismissed as an untimely and inappropriate attempt to gain reconsideration of the *Conditional Waiver [Order]*”¹¹

Such claims are misguided; as discussed below in Section V.B.2, nothing in the *Conditional Waiver Order* establishes that GPS receivers operating in the MSS portion of the L Band are entitled to protection from LightSquared’s authorized ATC operations, or that “overload” effects potentially experienced by certain GPS receivers that “listen” in LightSquared’s licensed spectrum would in fact constitute “harmful interference.” Moreover, nothing in the *Conditional Waiver Order* or the underlying record estops LightSquared from challenging the GPS industry’s erroneous interpretations of the Commission’s rules, policies, and precedent—including the *Conditional Waiver Order*—through the Petition.

⁹ See *SkyTerra Communications, Inc. and Harbinger Capital Partners Funds*, 25 FCC Rcd 3059, Att. 2 Condition 2 (2010).

¹⁰ See Letter to FCC from LightSquared, IB Docket No. 11-109, at 9 (Dec. 20, 2011).

¹¹ Deere Comments at 9.

In addition, the *Conditional Waiver Order* is subject to ongoing review by the Commission as the result of petitions for reconsideration filed by members of the GPS industry. These petitions focus on the portions of the order affecting LightSquared’s obligations vis-à-vis GPS. As such, even if LightSquared’s Petition did address matters resolved by the *Conditional Waiver Order*—which it does not—consideration of the Petition still would be entirely proper. Notably, LightSquared’s Petition and the reconsideration of the *Conditional Waiver Order* are being addressed through a single, consolidated docket with a unified record, consistent with Commission rules.¹²

C. LightSquared’s Petition Does Not Seek To Change the Commission’s Existing Rules, Policies, or Precedent

GPS interests allege that LightSquared’s Petition improperly asks the Commission to change its existing regulatory policies—relief that typically is not granted through a declaratory ruling. For example, Lockheed Martin Corporation claims that the Petition is improper because LightSquared “appears to be trying to avoid its obligations” under the Commission’s existing rules.¹³ As an initial matter, the obvious disagreement between LightSquared and the GPS industry as to the rights of GPS receivers “listening” in the MSS portion of the L Band demonstrates the existence of a “controversy” that the Commission can and should resolve—one way or the other—through its consideration of LightSquared’s Petition.¹⁴

¹² See 47 C.F.R. § 1.2(b).

¹³ Lockheed Comments at 3. See also T-Mobile Comments at 2, Deere Comments at 6-8; USGIC Comments at 1-2; Coalition Comments at 1.

¹⁴ See 47 C.F.R. § 1.2(a).

Moreover, LightSquared’s Petition does not seek *any* change in relevant law. Indeed, the Petition includes a detailed legal analysis that is firmly grounded in the Commission’s *existing* rules, policies, and precedent. For example, the Petition relies heavily on the priority scheme reflected in the U.S. Table of Frequency Allocations and associated rules, which serve as the cornerstone of the Commission’s spectrum policy and the rights enjoyed by licensed and unlicensed users of spectrum.¹⁵ LightSquared also discusses existing Part 15 and Part 25 rules, and cites cases decided by the Commission *decades* ago, which have guided the Commission’s regulation of unlicensed, receive-only earth stations ever since.¹⁶

Nothing in the Petition asks the Commission to afford LightSquared additional spectrum rights, or alter the allocation status of ATC operations or GPS receivers. In contrast, it is the GPS industry that wrongly asserts that GPS receivers are entitled to “protection” from licensed ATC operations—even though such GPS receivers are unlicensed and represent nonconforming spectrum uses when they “listen” to GPS signals in the MSS portion of the L Band. LightSquared merely asks the Commission to disabuse GPS interests of this mistaken notion, which has given rise to disputes, consumed significant Commission resources, and delayed the provision of much-needed wireless 4G LTE service to the American public.

IV. GPS INTERESTS MISCHARACTERIZE THE NATURE AND CAUSE OF THE GPS “OVERLOAD” THAT FORMS THE ROOT OF THE EXISTING CONTROVERSY

GPS interests erroneously claim that LightSquared’s Petition seeks the Commission’s blessing to interfere with GPS operations within the 1559-1610 MHz band, which is allocated for GPS use. For example, the U.S. GPS Industry Council characterizes

¹⁵ See 47 C.F.R. § 2.106.

¹⁶ See, e.g., *Regulation of Domestic Receive-Only Satellite Earth Stations*, 74 FCC 2d 205 (1979) (“1979 Receive-Only Earth Station Order”).

LightSquared's Petition as "[s]uggesting that destructive interference" to GPS devices operating within a "primary service allocated to and operating in the United States in the 1559-1610 MHz portion of the L-band" would be "consistent with FCC rules" ¹⁷ Such statements grossly mischaracterize both the relief sought in LightSquared's Petition and the nature and cause of the GPS "overload" concerns that are at issue. In making such assertions, GPS interests conflate two very different concepts: the concept of "overload" and the concept of "out-of-band emissions." ¹⁸

As an initial matter, nothing in LightSquared's Petition seeks any change in the Commission's policies with respect to out-of-band emissions into the GPS band. Indeed, LightSquared's Petition explicitly acknowledges that: (i) the Commission's rules limit permissible out-of-band emissions from ATC operations into the GPS band; and (ii) LightSquared has accepted even stricter limitations on such emissions from its own ATC operations, as reflected in LightSquared's ATC authorizations. ¹⁹ Moreover, the ongoing dispute

¹⁷ USGIC Comments at 3.

¹⁸ *See, e.g.*, Coalition Comments at 13 n.46 (suggesting that the Commission's decisions recognize the need to protect GPS from "overload," but citing only the out-of-band emissions limits established in the *2003 ATC Order*); Lockheed Comments at 4 (suggesting that GPS receivers use spectrum allocated to the RNSS, but ignoring that "overload" results precisely because such receivers use spectrum allocated to MSS ATC operations in order to receive GPS signals).

¹⁹ *See* LightSquared Petition at 5-9. The existence of such limits and the Commission's and the NTIA's repeated reliance on the agreements between LightSquared and the GPS industry reflect that the GPS industry *did* have a voice at the Commission during the rulemaking process when the Commission was developing rules for new ATC operations, *cf.* Coalition Comments at 16-17, notwithstanding the unlicensed status and lack of standing to file interference complaints of users of GPS receivers. That the GPS industry negotiated for protection only against out-of-band emissions (and not "overload") reflects a tactical decision in the rulemaking process on which LightSquared relied. That decision cannot be "wished away" a decade later. The opportunity the GPS industry used in the ATC rulemaking process to obtain stricter out-of-band emission limits than the Commission otherwise would have adopted is consistent with the Coalition's assertion that the Commission sometimes takes unlicensed operations into account in the course of

between LightSquared and the GPS industry does not involve out-of-band interference at all; in fact, no commenter alleges that LightSquared's planned operations would exceed the out-of-band emissions limits specified in its authorizations.

