

BEFORE THE  
**Federal Communications Commission**  
WASHINGTON, D.C. 20554

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

**OPPOSITION OF THE U.S. GPS INDUSTRY COUNCIL TO  
LIGHTSQUARED, INC. PETITION FOR DECLARATORY RULING**

**U.S. GPS INDUSTRY COUNCIL**

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### **Summary**

The Commission should reject LightSquared's Petition for Declaratory Ruling on multiple grounds. A declaratory ruling is inherently an interpretive order, designed to address a gray area in otherwise established FCC rules and policies, not to impose new or different requirements, reverse course or upend the settled expectations of current spectrum users. LightSquared's Petition is simply an effort to alter its manifest obligations as a non-conforming spectrum user to protect other L-band services from harmful interference, obligations which it has previously recognized and affirmatively accepted.

The central premises of the LightSquared Petition are that (1) GPS receive devices are not entitled to interference protection, but are instead simply unlicensed devices at the mercy of any later spectrum use proposal, whether or not that proposal is authorized by the FCC's allocation table, and (2) LightSquared's proposed ubiquitous, high-power terrestrial operations are otherwise consistent with FCC rules and the terms and conditions of its license, allowing it to proceed without protecting existing GPS operations. Both premises are fundamentally wrong.

First, it is not necessary for individual GPS receivers to be licensed in order to be protected from harmful interference. GPS receivers are an essential element in the successful operation of radionavigation satellite service ("RNSS"), a primary service allocated to and operating in the United States in the 1559-1610 MHz portion of the L-band. Suggesting that destructive interference to these widely-deployed receiving devices is consistent with FCC rules is little different from suggesting that television or direct broadcast reception can be interfered with because TV receivers or DBS receive dishes are not individually licensed by the FCC.

Second, LightSquared's own authorization permits it to use spectrum that is allocated almost exclusively to the mobile-satellite service ("MSS"), a low intensity, space-based service that is compatible with other similar uses in neighboring frequency bands, including the RNSS in which the GPS system operates. To the extent that terrestrial service not provided for in the international allocation tables is permitted, it is allowed only in a manner that is consistent with this primary MSS allocation – and, as a non-conforming use, is subject to the immutable obligation under U.S. and international law neither to cause harmful interference to authorized service users nor claim protection from interference those users may cause to it. The FCC's rules expressly provide that this ancillary terrestrial component may only be offered if it is fully integrated with the MSS service and not offered on a separate, standalone basis. Though LightSquared obtained a conditional waiver of this integrated service rule to allow it to sell terrestrial-only capacity, that waiver does nothing to alter the character of the MSS allocation, and it is expressly premised on an advance demonstration that LightSquared's non-conforming operations will not cause harmful interference, including overload or desensitization interference, to GPS.

Having failed in its effort to demonstrate that its non-conforming operations would not interfere with GPS, LightSquared now seeks, after the fact, to be relieved of its harmful interference avoidance obligations. As such a step would be fundamentally inconsistent with both the substantive and procedural protections of the FCC's rules, LightSquared's Petition must be rejected.

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The U.S. GPS Industry Council (the “Council”), by its attorneys and pursuant to Section 1.2(b) of the Commission’s Rules (47 C.F.R. §§ 1.2(b)) as well as the *Public Notice* released January 27, 2012,<sup>1</sup> opposes the above-captioned “Petition for Declaratory Ruling” (“Petition”) filed on December 20, 2011 by LightSquared, Inc. (“LightSquared”). The Commission should not grant LightSquared the broad declaratory relief that it seeks. Permitting LightSquared’s non-conforming ubiquitous, high-power terrestrial spectrum use in bands optimized for low-power satellite services would be fundamentally contrary not just to the FCC’s allocation tables and policies, but to the International Telecommunication Union (“ITU”) Tables of Frequency Allocations, relevant statutory provisions and the specific terms of LightSquared’s own license, as currently conditioned.

An agency declaratory ruling is not the proper vehicle for upending the settled expectations of current spectrum users. A declaratory ruling is instead inherently interpretive

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<sup>1</sup> See FCC Public Notice, “International Bureau Establishes Pleading Cycle for LightSquared Petition for Declaratory Ruling,” DA 12-103, IB Docket No. 11-109 and ET Docket No. 10-142, released January 27, 2012 (setting Comment deadline of February 27, 2012 and a Reply Comment deadline of March 13, 2012) (“*Public Notice*”).

in nature, designed to address a gray area in otherwise established FCC rules and policies, not to impose new or different requirements or otherwise reverse course.<sup>2</sup> There is no ambiguity here. LightSquared's Petition is simply an effort to alter its manifest obligations as a non-conforming spectrum user to protect other L-band services from harmful interference, obligations which it has previously recognized and affirmatively accepted. The spectrum allocation scheme for the L-band, as well as explicit FCC rules and license conditions, compel LightSquared to protect existing users from harmful interference if it is to implement any expanded terrestrial service in the band.

The LightSquared Petition is just the latest attempt by the company to extricate itself from what it now sees as the burden of complying with the FCC's settled rules and policies, as well as the explicit terms of its own authorization – terms which it not only accepted just a year ago, but which it affirmatively lobbied to include as a means of expediting FCC action at that time. A declaratory ruling would be particularly inappropriate in light of the FCC's decision less than two weeks ago to seek public comment on whether it should rescind its January 2011 *Conditional Waiver Order*<sup>3</sup> and suspend indefinitely LightSquared's underlying Ancillary Terrestrial Component ("ATC") authorization.<sup>4</sup>

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<sup>2</sup> See, e.g., *Sprint Corp. v. FCC*, 315 F.3d 369, 374 (D.C. Cir. 2003) (Declaratory rulings are appropriate for clarification or interpretation, but cannot be used to "work substantive changes in prior regulations," in which case full notice and comment under the Administrative Procedure Act is required).

<sup>3</sup> See *LightSquared Subsidiary LLC*, 26 FCC Rcd 566 (Int'l Bur. 2011) ("*Conditional Waiver Order*").

<sup>4</sup> See "International Bureau Invites Comment on NTIA Letter Regarding LightSquared Conditional Waiver," DA 12-214 (released February 15, 2012) ("*February 15<sup>th</sup> Public Notice*").

## **I. Introduction**

The central premises of the LightSquared Petition are that (1) GPS receive devices are not entitled to interference protection, but are instead simply unlicensed devices at the mercy of any later spectrum use proposal, whether or not that proposal is authorized by the FCC's allocation table, and (2) LightSquared's proposed ubiquitous, high-power terrestrial operations are otherwise consistent with FCC rules and the terms and conditions of its license, allowing it to proceed without protecting existing GPS operations. Both premises are fundamentally wrong.

First, it is not necessary for individual GPS receivers to be licensed in order to be protected from harmful interference. GPS receivers are an essential element in the successful operation of a primary service allocated to and operating in the United States in the 1559-1610 MHz portion of the L-band.<sup>5</sup> Suggesting that destructive interference to these widely-deployed receiving devices is consistent with FCC rules is little different from suggesting that television or direct broadcast reception can be interfered with because TV receivers or DBS receive dishes are not individually licensed by the FCC.

Second, LightSquared's own authorization permits it to use spectrum that is allocated almost exclusively to the mobile-satellite service ("MSS"), a low intensity, space-based service that is compatible with other similar uses in neighboring frequency bands, including the radionavigation-satellite service ("RNSS") in which the GPS system operates. To the extent that terrestrial service not provided for in the international allocation tables is permitted, it is allowed only in a manner that is consistent with this primary MSS allocation – and, as a non-

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<sup>5</sup> The band is also allocated to the Aeronautical Radionavigation Service ("ARNS"), and is used for differential GPS, a service complementary to satellite-delivered GPS. *See* 47 C.F.R. § 87.173(b).



conforming use, is subject to the immutable obligation under U.S. and international law neither to cause harmful interference to authorized service users nor claim protection from interference those users may cause to it.<sup>6</sup> The FCC's rules expressly provide that this ancillary terrestrial component may only be offered if it is fully integrated with the MSS service and not offered on a separate, standalone basis.<sup>7</sup> Though LightSquared obtained a conditional waiver of this integrated service rule to allow it to sell terrestrial-only capacity, that waiver does nothing to alter the character of the MSS allocation, and it is expressly premised on an advance demonstration that LightSquared's non-conforming operations will not cause harmful interference, including overload or desensitization interference, to GPS.<sup>8</sup>

As the Council has previously stated, LightSquared's characterizations of the procedural history of the MSS ATC rules and its own authorization are a calculated effort, through frequent repetition, to create an alternative reality based on its own retelling of its history and the record established in multiple prior FCC proceedings. Among other things, LightSquared attempts to portray the GPS community's good faith efforts to allow LightSquared's predecessors-in-interest some flexibility in deploying limited MSS ATC facilities as acquiescence to the much broader wireless mobile deployments it now contemplates.<sup>9</sup> The Council has repeatedly refuted these specious and disturbing claims.<sup>10</sup>

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<sup>6</sup> See ITU Radio Regulation No. 4.4; 47 C.F.R. § 2.102.

<sup>7</sup> See 47 C.F.R. § 25.149(b)(4).

<sup>8</sup> The term "overload" was adopted by the FCC in its discussion of the principal harmful interference issue raised by LightSquared's proposal; however, the Council and its members believe that the most accurate term describing the impact on GPS receivers is "desensitization," and that term is therefore used in this document.

<sup>9</sup> See Petition at 5-9.

<sup>10</sup> See, e.g., Attachment, Letter from Trimble Navigation Limited to Julius P. Knapp, Chief Engineer, Office of Engineering and Technology, FCC, dated June 14, 2011 ("Trimble Letter").