In truth, the ongoing controversy centers on whether GPS receivers are entitled to protection from "overload" effects that may occur with certain GPS receivers once LightSquared implements its ATC network. LightSquared's Petition seeks to dispel the myth that GPS receivers are entitled to such protection, inasmuch as "overload" would not stem from LightSquared's transmissions into the GPS band. Rather, as the Commission has acknowledged, "overload" is a receiver-based problem, caused by GPS receivers receiving energy transmitted *outside the frequency bands allocated to GPS*,²⁰ and entirely within LightSquared's authorized spectrum.²¹

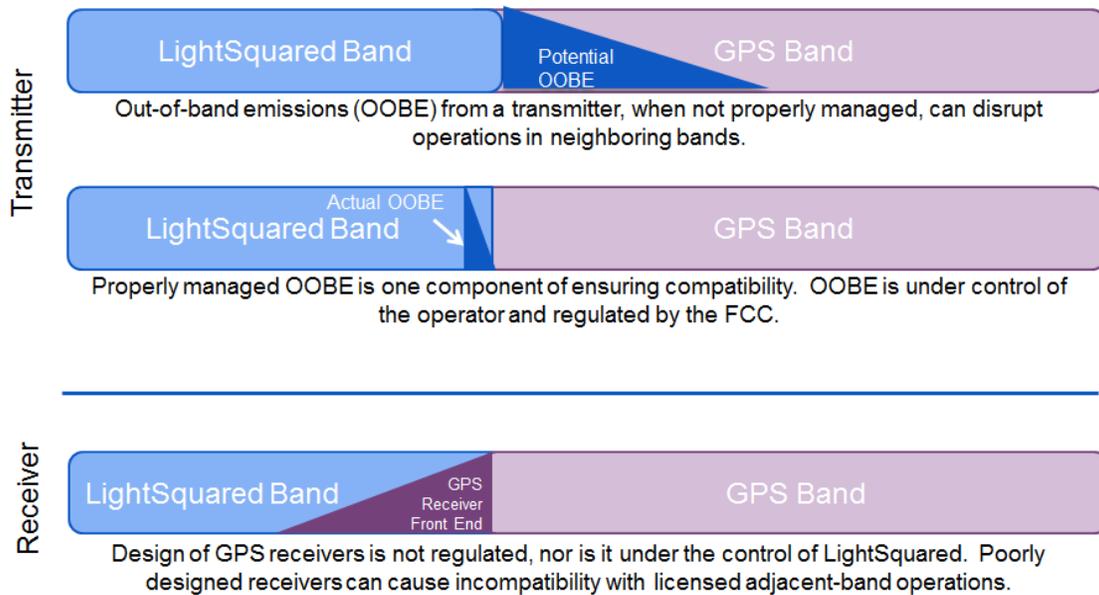
The following diagrams depict the difference between out-of-band emissions and "overload":

rulemaking proceedings. *See Coalition Comments at 16-17.* In any event, none of the non-rulemaking contexts cited by the Coalition involved unlicensed earth stations subject to the *1979 Receive-Only Earth Station Order* (discussed below). The principle of judicial estoppel should preclude the GPS industry from reopening this issue at this late date. *See New Hampshire v. Maine*, 532 U.S. 742, 749 (2001); *Global NAPS, Inc. v. Verizon New England, Inc.*, 603 F.3d 71, 91 (1st Cir. 2010); *Time Warner Cable*, 21 FCC Rcd 9016, at ¶ 13 & n.25 (2006).

²⁰ *See February 15 Public Notice at 2 n.6* (emphasis added).

²¹ *See Conditional Waiver Order ¶ 42.*

OOBE and Overload



“Overload” concerns exist solely because GPS manufacturers have chosen to design receivers that “listen” in the MSS portion of the L Band in order to receive GPS signals, and thus leave those receivers susceptible to energy transmitted in that band. “Overload” does not involve any interference into the GPS band; consequently, the Commission could determine that GPS manufacturers are responsible for curing “overload” without undermining the broad Commission policies that recognize the benefits of GPS service.²² Furthermore, the potential for “overload” does not turn on LightSquared’s compliance with applicable technical requirements, and could result from ATC operations that are fully compliant with the Commission’s rules and authorizations.²³ The bottom line is that “overload” results solely from GPS receiver activities

²² See Deere Comments at 10 n.32; Coalition Comments at 13.

²³ The Coalition to Save Our GPS suggests that GPS users have standing to object to LightSquared’s ATC operations because those ATC operations allegedly would not be “properly conducted” in accordance with the Commission’s rules. See Coalition

that do not conform to the allocations provided in the U.S. Table of Frequency Allocations. Consequently, GPS receivers experiencing “overload” simply are not entitled to any protection from LightSquared, and manufacturers and users of GPS devices are legally required to bear all costs necessary to address unwanted “overload” effects.

V. THE RECORD SUPPORTS THE DETAILED LEGAL ANALYSIS INCLUDED IN LIGHTSQUARED’S PETITION

As noted above, LightSquared’s Petition includes detailed legal analysis demonstrating that each of the requested declarations would be consistent with the Commission’s *existing* rules, policies, and precedent. Among other things, LightSquared demonstrated that: (i) GPS devices are not licensed and thus not entitled to interference protection—regardless of whether they properly may be treated as unintentional radiators under Part 15 or unlicensed receive-only earth stations under Part 25 (or both); and (ii) GPS receivers that “listen” in the MSS portion of the L Band to receive GPS signals are nonconforming uses of spectrum under the U.S. Table of Frequency Allocations, and thus are doubly unprotected. In short, LightSquared has conclusively shown that any “overload” effects experienced as a result of GPS receivers “listening” in the MSS portion of the L Band would *not* constitute legally cognizable “harmful interference.”

GPS interests fail to engage LightSquared’s analysis on its merits, managing a response that is partial at best. First, GPS interests suggest that the Commission should simply ignore its existing rules, policy, and precedent in favor of some vague, overriding need to

Comments at 18. Yet, the Coalition fails to establish that LightSquared’s planned operations would be inconsistent with the Commission’s rules in any way. The mere fact that some GPS receivers may be incompatible with LightSquared’s licensed ATC operations does not establish that any inconsistency with the Commission’s rules exists—particularly since the impact of any such incompatibility is anticipated by the allocation priority scheme reflected in the Commission’s rules, policies, and precedent.

“protect” GPS use of the MSS portion of the L Band—even though there is no legal support for this approach. For example, numerous comments urge the Commission to “protect” GPS, but do nothing to establish that GPS devices have a legal right to such protection when they use the MSS portion of the L Band.²⁴ Second, GPS interests identify a number of discrete instances in which the Commission or another body has referenced the “harmful interference” standard—even though (as discussed below) none of those instances establishes that the type of “overload” at issue here constitutes legally cognizable “harmful interference.”

In the end, the Commission should see through the smokescreen employed by GPS interests and recognize that they utterly fail to identify *any* Commission rule, policy, or precedent establishing that GPS receivers are entitled to “protection” when they “listen” in the MSS portion of the L Band in order to receive GPS signals.

A. The Record Establishes that GPS Receivers Are Not Legally Entitled to Protection from “Overload”

The comments filed in response to LightSquared’s Petition do nothing to undermine the legal analysis presented therein, which establishes that GPS receivers that “listen” in the MSS portion of the L Band in order to receive GPS signals are not entitled to protection from “overload” effects, because those receivers are (i) unlicensed and (ii) engaged in nonconforming, and thus doubly unprotected, activity.

²⁴ See generally, e.g., USGIC Comments; Coalition Comments. The large number of brief comments submitted by individuals similarly fails to establish that unlicensed commercial GPS receivers have any legal right to “protection” when they use the MSS portion of the L Band to receive GPS signals.

1. GPS receivers are not licensed, and therefore are not legally entitled to interference protection

LightSquared’s Petition cites longstanding Commission rules and precedent establishing that GPS receivers are not entitled to interference protection—regardless of whether they properly may be treated as unintentional radiators under Part 15 or unlicensed receive-only earth stations under Part 25 (or both).²⁵

The Coalition to Save Our GPS cites the Commission’s 2005 *Unlicensed Devices Public Notice* with respect to garage door openers²⁶ as “evidence” of the Commission’s efforts to protect unlicensed devices.²⁷ It is significant that the Coalition references (but fails to disclose) “the steps the Commission committed to take [in the *Unlicensed Devices Public Notice*] to alleviate the problem” arising from the “interference” experienced by some garage door openers.²⁸ In particular, the Coalition ignores that the Commission expressly put the burden of solving that problem on the manufacturers of the unlicensed garage door openers; the Commission declined to afford garage door openers “interference protection” against the allocated use of the frequency band at issue.