While LightSquared seeks to portray its new, terrestrial-only service concept as a mere extension of the original proposal pursued by its predecessors, the system initially authorized by the FCC in 2003 mandated that any terrestrial service provided in the MSS bands be both *integrated with* and *ancillary to* satellite-delivered service – the reason for the “Ancillary Terrestrial Component” designation. These fundamental requirements preclude any L-band MSS licensee from offering terrestrial handsets that do not also have satellite capability, and necessarily require that the MSS/ATC operator protect its own satellites from harmful interference. In this regard, the Commission noted in 2005 its agreement with the conclusion that “MSS operators will invest in the additional cost of ATC transmitters only where the MSS signal is not available or in heavily populated ‘bottleneck’ locations.”<sup>11</sup> Drawing on this and other views advanced at that time, the Commission affirmatively found “no basis in the record to conclude that MSS/ATC operators would surrender their single most valuable system feature, complete ubiquity of coverage, in order to compete with the already well developed and heavily financed terrestrial mobile systems.”<sup>12</sup> Later in the same order, the Commission stated that:

In any channel that is coordinated for the exclusive use of an MSS/ATC operator, and where there is no other MSS operator’s satellite within the visible arc as seen from the ATC geographic coverage area, the MSS/ATC operator is limited only by in-band and out-of-band emission limits ***and the need to control self-interference sufficiently to maintain satellite service.***<sup>13</sup>

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<sup>11</sup> *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*, Memorandum Opinion and Order and Second Order on Reconsideration, 20 FCC Rcd 4616, 4625 (¶ 22) & n.66 (2005) (“2005 MSS ATC Reconsideration Order”).

<sup>12</sup> 2005 MSS ATC Reconsideration Order at 4625 (¶ 23).

<sup>13</sup> 2005 MSS ATC Reconsideration Order at 4633 (¶ 46) (emphasis added).

This shows that the Commission specifically contemplated that, to achieve consistency with FCC rules, MSS/ATC operators would inevitably continue to control self-interference to a level that would protect their most valuable system characteristic – ubiquitous satellite coverage.<sup>14</sup> This necessity, along with the specific FCC rule provision mandating protection of other services from harmful interference generated by MSS ATC operations,<sup>15</sup> provided ample assurance that GPS receivers would be protected. Indeed, as late as two months prior to filing its November 2010 modification request, LightSquared reiterated its own understanding of the inherent limitations on the scope of its MSS/ATC authority, stating in rulemaking comments that, “[a]t present, ATC in the L-band, *because it lacks a primary allocation in the United States, may have to protect other services and to accept interference from other services.*”<sup>16</sup>

At no point prior to LightSquared’s November 2010 request for removal of the gating criteria was there any reason for concern about a ubiquitous, high-power terrestrial L-band service *that would actually preclude co-coverage MSS*. Thus, the Commission reiterated in the 2010 National Broadband Plan its determination that ATC was intended only “to enhance coverage in areas where the satellite signal is attenuated or unavailable,” and emphasized the role of the gating criteria in ensuring that ATC “remains ancillary to the principal MSS offering.”<sup>17</sup>

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<sup>14</sup> With the integration requirement waived, separate terrestrial components permitted, and an unlimited number of base stations possible, however, LightSquared’s ability to maintain satellite service would be lost in any area served by the terrestrial component and the premise of power levels adopted in the *2005 MSS ATC Reconsideration Order*, upon which LightSquared has so heavily relied, would be abrogated.

<sup>15</sup> See 47 C.F.R. § 25.255.

<sup>16</sup> Comments of LightSquared Subsidiary LLC, ET Dkt. No. 10-142, at 12 (filed September 15, 2011) (emphasis added).

<sup>17</sup> *Connecting America: The National Broadband Plan* at 87 (April 2010).

## **II. GPS Users Have The Right To Utilize Equipment That Is Designed And Developed To Operate Within The Current Spectrum Allocation Structure.**

### **1. The L-Band RNSS Allocation Which Includes GPS Is Harmonized With Other Low Intensity Space Based Spectrum Uses.**

The central premise of LightSquared's Petition is that its current service aspirations are being thwarted by the "poor design of ... GPS receivers."<sup>18</sup> This characterization ignores the well-settled allocation plan for the L-band spectrum neighborhood where MSS and GPS and other space-based services co-exist, which encourages compatible and complementary service offerings that enhance the overall efficiency of spectrum use. As a subcommittee of the Department of Commerce's Spectrum Management Advisory Committee ("CSMAC") recently noted, "[h]armonization should remain a principal consideration as spectrum managers consider how to address multiple demands on the spectrum resource" as it yields "multiple benefits for end users, including lower device costs, service interoperability, and cost-effective international roaming possibilities."<sup>19</sup> The current arrangement of allocations in the L-band, which includes no terrestrial allocation at all between 1535-1660.5 MHz represents just such an "optimum clustering of services,"<sup>20</sup> which promotes the availability of GPS consumer devices and the capability of augmenting GPS performance using MSS signals. GPS receivers

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<sup>18</sup> Petition at 27.

<sup>19</sup> "Interference and Dynamic Spectrum Access Subcommittee Final Report," Commerce Spectrum Management Advisory Committee, at 58 (November 8, 2010) ("CSMAC Interference Report").