Specifically, the Commission confirmed that because the garage door openers operated on an unlicensed basis in frequency bands allocated for other services, they were not entitled to “protection from interference” with respect to those other services, even though the

²⁵ See LightSquared Petition at 11-18.

²⁶ *Consumers May Experience Interference To Their Garage Door Opener Controls Near Military Bases*, DA 05-424 (Feb. 15, 2005) (“*Unlicensed Devices Public Notice*”).

²⁷ Coalition Comments at 17.

²⁸ See *id.*

other services had made “limited use” of the frequencies for many years.²⁹ The Commission acknowledged that the developing use of the allocation for its permitted purpose increased the chance of garage door opener incompatibility, but that change in the operating environment did not alter the Commission’s legal conclusion.

Furthermore, the Commission directed “consumers experiencing interference” to “contact the manufacturer . . . for information on available immediate solutions,” and informed the public that manufacturers “stand ready to help consumers” and to “mak[e] available for purchase . . . a replacement transmitter and receiver that operate on a different frequency that is not used by the new mobile radio systems.”³⁰ LightSquared agrees with the Coalition that unlicensed GPS receivers are entitled to equivalent treatment, and that the GPS industry therefore should shoulder the responsibility for curing the design defects in its own devices. That is one of the primary points of LightSquared’s Petition.

The *Unlicensed Devices Public Notice* also is significant because GPS receivers, like garage door openers, are unintentional radiators subject to Part 15 (unless licensed or exempted from licensing by another Commission rule part). Section 15.5 requires unintentional radiators to operate on an unprotected basis, a fact reflected in the *Unlicensed Devices Public Notice* with respect to garage door openers.³¹ There is no basis for treating GPS receivers differently.

Section 15.1 of the Commission’s rules provides that all unintentional radiators that do not operate in accordance with Part 15 must be licensed “unless otherwise exempted from

²⁹ *Unlicensed Devices Public Notice* at 1 (“As unlicensed devices, there is no right to protection from interference.”).

³⁰ *Id.* at 2.

³¹ *See* 47 C.F.R. § 15.5.

the [Commission’s] licensing requirements elsewhere in this chapter.”³² LightSquared’s Petition discusses the potential applicability of Section 25.131, the only potential source of a licensing exemption under another rule part that is contemplated by Section 15.1. To the extent GPS receivers are considered to be unlicensed receive-only earth stations exempted under Part 25, LightSquared also has explained the relevance of the *1979 Receive-Only Earth Station Order*, in which the Commission relaxed its prior requirement that all receive-only earth stations obtain licenses and promulgated Section 25.131.

In the *1979 Receive-Only Earth Station Order*, the Commission was mindful of the fact that relaxing the licensing requirement could compromise the Commission’s ability to manage the radiofrequency spectrum effectively by: (i) limiting the Commission’s ability to conduct a full technical and public interest review; and (ii) potentially allowing unlicensed operations for which there was no regulatory oversight to foreclose licensed operations that the Commission had found explicitly to be in the public interest.³³ The Commission concluded that it could continue to advance its primary policy objective—namely, “effective spectrum management”³⁴—“as long as it is clear that [a receive-only earth station operator’s] failure to undertake [the licensing process] is a waiver of any claim to interference protection and that any

³² 47 C.F.R. § 15.1(b).

³³ Section 15.5 of the Commissions’ rules (discussed above) serves the same policy principle underlying the *1979 Receive-Only Earth Station Order*, and ensures that unlicensed, largely unregulated devices cannot foreclose operations of licensed services. This principle recognizes that any contrary approach would undermine the legitimate investment-backed expectations of licensees, as well as incentives to develop innovative technologies and implement next-generation communications networks in the public interest.

³⁴ *1979 Receive-Only Earth Station Order* ¶ 22.

risks to an adequate quality of service due to existing or future interference, including all costs to alleviate the situation, shall be borne exclusively by the receiving earth station operator.”³⁵

Under such circumstances, the Commission reasoned that it did not need to license receive-only earth stations to fulfill its statutory duties, because unlicensed facilities “would be ignored in future spectrum management decisions.”³⁶ Thus, the *1979 Receive-Only Earth Station Order*: (i) makes it “very clear that no interference protection is afforded to unlicensed facilities;”³⁷ (ii) establishes that an unlicensed receive-only earth station user has “no assurances” that it will be able to “maintain the level of interference-free reception which it initially enjoys;” (iii) explicitly provides that “protection from interference due to existing or planned terrestrial systems will not be afforded after the fact;”³⁸ and (iv) recognizes that “there may be significant additional costs associated with modifications necessary to accommodate interference problems at a later date,” which “would have to be borne by the unlicensed operator.”³⁹ Furthermore, in order to ensure that the unregulated technical shortcomings of unlicensed receive-only earth stations could not be used to foreclose licensed spectrum uses, the Commission stressed that it would not tolerate petitions to deny license applications “or other

³⁵ *Id.* at ¶ 23. The Commission’s general policy not to “second-guess” receiver design decisions, *see* USGIC Comments at 9, is premised on receiver manufacturers—including those in the GPS industry—accepting the consequences of those decisions and foregoing any regulatory “protection” for the consequences of those decisions. *See also* 47 C.F.R. § 15.5.

³⁶ *See 1979 Receive-Only Earth Station Order* ¶ 23.

³⁷ *Id.* at ¶ 38.

³⁸ *Id.*

³⁹ *Id.* at ¶ 28.

forms of complaint or relief filed by unlicensed facility operators [or end users] on the basis of experienced or anticipated interference.”⁴⁰

GPS interests “respond” to this analysis by essentially claiming that the *1979 Receive-Only Earth Station Order* is “old” precedent that does not apply to GPS receivers, and thus should be ignored.⁴¹ Remarkably, GPS interests fail to cite any intervening rulemaking that would have supplanted this order. In short, a policy may be “old”—indeed, some of the Commission’s basic common carrier policies date to shortly after the founding of the Commission—but it is ridiculous to assert that a decision or policy no longer has effect based on its age alone.

Moreover, while GPS interests argue that GPS receivers should be considered as earth stations,⁴² they cite no Commission precedent that would justify the wholesale abandonment of either the *1979 Receive-Only Earth Station Order* or, more importantly, Section 25.131 of the Commission’s rules (which implements that decision and requires receive-only earth stations to be licensed or registered in order to receive interference protection, except in limited circumstances not present here).⁴³ Nor do GPS interests reconcile their unsubstantiated

⁴⁰ *Id.*

⁴¹ *See, e.g.,* Coalition Comments at 18 (criticizing the *1979 Receive Only Earth Station Order* as a “generation-old” Commission decision).

⁴² *See, e.g.,* USGIC Comments at 10.

⁴³ The Coalition to Save Our GPS asserts that “[t]he *1979 Decision* did not strip Part 25 receive-only earth stations of interference protection from interfering uses in adjacent spectrum bands,” but fails to provide *any* support for this contention, or otherwise distinguish the plain language of the *1979 Receive Only Earth Station Order* cited above. *See* Coalition Comments at 19. Critically, not even a *licensed* receive-only earth station would enjoy interference protection for its operations outside of its licensed band. There is no valid basis to assert that the Commission intended to give unlicensed GPS receivers rights that licensees themselves would not hold.

position with recent approaches by both the Commission and the NTIA in applying the framework reflected in Section 25.131 to GPS receivers.⁴⁴

The U.S. GPS Industry Council cites the Commission’s decision in the *1986 Receive-Only Earth Station Order* to provide *in-band* interference protection to unlicensed earth stations operating in the 12 GHz band as evidence that GPS receivers are entitled to protection from “overload.”⁴⁵ Yet, that decision is actually the exception that proves the rule; unlike GPS receivers, those unlicensed earth stations were *explicitly* granted interference protection by the Commission. Furthermore, those earth stations received protection only within the primary spectrum allocation for their service and from “in-band” interference caused by secondary operators in that same band (and not with respect to any other band in which those earth stations might “listen”),⁴⁶ and only to the extent those earth stations meet specified technical standards.⁴⁷

⁴⁴ See *National Telecommunications and Information Administration Provides Information Concerning Executive Branch Recommendations for Waiver of Part 25 Rules Concerning Licensing of Receive-Only Earth Stations Operating with Non-U.S. Radionavigation Satellites*, Public Notice, DA 11-498 (Mar. 15, 2011) (“*March 15, 2011 Public Notice*”) (noting that the FCC’s rules require licensing of “receive-only earth stations operating with non-U.S. licensed [RNSS] satellites.”); Inmarsat Hawaii Inc., IBFS File No. SES-MS-20100415-00483 (Jul. 7, 2010) (granting waiver of Section 25.131(j) to permit unlicensed GPS (RNSS) terminals to receive transmissions from a U.K.-licensed Inmarsat satellite). The NTIA has viewed GPS receivers in a similar fashion. See Letter to FCC from NTIA (Mar. 2, 2001), attached to the *March 15, 2011 Public Notice* (observing that the FCC’s rules “require licensing of . . . receive-only earth stations operating with non-U.S. licensed [RNSS] satellites,” including GPS (RNSS) receivers, and citing Section 25.131). GPS is one particular implementation of the RNSS.

⁴⁵ See USGIC Comments at 12; see also Lockheed Comments at 5.

⁴⁶ See *Deregulation of Domestic Receive-Only Satellite Earth Stations*, 104 FCC.2d 348, at ¶ 18 (1986) (“*1986 Receive-Only Earth Station Order*”) (“[M]inimum parameters must, of course, be specified in order to define the interference protection afforded.”).

⁴⁷ See 47 C.F.R. § 29.209(c)(1). The antenna performance criteria specified in Section 25.209 protect only against “in-band” interference and assume that the antenna used meets certain minimum performance criteria. The rule does not provide any protection

Notably, and unlike the GPS receivers at issue here, those earth stations did not seek protection from authorized users in *other* bands with superior allocation status.⁴⁸

2. “Overload” necessarily results from GPS receiver activity that is inconsistent with the U.S. Table of Frequency Allocations

LightSquared’s Petition explains that commercial GPS “listening” activities in the MSS portion of the L Band, like other commercial uses of the radiofrequency spectrum in the United States that are not conducted in accordance with the U.S. Table of Frequency Allocations, constitute a “nonconforming” use that must proceed on an unprotected basis.⁴⁹ As discussed above, and as the Commission has acknowledged, “overload” would be caused by “signals . . . received by GPS receivers *outside the frequency bands allocated to GPS,*” transmitted within LightSquared’s authorized spectrum.⁵⁰ As such, “overload” necessarily results from GPS receiver activity that is nonconforming with the U.S. Table, and thus is unprotected. As the U.S. GPS Industry Council helpfully observes, “[g]iven the wide disparity in status between a primary service allocation and an operator seeking to provide service largely outside the scope of the

whatsoever to a satellite receiver “listening” outside of its authorized band, or otherwise operating outside of specified parameters.

⁴⁸ For similar reasons, the U.S. GPS Industry Council’s attempts to analogize GPS receivers to other receivers—*e.g.*, DBS receivers—are misguided. *See* USGIC Comments at 3. DBS reception involves the use of a satellite antenna regulated under Part 25 and a receiver/decoder “box” that is subject to Part 15 (*i.e.*, is subject to Section 15.5 as an unintentional radiator). That antenna may receive a wide range of radiofrequency signals outside of the relevant DBS band, and pass those signals through to the receiver/decoder “box.” But there are no Commission rules that ensure that the receiver/decoder necessarily will work as intended. And, in the event that the receiver/decoder fails because the antenna “listens” outside of the relevant portions of the DBS band, the satellite service provider surely would not be entitled to claim interference protection from authorized licensed transmitters in neighboring bands.

⁴⁹ *See* LightSquared Petition at 19-20; *see also* 47 C.F.R. §§ 2.102(a); 2.106; *QUALCOMM, Inc.*, Memorandum Opinion, Order and Authorization, 4 FCC Rcd 1543, at ¶ 11 (1989).

⁵⁰ *See February 15 Public Notice* at 2 n.6.

allocation tables on a non-protected, non-harmful interference basis, there is no question where the responsibility to avoid interference lies.”⁵¹ Thus, under the principle articulated by the GPS industry itself, it is the GPS industry that bears such responsibility.

GPS interests simply do not address the inescapable fact that GPS devices that attempt to “listen” to energy from the GPS signal that is emitted into the MSS portion of the L Band constitute a nonconforming use. Instead, GPS interests again attempt to confuse the issue by conflating (i) the fact that many GPS receivers “listen” to *out-of-band* energy from the *GPS signal* that is emitted into the MSS portion of the L Band with (ii) the fact that a limited subset of GPS receivers with “augmentation” capabilities “listen” to *in-band MSS signals* that originate in the MSS portion of the L Band. For example, while the U.S. GPS Industry Council asserts that LightSquared has alleged that the use by some GPS receivers of compatible MSS signals from the adjacent 1525-1559 MHz spectrum band constitutes a “non-conforming use,”⁵² LightSquared actually said: “the fact that certain commercial GPS manufacturers also provide *MSS* ‘augmentation’ services, using narrowband data streams leased from LightSquared or Inmarsat in the 1525-1559 MHz MSS band, does not give them the right also to conduct *GPS* (or *RNSS*) operations in that band on a protected basis.”⁵³

The U.S. GPS Industry Council not only entirely fails to address the issues discussed in Section V.B.5. below with respect to those MSS augmentation services, but also entirely fails to address the more salient fact that many GPS devices operating in the MSS portion of the L Band do so not to “listen” to MSS signals, but rather to attempt to receive the

⁵¹ USGIC Comments at 20.

⁵² *Id.* at 9.

⁵³ LightSquared Petition at 21.

relative weak out-of-band emissions from the GPS signal that extend beyond the boundaries of the GPS band. Even GPS “augmentation” devices are guilty of trying to “hack” the GPS signal in this fashion. The GPS industry has admitted as much on multiple occasions. For example, Deere & Company has explained that wideband GPS receivers “have filters that are open to a wider band around each [GPS] frequency . . . to capture additional [GPS] signal energy,” such that “if there are high powered LightSquared signals *in the adjacent MSS band*, more of the unwanted LightSquared energy will also be captured.”⁵⁴

In desperation, GPS interests attempt to shift focus onto *LightSquared’s* allocation status.⁵⁵ As an initial matter, though, the extent to which GPS operations in the MSS portion of the L Band are entitled to protection has *nothing* to do with the allocation status of LightSquared’s ATC operations. Commission precedent clearly establishes that nonconforming spectrum uses (such as GPS receivers “listening” to GPS signals in the MSS portion of the L band) may not claim interference protection from any other authorized services—and LightSquared’s MSS ATC services are in fact authorized.⁵⁶

In any event, ATC operations indisputably conform to the MSS allocation in the L Band at 1525-1559 MHz and 1626.50-1660.5 MHz.⁵⁷ The U.S. Table of Frequency Allocations

⁵⁴ See Petition for Reconsideration of Deere & Company, IBFS File No. SAT-MOD-20101118-00239, at 6 (Feb. 25, 2011) (emphasis added).

⁵⁵ See, e.g., Lockheed Comments at 5-6; USGIC Comments at 3 (wrongly asserting that LightSquared’s ATC operations would be “nonconforming” under the U.S. Table of Frequency Allocations).