<sup>20</sup> CSMAC Interference Report at 58. The Report also noted conclusions reached at the Silicon Flatirons Radio Regulation Summit in 2009, where a diverse group of attendees from academia, government, and industry "collectively expressed 'support for clustering similar services to limit inter-channel interference conflicts.'" *Id.* at 60. *See also* Robert Matheson and Adele C. Morris, "The Technical Basis for Spectrum Rights: Policies to Enhance Market Efficiency" at 30, The Brookings Institution (March 3, 2011) ("Long-term spectrum planning can help separate the applications involving high transmitter power from applications requiring large numbers of battery-operated receivers") ("2011 Brookings Paper").

are advanced equipment, carefully designed to operate in the L-band spectrum environment, and the notion that GPS receiver function and filtering could somehow be materially improved without incurring unacceptable performance penalties is profoundly incorrect.<sup>21</sup>

LightSquared's problem is not the design of GPS receivers, but the fact that the dramatic changes in L-band spectrum use it first proposed less than eighteen months ago are ill-suited to the long-standing operating environment in this band, a circumstance of which it should have been fully aware before it proposed ubiquitous terrestrial-only operation.<sup>22</sup>

Instead, it proceeded in the belief that the specifically-conditioned MSS authority it holds could ultimately permit it to employ the licensed spectrum to offer a radically different terrestrial mobile service, heedless of the impact that such an intensive non-conforming use would have on GPS users.

## **2. Receiver Design Is Fundamentally Grounded In The Allocation Table.**

When manufacturers and service providers make decisions regarding receiver design, they do so in reliance on established FCC service rules and spectrum allocations. During the last three decades, GPS receivers have rationally been designed to maximize spectrum use and efficiency in frequency bands where low intensity satellite spectrum use is predominant and terrestrial use has been strictly limited.<sup>23</sup>

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<sup>21</sup> See Comments of the U.S. GPS Industry Council, IB Dkt. 11-109, at 29-34, 56-57. The Council emphasized that GPS receivers already employ multi-stage filtering designed to preserve the GPS signal and reject all other expected inputs. *Id.* at 13 & n.29.

<sup>22</sup> See also Comments of the U.S. GPS Industry Council, IB Dkt. 11-109, at 51-52 (filed August 1, 2011) ("USGIC Comments on Technical Working Group Report").

<sup>23</sup> For example, high precision receivers that make use of MSS-augmented GPS are required to receive in the entire 1525-1610 MHz band for the augmented signal to be effective, and to meet contractual obligations for MSS access that are imposed by LightSquared and other MSS operators.

LightSquared's implicit assertion that users operating in a primary service should be required to alter their well-established operations after thirty years of receiver deployments to accommodate new uses in adjacent bands that would operate outside the scope of the allocation table (i.e., non-conforming uses) is simply inconsistent with the Commission's rules and the entirety of its precedent in this area.<sup>24</sup> In addition, it is fundamentally at odds with the Commission's commitment not to second-guess receiver design decisions. The FCC's *2005 MSS ATC Reconsideration Order* makes plain that the Commission endorsed permitting manufacturers and service providers the freedom to design their receivers based on the spectrum environment mandated by the FCC's allocation tables and service rules.<sup>25</sup> GPS receiver manufacturers cannot be held to standards that require anticipation of aspirations of non-conforming spectrum users.<sup>26</sup>

In this regard, the use by some GPS receivers of compatible MSS signals from the adjacent 1525-1559 MHz spectrum band does not constitute a "non-conforming use," as LightSquared alleges.<sup>27</sup> These GPS receivers are making use of the *primary* MSS signal in the band, and the fact that the signal is being received by RNSS devices does not convert these

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<sup>24</sup> In another context, LightSquared's position that end user receivers operating in allocated services are generally unprotected from harmful interference would allow a protected service provider operating outside the scope of the allocation tables to interfere with wireless, broadcast or satellite reception simply because the device actually suffering the interference – a TV receiver or DBS antenna, for example – may not itself be licensed.

<sup>25</sup> See *2005 MSS ATC Reconsideration Order*, 20 FCC Rcd at 4636 (¶ 56). It is also contrary, with respect to GPS in particular, to the national policy to sustain the radiofrequency environment in which GPS operates, which is a cornerstone of President Obama's 2010 National Space Policy.

<sup>26</sup> See, e.g., CSMAC Interference Report at 65 ("As a general matter, consumers or government spectrum users should not be denied the benefit of their purchases due to interference from a new entity"). The same report notes that "[i]t would be unreasonable to call a device 'substandard' from an operational standpoint simply because it was not built to operate in some future shared environment." *Id.*

<sup>27</sup> See Petition at 18-22.

transmissions into an unallocated, non-conforming use. It is the transmission characteristics that govern the nature of a service and its consistency with the allocation table. As described above, the issue is that LightSquared's introduction of high-powered terrestrial mobile service into the MSS band is incompatible with its own ubiquitous satellite coverage and would effectively eviscerate the current MSS allocation to the detriment of existing users that rely on these signals, while at the same time causing harmful interference to GPS devices operating in the adjacent band.

**3. LightSquared Erroneously Places Reliance On Out Of Context Statements From The 1979 Domestic Receive-Only Earth Station Order.**

LightSquared also persists in its erroneous claim that because GPS receivers are not individually licensed, they are not entitled to interference protection.<sup>28</sup> LightSquared's contentions in this regard have been based on several shifting rationales. Initially, LightSquared asserted that GPS receivers were simply Part 15 devices subject to the requirement of neither causing nor being protected from interference from licensed services.<sup>29</sup> The Council has demonstrated that GPS receivers are not unprotected devices, but receive-only Earth stations that operate under Part 25 of the FCC's rules in conjunction with the U.S. RNSS satellite system.<sup>30</sup> LightSquared now offers an alternative rationale, asserting that unlicensed Part 25 receive-only earth stations must inherently be "willing to operate on a *completely unprotected basis*, and also forgo the benefit of any interference protection otherwise

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<sup>28</sup> See Petition at 11-14.