⁵⁶ See, e.g., *EchoStar Satellite LLC*, 21 FCC Rcd 4060, at ¶ 2 n.3 (2006).

⁵⁷ The U.S. GPS Industry Council takes selected language out of context in falsely implying that LightSquared has conceded that it does not operate within a primary allocation. See USGIC Comments at 6; Comments of LightSquared, ET Docket No. 10-142 at 12 (filed Sep. 15, 2010). LightSquared’s comments in that case addressed the status of ATC vis-à-vis L-Band MSS satellite networks, and were intended only to strengthen the bargaining

contains a footnote (US380) specifying that such MSS allocation includes terrestrial operations, subject to the Commission’s ATC rules and all applicable conditions and provisions of a licensee’s MSS authorization.⁵⁸ The *2003 ATC Order* added that footnote to clarify that ATC operations would be consistent with the existing MSS allocation at 1525-1559 MHz and 1626.5-1660.5 MHz, and indicated the Commission’s view that it was not necessary to otherwise modify that existing allocation to implement ATC authority fully.⁵⁹

position of U.S. licensees in spectrum coordination negotiations. Notably, the instant controversy between LightSquared and GPS had not arisen at that time. In any event, even if LightSquared’s ATC operations were not “primary” vis-à-vis MSS operations, they remain consistent with the U.S. Table of Frequency Allocations and primary vis-à-vis GPS use of the 1525-1559 MHz band.

⁵⁸ 47 C.F.R. § 2.106 n.US380. The U.S. GPS Industry Council spills a great deal of ink arguing that LightSquared’s ATC operations would not proceed “subject to the Commission’s rules for ancillary terrestrial component[s]” because LightSquared obtained a waiver of one such rule in the *Conditional Waiver Order*. See USGIC Comments at 15-17. However, such a waiver does not render LightSquared’s ATC operations nonconforming. Those operations remain “subject to” the Commission’s ATC rules—albeit as modified by waiver—and the *Conditional Waiver Order* explicitly found that LightSquared’s service, even after the waiver granted therein, would remain fully consistent with the intent of the ATC rules. See *Conditional Wavier Order* ¶¶ 29 *et seq.* Furthermore, the possibility of waiver necessarily is incorporated into all of the Commission’s rules—including its ATC rules. See *WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969) (“[A] system where regulations are maintained inflexibly without any procedure for waiver poses legal difficulties.”). The ATC rules themselves are designed to accommodate requests for waiver. Notably, the *Conditional Waiver Order* was grounded in part on the Commission’s desire to rationalize the L Band, consistent with its statement in the *2003 ATC Order* that the Commission would “consider waiver requests of these rules based on negotiated agreements.” *2003 ATC Order* ¶ 143.

⁵⁹ *2003 ATC Order* at ¶ 235; see also *id.* at ¶ 208 (“We do not adopt new allocations in the 2 GHz, L- and the Big LEO MSS bands, but rather indicate that ATC is permissible by footnote in the domestic table of allocations . . .”). Deere & Company’s assertion that LightSquared’s Petition could not be granted in the absence of a new co-primary allocation for terrestrial operations in the MSS portion of the L Band is thus simply wrong. See Deere Comments at 8.

B. Nothing in the Record Otherwise Establishes that Commercial GPS Receivers Are Legally Entitled to “Protection” from LightSquared’s ATC Operations

As noted above, the one fact that is glaringly obvious from the record is that GPS interests have failed to identify *any* Commission rule, policy, or precedent that establishes that GPS receivers are entitled to protection from “overload” experienced as a result of those receivers “listening” in the MSS portion of the L Band in order to receive GPS signals. GPS interests fail to provide any justification for treating “overload” effects experienced by unlicensed, nonconforming GPS receivers as “harmful interference.”

1. Section 25.255 Does Not Establish that GPS Receivers Must Be Protected from “Overload”

GPS interests claim that Section 25.255 of the Commission’s rules imposes an absolute obligation on LightSquared to protect GPS receivers from “overload” when they “listen” to the GPS signal in the MSS portion of the L Band.⁶⁰ Section 25.255 does not impose any such obligation. As evidenced by its title, the rule provides “*Procedures for resolving harmful interference related to operation of ancillary terrestrial components.*”⁶¹ In other words, Section 25.255 simply prescribes an explicit “dispute resolution” process to be used in the event of “harmful interference” (which does not exist in this case). Notably, Section 25.255 provides a different type of interference resolution mechanism than the one that the Commission often imposes in circumstances where one party’s spectrum usage rights are subordinate to another’s.⁶²

⁶⁰ See, e.g., USGIC Comments at 13-14; Coalition Comments at 22-23; T-Mobile Comments at 8-9; Comments of CTIA at 2.

⁶¹ 47 C.F.R. § 25.255 (emphasis added).

⁶² In such cases, the Commission often requires that the subordinate spectrum user cease operations immediately upon notification that “harmful interference” has occurred. See, e.g., Intelsat Licensee LLC, IBFS File No. SAT-MOD-20110420-00073, Grant ¶ 1; 47

Notably, Section 25.255 does not define what constitutes legally cognizable “harmful interference.”⁶³ As demonstrated above, that determination requires an analysis of the circumstances giving rise to the alleged interference, and of the relative rights of the affected parties in the spectrum band at issue under the Commission’s existing rules, policies, and precedent—including the U.S. Table of Frequency Allocations. In fact, and as explained above, the Commission authorized ATC as an allocated spectrum use in the United States by adding a footnote to the U.S. Table clarifying that ATC is encompassed within the existing primary allocation for MSS in the L Band. As also explained above, under long-established precedent, the asserted inability of certain GPS receivers to operate properly in spectrum that has not been allocated for GPS does not constitute legally cognizable “harmful interference.”

Any contrary conclusion would be inconsistent with decades of Commission precedent, and would stand the U.S. Table of Frequency Allocations on its head.⁶⁴ Moreover,

CFR § 15.5(c) (“The operator of a radio frequency device shall be required to cease operating the device upon notification by a Commission representative that the device is causing harmful interference.”).

⁶³ For this reason, the U.S. GPS Industry Council’s claim that Section 25.255 imposes “an absolute obligation on the MSS/ATC operator to resolve any harmful interference to other services” adds nothing to the debate, as the key question is what constitutes legally cognizable “harmful interference.” See USGIC Comments at 13 (*citing Spectrum and Service Rules for Ancillary Terrestrial Components in the 1.6/2.4 GHz Big LEO Bands*, 23 FCC Rcd 7210, at ¶ 35 & n.118 (2008) (“*Big LEO Order*”)).

⁶⁴ Despite the suggestion of the U.S. GPS Industry Council, see USGIC Comments at 13, nothing in the *Big LEO Order* defines the “overload” at issue in this case as “harmful interference,” or otherwise alters the above analysis about the absence of interference protection for GPS “overload.” The *Big LEO Order* arose in a rulemaking proceeding, in which the Commission was considering whether to allow ATC operations in the 2493-2495 MHz band for the first time, significantly reducing the existing spectral separation between ATC operations and certain terrestrial fixed operations above 2495 MHz. The 2493-2495 MHz band was and is allocated under the U.S. Table on a co-primary basis for both MSS and terrestrial fixed service. See 47 C.F.R. § 2.106. In other words, the impact at issue in that proceeding was not “overload” as defined in the *February 15 Public Notice* (the impact of a receiver operating on a non-conforming basis outside the

providing interference protection to unregulated receivers that operate in spectrum that has not been allocated for their intended purpose would undermine the Commission’s ability to fulfill its public interest mandate through the active management of U.S. spectrum resources.⁶⁵ Instead of having the *Commission* determine what spectrum uses are most consistent with the public interest—and thus deserving of interference protection—providing interference protection to nonconforming spectrum uses by unlicensed and unregulated receivers would allow any equipment manufacturer to hijack the Commission’s policy agenda by foreclosing other, intended spectrum uses.