<sup>29</sup> See, e.g., LightSquared Opposition to Petition for Reconsideration, ET Dkt. 10-142, at 9-10 (filed August 25, 2011); LightSquared *Ex Parte* Letter to FCC Chairman Julius Genachowski, FCC File No. SAT-MOD-20101118-00239, IB Docket No. 11-109, at 2-3 (filed October 3, 2011).

<sup>30</sup> See, e.g., USGIC Consolidated Reply to Oppositions, ET Dkt. 10-142, at 7-10 (filed September 6, 2011).

potentially available to them.”<sup>31</sup> LightSquared’s reliance for this assertion on the *1979 Receive-Only Earth Station Order* is completely misplaced, however, and the conclusions that it draws therefrom are wholly incorrect.

The *1979 Receive-Only Earth Station Order* deals with the impact of optional antenna registration on the rights vis à vis new co-frequency, co-primary terrestrial facilities of C-band receive-only operators that *choose* to remain unregistered. In particular, the *1979 Receive-Only Earth Station Order* addressed the circumstance in which a C-band Earth station operator declines to register a facility “where the interference protection afforded by coordination and licensing is not desired or needed” and is later faced with harmful interference from subsequently-constructed, co-primary C-band terrestrial facilities.<sup>32</sup> The result is that only by obtaining an FCC registration can these operators ensure that they are protected against harmful interference from facilities proposed in subsequently filed applications – but the choice lies entirely with the prospective registrant, which is only unprotected from interference if it decides not to register an antenna.<sup>33</sup> These are the circumstances that prevail in shared bands with more than one co-primary service, but that are inapplicable to the RNSS band, where GPS and other radionavigation applications are the only allocated spectrum uses, and prior coordination is not required to achieve interference protection. The RNSS band is actually analogous to the Ku-band fixed-satellite service (“FSS”) allocation, which is an exclusive primary allocation in which receive-only antennas do not need to be registered to

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<sup>31</sup> Petition at 12.

<sup>32</sup> *Reregulation of Domestic Receive-Only Satellite Earth Stations*, 74 F.C.C.2d 205, 214 (¶ 27) (1979) (“*1979 Receive-Only Earth Station Order*”).

<sup>33</sup> *See 1979 Receive-Only Earth Station Order*, 74 F.C.C.2d at 215 (¶ 27) (“[A]n optional licensing program would enable those who need and/or wish to have protection to obtain an enforceable right to a particular level of interference free reception through the prior coordination process”).



enjoy full interference protection. Indeed, on occasions where applicants have mistakenly attempted to obtain FCC receive-only antenna registration in the Ku-band, these applications have been routinely dismissed:

Because the FSS is the only primary allocation in this band, operations to the FSS receive-only Ku-band earth stations are ***protected against interference from the operations of any other communications service***. As such, licensing or registering these earth stations is unnecessary.<sup>34</sup>

Like Ku-band FSS receive-only earth stations, L-band RNSS receive-only earth stations are part of the only primary service in their frequency band and therefore require no licensing or registration in order to be “protected against interference from the operations of any other communications service.”

Of course, even with respect to its application to the C-band, the *1979 Receive-Only Earth Station Order* stands only for the proposition that unregistered receive antennas are entitled to no interference protection versus facilities authorized in a co-primary terrestrial service,<sup>35</sup> which does not deprive such earth stations from protection versus any proposed spectrum use in an adjacent band operating at variance with the allocation table. Despite its continuing efforts to portray itself as operating in accordance with the FCC’s rules, the fact is that LightSquared cannot operate a high capacity standalone terrestrial broadband service under the FCC’s rules. *See* Section III, *infra*. The only basis for such operation is the waiver

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<sup>34</sup> *Letter to David H. Pawlik, Counsel to NW Communications of Phoenix, from Kathryn Medley, Chief, Satellite Engineering Branch, FCC*, 24 FCC Rcd 14074 (Sat. Eng. Br. 2009) (emphasis added). *See also, e.g., Letter to Levi C. Maia, Full Channel TV, Inc., from Scott A. Kotler, Chief, Systems Analysis Branch, FCC*, 21 FCC Rcd 10754 (Sat. An. Br. 2006) and *Review of Part 15 and Other Parts of the Commission’s Rules*, 17 FCC Rcd 14063 (2002) (adopting radiated emissions limits for Part 15 radar detectors to protect VSAT antennas in the 11.7-12.2 GHz Ku-band receive frequencies).

<sup>35</sup> *See 1979 Receive-Only Earth Station Order*, 74 F.C.C.2d at 215 (¶ 28) (“we cannot and would not tolerate Petitions to Deny terrestrial facilities applications or other forms of complaint or relief filed by unlicensed facility operators on the basis of experienced or anticipated interference”).

of the integrated service gating requirement granted in the *Conditional Waiver Order*, which is specifically conditioned on resolving desensitization interference issues affecting GPS receivers – and which, in the wake of LightSquared’s well-documented inability to resolve the interference issues, the Commission has now proposed to vacate.<sup>36</sup>

#### **4. FCC Rules And Policies Squarely Protect GPS Receivers From MSS ATC Harmful Interference.**

LightSquared again seeks to minimize the significant express obligations that any MSS ATC licensee has under Section 25.255 of the FCC’s Rules, which states plainly that “[i]f harmful interference is caused to *other services* by ancillary MSS ATC operations, either from ATC base stations or mobile terminals, the MSS ATC operator must resolve any such interference.”<sup>37</sup> LightSquared asserts that interference suffered by GPS receivers is not “cognizable ‘harmful interference.’”<sup>38</sup> This bare assertion, however, is based principally on the argument debunked in the foregoing sections. In fact, GPS end users are availing themselves of devices and applications provided for their use in spectrum allocated to RNSS, which is specifically defined in the Commission’s rules<sup>39</sup> and operates on a primary basis subject to the FCC’s Table of Allocations.<sup>40</sup> Indeed, in 2008, the Commission stated that Section 25.255 imposes “an absolute obligation on the MSS/ATC operator to resolve any harmful interference to other services,” and went on to state in response to concerns regarding interference to

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<sup>36</sup> See *February 15<sup>th</sup> Public Notice* at 4.

<sup>37</sup> 47 C.F.R. § 25.255 (emphasis added).

<sup>38</sup> Petition at 17 nn.48 & 49.

<sup>39</sup> See 47 C.F.R. § 2.1 (*Radionavigation-Satellite Service*. A radiodetermination-satellite service used for the purpose of radionavigation. This service may also include feeder links necessary for its operation.)

<sup>40</sup> See 47 C.F.R. § 2.106 (Table of Allocations) (RNSS and ARNS identified as co-primary services in the 1559-1610 MHz band).

Broadband Radio Service base station receivers that “receiver overload interference ... is among the problems that ATC must take into account in avoiding harmful interference to other services.”<sup>41</sup> Thus the GPS implementation of RNSS unquestionably qualifies as “other service” and GPS receiver desensitization is plainly cognizable “harmful interference” of the type prohibited by Section 25.255.<sup>42</sup>

Moreover, the rule was specifically adopted to protect RNSS and other services operating in adjacent frequency bands. LightSquared is the only U.S. licensee in the only service allocated in the 1525-1559 MHz band within the United States. The rule does not refer to other “systems.”<sup>43</sup> If the provisions of 25.255 have any meaning, they must be read to protect “other services” in other bands, just as receive-only antennas operating in the exclusive Ku-band FSS primary allocation are protected from “any other communications service.”<sup>44</sup> The purpose of the interference protection rules with respect to GPS, a key basis for the adoption of Section 25.255, was from the outset the protection of adjacent-band GPS receivers from harmful interference.<sup>45</sup> LightSquared is therefore quite wrong in asserting that unlicensed

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<sup>41</sup> *Spectrum and Service Rules for Ancillary Terrestrial Components in the 1.6/2.4 GHz Big LEO Bands*, 23 FCC Rcd 7210, 7223 (¶ 35) & n.118 and 7224 (¶ 36) & n.119 (2008) (“2008 Big LEO MSS ATC R&O”).

<sup>42</sup> As discussed further below, this is also consistent with the Commission’s statement in the *Conditional Waiver Order* that the critical undertaking of the LightSquared technical working group was “to fully study the potential for overload interference to GPS devices and to identify any measures necessary to prevent harmful interference to GPS.” *Conditional Waiver Order*, 26 FCC Rcd at 586 (¶ 41).

<sup>43</sup> Inmarsat is also authorized to provide service in this band within the United States.

<sup>44</sup> See page 12 and n.34, *infra*.

<sup>45</sup> 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 Band*, Notice of Proposed Rulemaking, 16 FCC Rcd 15532, 15559 (¶ 68) (2001) (“The L-band MSS satellite transmitters operate [in] the lower adjacent band to the Global Positioning System (“GPS”) and other Radio Navigation Satellite Services. ***Unwanted emissions from terrestrial stations in the MSS will have to be carefully controlled in order to avoid interfering with GPS receivers.***”) (emphases added). Section

receivers operating within a primary service lack protection from harmful interference it would cause.