The *2003 ATC Order*, which promulgated Section 25.255, reinforces the notion that Section 25.255 was not meant to enlarge the scope of legally cognizable “harmful interference” to include GPS receiver “overload” effects.⁶⁶ While numerous aspects of the *2003 ATC Order* and related decisions demonstrate as much, the following examples are illustrative.

specified allocation in the U.S. Table). Rather, that case involved something else entirely—the impact of ATC in a band segment in which another service (terrestrial fixed) had a co-primary allocation. Furthermore, that case involved the impact of ATC *outside* of the then-authorized ATC band. In contrast, LightSquared is merely using spectrum consistent with an ATC allocation that has existed for nearly a decade, pursuant to rules and standards to which the GPS community agreed long ago, and in the absence of an allocation for GPS in the band segment at issue. Moreover, unlike the GPS receivers at issue here, the potentially affected terrestrial receivers at issue in that decision were licensed, and there was no apparent solution on the terrestrial receiver side given the then-existing limitations on receiver design in that band. *See* Reply Comments of Sprint Nextel Corporation, IB Docket No. 07-253, at 13-17 (Jan. 3, 2008). For all of these reasons, the *Big LEO Order* concerned entirely different circumstances and has no bearing on the parties’ rights and responsibilities in this case.

⁶⁵ *See, e.g.*, 47 U.S.C. § 303(c).

⁶⁶ The Coalition to Save Our GPS cites language in the *2003 ATC Order* suggesting that 2 GHz Band ATC licensees must “protect systems operating in adjacent service allocations from interference.” *See* Coalition Comments at 24. As is clear from the full context, however, the Commission was merely noting that 2 GHz Band ATC operations are subject to out-of-band emissions limits designed to protect adjacent operations. *See 2003 ATC Order* ¶ 109 (“In brief, to protect . . . systems operating in adjacent frequency bands,

First, the 2003 ATC Order adopted a rule (since revised) that required an ATC applicant to protect GPS operations above 1559 MHz, but did not require protection of any GPS operations in the MSS portion of the L Band.⁶⁷ That GPS rule merely required compliance with “limits on emissions in the 1559-1610 MHz band”⁶⁸—*i.e.*, out-of band emission limits—and did not purport to address “overload” at all. The Commission described that GPS protection rule as sufficient “to accomplish the stated intention of establishing . . . RNSS-protection requirements for ATC transmitters”⁶⁹ Moreover, the Commission expressly found that a demonstration of “compliance with the applicable RNSS-band emission limits in the Commission’s rules” would satisfy the relevant “equivalent RNSS-protection requirements for ATC transmitters” in those rules.⁷⁰ The NTIA itself recognized that the applicable ATC out-of-band emissions limits served as “protection requirements of RNSS receivers from the emissions of [ATC base stations and mobile terminals].”⁷¹

Second, the 2003 ATC Order makes clear that Section 25.255 was implemented to provide a procedural mechanism for resolving only those types of legally cognizable

ATC operators will be required to meet specific . . . out-of-band emission limits”). As discussed above, “overload” does not stem from out-of-band emissions into the GPS band, but rather from GPS receivers that are designed to receive energy from outside of the GPS allocation in spectrum licensed for another purpose and to LightSquared.

⁶⁷ Section 25.253(a)(6) at the time required an ATC applicant in the MSS portion of the L Band to “demonstrate how its ATC network base stations and mobile terminals will comply with the Global Mobile Personal Communications by Satellite (GMPCS) system requirements to protect the radionavigation satellite services (RNSS) operations in the allocation above 1599 MHz.” See 47 C.F.R. § 25.253(a)(6) (2003) (emphasis added).

⁶⁸ See *Mobile Satellite Ventures Subsidiary LLC*, 19 FCC Rcd 22144, at ¶ 34 (2004).

⁶⁹ *Id.*

⁷⁰ *Id.* ¶¶ 34-35.

⁷¹ See Letter to FCC from NTIA, IBFS File No. SAT-AMD-20031118-00332 (May 25, 2005).

interference already addressed by the ATC rules and the *2003 ATC Order*.⁷² In other words, Section 25.255 was meant to provide a vehicle to address types of “harmful interference” already cognizable under the Commission’s rules and already addressed by other ATC rules.

Significantly, those rules do not provide any “overload” protection for GPS receivers, even though the Commission was fully aware of the potential for “overload” effects at the time it adopted that rule.

Third, the *2003 ATC Order* made clear that Section 25.255 procedures applied to cases involving out-of-band emissions but not cases involving “overload”. The Commission specifically noted that Section 25.255 would be available in the event that the adopted out-of-band emissions limits were inadequate to prevent 2 GHz Band ATC operations from causing out-of-band interference into personal communications service (“PCS”) devices.⁷³ In the very next paragraph, however, in discussing the potential that those same PCS devices would experience “overload,” the Commission did not reference Section 25.255 but instead made clear that “even though the potential for PCS receiver desensitization or overload from ATC operations exists,” such potential should be mitigated through appropriate PCS handset design modifications.⁷⁴

Fourth, the *2003 ATC Order* requires Big LEO Band ATC operators to protect from “brute force overload” only certain Broadcast Auxiliary Service (“BAS”), fixed, and mobile operations that share a co-primary allocation in the affected band.⁷⁵ The *2003 ATC Order* did not purport to provide such protection in any bands in which terrestrial licensees did not already enjoy such co-primary status. In other words, the *2003 ATC Order* provided

⁷² See *2003 ATC Order* ¶ 104.

⁷³ *Id.* at ¶ 119.

⁷⁴ *Id.* at ¶ 120.

⁷⁵ *Id.* at ¶ 203.

“overload” protection only for certain spectrum uses that had a legitimate basis for expecting to be able to operate in the affected band under the U.S. Table of Frequency Allocations.

Fifth, the Commission required that Big LEO Band ATC operators protect from “overload” only “previously licensed” users, and not any unlicensed or subsequently licensed BAS, fixed, and mobile operations—or, for that matter, any nonconforming uses of spectrum. The Commission reached this decision in no small part because it is appropriate to expect those unlicensed and subsequently licensed spectrum users to “engineer around” the issue through proper receiver design. In light of the critical limitation of the Big LEO Band protection obligation to “previously licensed” spectrum users, it would be utterly inconsistent to read Section 25.255 to require L-Band ATC operators to protect unlicensed, nonconforming GPS operations.⁷⁶

In sum, Section 25.255 is really nothing more than a procedural rule that encourages parties to cooperate to address cognizable “harmful interference” that may arise as the result of MSS ATC operations, and specifies that the Commission may intervene if necessary. More importantly, nothing in Section 25.255 alters the substantive rights of any spectrum user, or purports to expand the definition of “harmful interference” so as to protect the nonconforming and unlicensed uses of spectrum at issue here.

⁷⁶ Attempts to characterize LightSquared as a “new entrant” that must bear all costs necessary to keep GPS operators whole—as in previous band reconfigurations resulting in the relocation of microwave licensees—are misguided. *See* T-Mobile Comments at 9; *see also* Deere Comments at 6 n.20; USGIC Comments at 20-21. In contrast to those cases, GPS receivers are unlicensed and nonconforming, the 1525-1559 MHz band and the 1626.5-1660.5 MHz band have been allocated for MSS and ATC for years, and the GPS industry has known of the likelihood of ATC operations in the band for more a decade.

2. The *Conditional Waiver Order* Does Not Establish that GPS Receivers Must Be Protected From “Overload”

As noted above, certain GPS interests claim that LightSquared somehow is estopped from filing the Petition by the terms of the *Conditional Waiver Order*. Yet, nothing in the *Conditional Waiver Order* purports to define “harmful interference,” and as such nothing in that order precludes LightSquared from seeking clarification with respect to the meaning of that term. Indeed, the *Conditional Waiver Order* requires only that LightSquared participate in the Technical Working Group (“TWG”) *process* designed to study the nature of the “overload” effects alleged by the commercial GPS industry and to identify constructive solutions to address those effects.⁷⁷ The Bureau adopted this condition after LightSquared acknowledged that it would be “appropriate for interested parties to devote resources to a solution as soon as possible.”⁷⁸ Consistent with that acknowledgment, LightSquared has devoted significant resources to identify such solutions. Although the GPS industry participated in testing, it clearly has not followed suit by focusing on any solutions.

Moreover, the *Conditional Waiver Order* provides that the TWG *process* will be complete “once the Commission, after consultation with NTIA, concludes that the harmful interference concerns have been resolved and sends a letter to LightSquared stating that the process is complete.”⁷⁹ As noted above, nothing in the *Conditional Waiver Order* purports to define or alter the legal definition of “harmful interference.” Furthermore, nothing in the *Conditional Waiver Order* purports to equate that term with GPS “overload.”

⁷⁷ *Conditional Waiver Order* ¶ 42.

⁷⁸ *Id.* at ¶ 40.

⁷⁹ *Id.* at ¶ 43.

To the contrary, the *Conditional Waiver Order* is careful to distinguish between “overload” and “harmful interference.” Conspicuously, while the *Conditional Waiver Order* directs the TWG to “study the potential for *overload* interference to GPS devices,” it requires only that the TWG “identify any measures necessary to prevent *harmful* interference to GPS.”⁸⁰ In other words, the *Conditional Waiver Order* requires LightSquared and the GPS community to try to identify constructive solutions that will resolve any GPS “overload” concerns, even though those effects might not rise to the level of “harmful interference.”

3. Recent Legislation Does Not Establish that GPS Receivers Must Be Protected From “Overload”

GPS interests assert that recent legislation somehow establishes that GPS receivers must be protected from “overload.”⁸¹ As detailed in LightSquared’s initial comments in this proceeding, the *Consolidated Appropriations Act of 2012*⁸² has no effect on the governing legal framework that the Commission has developed over the course of decades to develop and enforce spectrum usage rights. Nor does the *National Defense Authorization Act of 2012* alter LightSquared’s substantive rights.⁸³

The Commission and the NTIA share responsibility for managing radio spectrum, with the Commission administering spectrum for non-federal use, including

⁸⁰ *Id.* at ¶ 41 (emphasis added).

⁸¹ *See* Deere Comments at 11; USGIC Comments at 19; Coalition Comments at 7.

⁸² Consolidated Appropriations Act of 2012, Pub. L. No. 112-74 (enacted Dec. 23, 2011).

⁸³ National Defense Authorization Act of 2012, Pub. L. No. 112-81 (enacted Dec. 31, 2011).

commercial use, and the NTIA administering spectrum for federal use, including defense.⁸⁴ In its role as administrator of spectrum for commercial uses, the Commission has developed a regulatory framework over many decades to address and resolve concerns about spectrum interference, pursuant to its broad authority under the Communications Act of 1934, as amended. As the Supreme Court has recognized, Congress, through the Communications Act, gave the Commission “licensing and regulatory powers” that “are not limited to the engineering and technical aspects of regulation of radio communication,” in order to fulfill its goals of promoting and realizing “the vast potentialities of radio.”⁸⁵ Over the past 70-plus years, the Commission has used this statutory authority to develop a framework for managing spectrum, including creating designated uses for various spectrum bands through the U.S. Table of Frequency Allocations and establishing rights and obligations with respect to the use of spectrum. LightSquared’s Petition details this framework in the context of unlicensed commercial GPS receivers.⁸⁶

It is a settled principle of statutory construction that legislative language should not be interpreted to depart from long established practices or policies unless Congress clearly and unmistakably expresses its intention to make such a change.⁸⁷ Section 628 of the

⁸⁴ See 47 C.F.R. § 2.105; 47 U.S.C. § 305(a); *Memorandum of Understanding Between the Federal Communications Commission and the National Telecommunications and Information Administration* (Jan 31, 2003).

⁸⁵ *National Broadcasting Co. v. United States*, 319 U.S. 190, 215-17 (1943).

⁸⁶ LightSquared Petition at 11-29.

⁸⁷ See *Jones v. United States*, 526 U.S. 227, 234 (1999) (it is a “fair assumption that Congress is unlikely to intend any radical departures from past practice without making a point of saying so.”); *Robertson v. R.R. Labor Bd.*, 268 U.S. 619, 627 (1925) (“It is not lightly to be assumed that Congress intended to depart from a long established policy.”); cf. *Pasquantino v. United States*, 544 U.S. 349, 359 (2005) (recognizing “the canon of construction that statutes which invade the common law . . . are to be read with a

Consolidated Appropriations Act of 2012 and Section 911 of the *National Defense Authorization Act of 2012* merely direct the Commission to use its existing authority to “resolve[] concerns of potential widespread harmful interference.” Nothing in those sections can be read to alter the pre-existing legal framework or dictate *how* the Commission must resolve the stated concerns. To the contrary, Congress’s choice of the well-defined term “harmful interference,” without any new or special definitions, in the context of an ongoing dispute, indicates an affirmative intent *not* to alter the existing regulatory framework. As LightSquared noted in its earlier comments, there are numerous ways that the Commission could resolve GPS concerns consistent with these sections, the most reasonable of which would be to grant LightSquared’s Petition as one way to allow LightSquared to move forward with the use of its licensed spectrum.⁸⁸

4. Existing International Treaties Do Not Establish that GPS Receivers Must Be Protected From “Overload”

Deere & Company asserts that LightSquared’s proposed operations somehow would be inconsistent with U.S. treaty obligations.⁸⁹ More specifically, Deere & Company asserts that the U.S. Government is obligated to protect both its own RNSS (GPS) signals and foreign RNSS signals from interference.⁹⁰ As discussed above, though, no party has alleged that LightSquared would exceed applicable out-of-band emissions limits, or otherwise interfere with the spectrum allocated for the transmission of RNSS signals by the spacecraft of the U.S. or any other country. Moreover, the Commission already has concluded that existing ATC service rules

presumption favoring the retention of long-established and familiar principles, except where a statutory purpose to the contrary is evident”).

⁸⁸ See Comments of LightSquared Inc. at 8-10.

⁸⁹ See Deere Comments at 11-12.

⁹⁰ *Id.*

are sufficient to ensure that the U.S. is in compliance with its international treaty obligations.⁹¹ Finally, the *International* Table of Frequency Allocations does not govern spectrum use within the borders of the United States, where the Commission retains full authority to define spectrum rights.⁹² Since LightSquared's ATC authorizations will be confined to the United States, the International Table is a non-issue in this proceeding. In any event, LightSquared reiterates that there is *no* evidence that its operations would cause legally cognizable "harmful interference" to *any* operator.

5. That Certain GPS "Augmentation" Devices Have Contractual Rights To Communicate in the MSS Portion of the L Band Does Not Provide Those Devices with Regulatory Protection from "Overload"

As noted above, certain GPS receivers intentionally "listen" to MSS signals transmitted in the 1525-1559 MHz band for "augmentation" purposes. GPS interests imply that the existence of such "augmentation" devices, and their alleged right to receive MSS signals in the L Band, somehow means that those devices also are protected to the extent they attempt to "hack" the GPS signal in the MSS portion of the L Band.⁹³ This simply is not true.

As an initial matter, such GPS augmentation receivers generally are either not licensed in the MSS portion of the L Band (*e.g.*, certain Trimble devices) or are licensed to use, at most, only an extremely narrow range of frequencies in the MSS portion of the L Band (*e.g.*, certain Deere devices).⁹⁴ Non-licensed GPS augmentation receivers do not enjoy any

⁹¹ See, *e.g.*, 2003 ATC Order ¶¶ 212-218.