**III. LightSquared’s Proposed Ubiquitous Deployment Of Terrestrial Transmitters Is Inconsistent With The Current Spectrum Allocation Scheme, Relevant Statutory Provisions, And Its Own Authorization.**

**1. LightSquared’s Proposed Non-Integrated, Standalone Terrestrial Service Does Not Comply With The FCC’s Spectrum Allocation Tables And Rules.**

LightSquared’s request for relief is founded on another false premise as well – the notion that a standalone, high-power terrestrial operation is currently “permitted” in the MSS L-band. Specifically, LightSquared’s principal request for relief maintains that GPS users should not be afforded protection “from allegedly incompatible operations in adjacent MSS bands – including ATC operations – that are permitted by the Commission’s rules and the U.S. Table of Frequency Allocations.”<sup>46</sup> The implication that non-integrated terrestrial service is permitted by the rules ignores the facial inconsistency of such operations with the Part 2 tables, which contain no allocation at all for terrestrial service in the majority of the band licensed to LightSquared for provision of satellite service (1535-1559 MHz).<sup>47</sup> The only regulatory provision that permits terrestrial use in this spectrum is footnote US380, which establishes limited circumstances under which ancillary terrestrial service may be offered “subject to the Commission’s rules for ancillary terrestrial components and subject to all applicable conditions

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25.255 is just one of several FCC Rules that are designed specifically, in whole or in part, to protect unlicensed consumer receivers from overload/desensitization. In some cases, adjacent band receivers are protected from interference even from *primary* services operating entirely in accordance with the allocation table and FCC rules.

<sup>46</sup> Petition at 2.

<sup>47</sup> See 47 C.F.R. § 2.106 (1535-1559 MHz allocated to the MSS in the space-to-Earth direction on a global basis).

and provisions of its MSS authorization.”<sup>48</sup> LightSquared cannot comply with either of these conditions.

First, as the Commission made plain in the *Conditional Waiver Order*, “LightSquared fails to satisfy the integrated service rule set forth in Section 25.149(b) of the Commission’s rules,” which was intended to prevent ATC-only subscriptions and ensure that any terrestrial L-band operations remained an adjunct to the primary MSS allocation.<sup>49</sup> This means that its proposed operations are not consistent with footnote US380, which requires that any provision of ancillary terrestrial service comply with all of the ATC rules, including the integrated service gating requirement waived in that order.

Second, the terms of the *Conditional Waiver Order* required LightSquared, with the assistance of the GPS community, “to fully study the potential for overload interference to GPS devices and to identify any measures necessary to prevent harmful interference to GPS.”<sup>50</sup> LightSquared’s operations are further conditioned on the requirement that the process “addressing the interference concerns regarding GPS must be completed to the Commission’s satisfaction before LightSquared commences offering commercial service” pursuant to the waiver.<sup>51</sup> Consistent with these terms, the interference issues must be resolved before LightSquared can offer service to customers.

As noted above, GPS is compatible with and complementary to MSS in the lower L-band, while LightSquared’s proposed non-conforming use would preclude MSS in the areas in which LightSquared operates high-powered terrestrial base stations and transmitters. GPS is

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<sup>48</sup> 47 C.F.R. § 2.106, US380.

<sup>49</sup> *Conditional Waiver Order*, 26 FCC Rcd at 579 (¶ 24).

<sup>50</sup> *Conditional Waiver Order*, 26 FCC Rcd at 586 (¶ 41).

<sup>51</sup> *Conditional Waiver Order*, 26 FCC Rcd at 586 (¶ 41).

thus fully consistent with the primary spectrum allocations in both the 1525-1559 MHz and the 1559-1610 MHz bands. On the other hand, LightSquared's proposed terrestrial mobile operations conflict with the primary allocations in each band.

**2. LightSquared's Petition Seeks Relief Inconsistent With Its Current MSS ATC Authorization.**

**a. LightSquared's Authorization Affirmatively Requires It To Resolve GPS Receiver Desensitization Issues.**

In the *Conditional Waiver Order*, the International Bureau explained that LightSquared itself proposed and agreed to accept the condition requiring it to demonstrate that its dramatically expanded terrestrial service would not interfere with GPS receivers.<sup>52</sup> In that context, the Commission emphasized LightSquared's assurance that it "takes the concerns raised by the GPS community about possible overload of GPS devices by LightSquared's stations very seriously."<sup>53</sup>

Now that LightSquared's "confidence that the [interference] issues can be resolved without delaying deployment of its network"<sup>54</sup> has proven incorrect, however, it is attempting to renege on its commitment. Its after-the-fact denial that it has an obligation to resolve "harmful interference" to GPS devices is facially contrary to the express terms of its conditionally-modified license.

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<sup>52</sup> *Conditional Waiver Order*, 26 FCC Rcd at 585-86 (¶ 40).

<sup>53</sup> *Conditional Waiver Order*, 26 FCC Rcd at 585 (¶ 40).

<sup>54</sup> *Conditional Waiver Order*, 26 FCC Rcd at 586 (¶ 40).

**b. LightSquared’s Petition Is, In Effect, An Untimely Petition For Reconsideration Of The *Conditional Waiver Order*, Filed Long After The 30-Day Period During Which It Could Have Rejected The Authorization As Conditioned.**

In adopting the condition that LightSquared proposed, and affirmatively stating that LightSquared would be permitted to offer commercial service on the MSS L-band frequencies “only upon the completion of the process for addressing interference concerns relating to GPS,”<sup>55</sup> the Bureau plainly stated that it was granting LightSquared’s requested relief only in part.<sup>56</sup> Just as does every other party aggrieved by the grant of an application, LightSquared had thirty days from its release to challenge the terms of the *Conditional Waiver Order* by “rejecting the grant as made.”<sup>57</sup> It did not do so, and therefore accepted the modified license subject to all conditions imposed in the order.