⁹² See *id.* at ¶ 214. Thus, references to obligations under the *International* Telecommunication Union's Radio Regulations and the *International* Table of Frequency Allocations are inapposite. *Cf.* Lockheed Comments at 2; USGIC Comments at 3-4.

⁹³ See USGIC Comments at 8 n.23; Coalition Comments at 26.

⁹⁴ See, *e.g.*, IBFS File No. SES-MFS-20071107-01535 (granted Mar. 27, 2008) (authorizing Deere to receive MSS signals in, at most, two narrow 2.5 kHz channels).

interference protection whatsoever, whether regulated under Part 15 or Part 25. Licensed GPS augmentation receivers do not enjoy any interference protection in any portion of the L Band in which they are not specifically licensed, and the protection to which they are entitled is in fact limited in this case.

Under longstanding precedent, an earth station operator cannot claim “harmful interference” from MSS operations that are consistent with the terms of a coordination agreement to which its space segment provider is bound.⁹⁵ In fact, the rights of any end user of an L-Band MSS satellite system are derivative of the rights of the satellite network from which it receives service, and the terms of its own contractual relationship with that service provider.

Stated another way: (i) no earth station operator has any interference protection rights vis-à-vis its space segment service provider that extend beyond the terms of the underlying commercial contract with that service provider; (ii) once that contract expires or is terminated, the earth station operator has no interference protection rights at all vis-à-vis its space segment service provider, or any standing to assert such interference protection rights; and (iii) in any event, no earth station operator has interference protection rights vis-à-vis another satellite network operator that extend beyond the terms under which the earth station operator’s service provider has effectuated spectrum coordination with the other satellite network operator.

Moreover, the Commission traditionally has refused to interpret the terms of commercial

⁹⁵ The Commission: (i) relies on this coordination process to facilitate efficient use of the limited spectrum resource; (ii) allows satellite operators to make a variety of tradeoffs—including tradeoffs based on business considerations—in the course of coordination; and (iii) relies on satellite operators and their customers to honor those agreements. *See, e.g., Satellite Network Earth Stations*, 20 FCC Rcd 5666, at ¶ 51 (2005); *Fixed-Satellite Service (Reconsideration of 1988 Orbital Assignment Plan)*, 5 FCC Rcd 179, at ¶ 32 (1990); *Orion Satellite Corp.*, 5 FCC Rcd 4937, at ¶ 14 (1990); *GE American Communications*, 3 FCC Rcd 6871, at ¶ 2 (1988).

contracts between operators or to adjudicate commercial disputes, as might arise between an earth station operator and its space segment service provider.⁹⁶

LightSquared's planned ATC operations are consistent with the international L-Band coordination that was effectuated in a 2007 agreement between LightSquared's predecessor and Inmarsat, and ratified by the United States, Canada, and the United Kingdom.⁹⁷ Consistent with Commission policy, that agreement governs the current and future satellite networks of LightSquared and Inmarsat, as well as any ATC network that either party might deploy.⁹⁸ Because LightSquared's planned ATC operations are consistent with that agreement, those operations cannot be deemed to constitute "harmful interference" into the Inmarsat network. Correspondingly, GPS receivers with "augmentation" capabilities that receive MSS signals from Inmarsat (or LightSquared) cannot claim protection from LightSquared's ATC operations.⁹⁹

⁹⁶ See, e.g., *Loral Satellite, Inc.*, 19 FCC Rcd 2404, at ¶ 39 (2004) (Commission will pursue regulatory objectives through broad policy initiatives, and not "through intervention into private commercial contract disputes . . ."); *Listeners Guild, Inc. v. FCC*, 813 F.2d 465, 469 (D.C. Cir. 1987) (noting longstanding Commission policy of refusing to become involved in private contract disputes for which a forum exists other than the Commission).

⁹⁷ See *Press Release: SkyTerra, Mobile Satellite Ventures and Inmarsat Sign Spectrum Coordination and Cooperation Agreement* (Dec. 21, 2007), available at <http://www.skyterra.com/media/press-releases-view.cfm?id=158&yr=2007>

⁹⁸ See *Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands*, 20 FCC Rcd 4616, at ¶¶ 43-37 (2005).

⁹⁹ See *SkyTerra Subsidiary LLC*, 25 FCC Rcd 3043, at ¶ 29 (2010) (rejecting claims that that MSS L-band earth station licensees are entitled to protection from "overload" to the extent not specified in the LightSquared-Inmarsat coordination agreement).

6. Section 25.253 Does Not Establish that LightSquared Must Protect Incumbent Users of GPS Receivers from “Overload”

T-Mobile USA Inc. asserts that LightSquared is obligated to “protect incumbents” under Section 25.253 of the Commission’s rules.¹⁰⁰ T-Mobile apparently is referring to Section 25.253(c)(2), which requires an applicant for ATC authority to “[c]oordinate with the terrestrial CMRS operators prior to initiating ATC transmissions when co-locating ATC base stations with terrestrial [CMRS] base stations that make use of Global Positioning System (GPS) time-based receivers.”¹⁰¹ However, nothing in Section 25.253(c)(2) impacts the relative priority or spectrum rights of ATC and CMRS operations, which necessarily inform coordination negotiations. Perhaps more importantly, nothing in the plain language of Section 25.253(c)(2) requires LightSquared to protect “incumbents” from “overload” effects, as claimed by T-Mobile and others.¹⁰² That section merely requires *coordination* in certain limited cases where an ATC base station collocates with a CMRS base station, and does not apply with respect to non-located CMRS base stations or CMRS handsets used by consumers.

VI. CONCLUSION

LightSquared’s Petition for Reconsideration is an appropriate vehicle for addressing the existing controversy over the relative spectrum rights of GPS receivers vis-à-vis authorized operations in the MSS spectrum bands. LightSquared does not seek *any* change in the Commission’s existing rules, policy, or precedent; LightSquared simply asks the Commission to clarify the obvious misconceptions of the commercial GPS industry. The need for such clarification is underscored by the comments of GPS interests in this proceeding—and the

¹⁰⁰ T-Mobile Comments at 9.

¹⁰¹ 47 C.F.R. § 25.253(c)(2).

¹⁰² *See* n.76, *supra*.

willingness of those interests to ignore the existing legal framework governing GPS receivers. The issues raised in LightSquared's Petition are both ripe for resolution and remain relevant notwithstanding recent legislation and the recent February 15, 2012 *Public Notice*.

The bottom line is that: (i) non-licensed GPS receivers are not entitled to protection from “overload” effects when they “listen” to GPS signals in the adjacent band allocated for MSS, regardless of whether GPS receivers properly may be categorized as unintentional radiators under Part 15 or unlicensed receive-only earth stations under Part 25 (or both); and (ii) the claimed “overload” effects at the root of this controversy are caused by uses of spectrum that are nonconforming under the U.S. Table of Frequency Allocations, rendering such uses doubly unprotected under the law. The answer is no different in the case of GPS devices that receive “augmentation” signals in the MSS band that supplement GPS capabilities, because: (i) unlicensed use of the MSS band is not legally protected; (ii) as a regulatory matter, such augmentation devices, whether licensed or non-licensed, do not have any rights extending beyond the terms of the coordination agreement to which the space segment service provider is a party; and (iii) LightSquared’s ATC operations are fully consistent with the terms of its satellite coordination agreements.

The detailed legal analysis presented in the Petition is based on fundamental legal principles and decades of legal precedent, and stands unrebutted—notwithstanding the volumes of rhetoric thrown up against the Petition by the GPS industry. Accordingly, the Commission should grant the Petition expeditiously.

Respectfully submitted,

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