In short, LightSquared had a clear opportunity to decline the terms of the *Conditional Waiver Order* if it believed that they were unfair or inconsistent with the FCC’s rules and policies. While the decision to accept the license as conditioned would not preclude a subsequent application to modify the terms based on changed circumstances or on other grounds, LightSquared’s Petition is not such an application. In effect, the Petition is an untimely rejection of the initial grant, filed outside the thirty-day window during which it could have explicitly declined the authorization as conditioned.<sup>58</sup>

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<sup>55</sup> *Conditional Waiver Order*, 26 FCC Rcd at 588 (¶ 48).

<sup>56</sup> *Conditional Waiver Order*, 26 FCC Rcd at 587 (¶ 45).

<sup>57</sup> See 47 C.F.R. §§ 1.110 & 1.429.

<sup>58</sup> See 47 C.F.R. § 1.110.

If LightSquared wishes belatedly to reject its conditioned license or otherwise seek reconsideration of its terms,<sup>59</sup> it would certainly be appropriate for the Commission to rescind the license modification granted in the *Conditional Waiver Order*, and dismiss the application as contrary to the Commission's rules, deferring any further action indefinitely unless an appropriately noticed and conducted rulemaking proceeding is completed. The *February 15<sup>th</sup> Public Notice*, released after the International Bureau sought comment on the Petition, identifies a proposed course of action that would dovetail with this approach.<sup>60</sup>

### **3. LightSquared's Request That It Be Permitted To Interfere With GPS Receiver Operation Is Also Contrary To Recently Enacted Legislation.**

In the *Public Notice*, the Commission makes plain that it is operating under a recently adopted legal restriction, enacted as part of the Consolidated Appropriations Act, which prevents the FCC from authorizing LightSquared to operate standalone terrestrial transmitters "until the Commission has resolved concerns of potential widespread harmful interference by such commercial terrestrial operations to commercially available [GPS] devices."<sup>61</sup> In addition, a separate provision adopted as part of the National Defense Authorization Act for Fiscal Year 2012 contains similar language relating specifically to GPS devices used by the Department of Defense.<sup>62</sup> The requisite resolution in each case is specifically keyed to the terms of the *Conditional Waiver Order*. Removal of the condition without satisfaction of these

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<sup>59</sup> See, e.g., *Margaret S. Downey*, 66 F.C.C.2d 1037, 1040 (¶ 7) (1977) (a petition for reconsideration filed by a grantee is considered "a written rejection" of the authorization).

<sup>60</sup> *February 15th Public Notice* at 4.

<sup>61</sup> *Public Notice* at 2, citing Consolidated Appropriations Act, 2012, Pub. L. No. 112-74, at Division C – Financial Services and General Government Appropriations Act, 2012 (enacted Dec. 23, 2011).

<sup>62</sup> See National Defense Authorization Act for Fiscal Year 2012, Pub. L. No. 112-81, at Title IX, Department of Defense Organization and Management, Subtitle B, Space Activities, § 911 (enacted Dec. 31, 2011).



requirements to resolve harmful interference to GPS receivers would therefore be contrary to law.

**IV. Because LightSquared Proposes A Non-Conforming Use, It Must Bear All Costs And Burdens Of Ensuring That Its Service Is Compatible With Existing Primary Service Spectrum Users.**

As outlined in the foregoing sections, GPS operates as an application of the primary RNSS allocation in the 1559-1610 MHz band and, in many cases, makes complementary use of the primary MSS allocation in the adjacent 1525-1559 MHz band. In contrast, LightSquared, while authorized to provide primary MSS, seeks to alter fundamentally its spectrum use by introducing a widely deployed, high-power terrestrial mobile service in the MSS band. Although LightSquared has obtained a waiver that could permit such operation, its ability to provide such service has been appropriately conditioned on demonstrating that it will not interfere with GPS. In the wake of its inability to make that required showing, it now seeks to evade via its Petition the harmful interference avoidance obligations that apply to a non-conforming spectrum user.

Given the wide disparity in status between a primary service allocation and an operator seeking to provide service largely outside the scope of the allocation tables on a non-protected, non-harmful interference basis, there is no question where the responsibility to avoid interference lies. Indeed, even if the L-band RNSS and terrestrial mobile service below 1559 MHz were equal in status, LightSquared would still be obligated to take responsibility for addressing harmful interference, as the FCC typically follows a “first-in-time is first-in-rights”

approach with respect to the introduction of new service that impacts previously allocated spectrum use.<sup>63</sup>

**V. Conclusion.**

For all of the forgoing reasons, the Council respectfully urges the Commission to dismiss LightSquared's Petition for Declaratory Ruling as substantively and procedurally defective. Continued pendency of this aspect of the ongoing proceedings will provide no assistance in efforts to resolve the significant issues before the Commission.

Respectfully submitted,

**U.S. GPS INDUSTRY COUNCIL**

By:           *s/ Raul R. Rodriguez*          

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February 27, 2012

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<sup>63</sup> See, e.g., *Reallocation of the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands*, 15 FCC Rcd 22657, 22663-64 (¶ 15) (2000) (among services with equal allocation status, the established service is generally entitled to protection from new operators); 2011 Brookings Paper at 31 (when interference between services arises, "the newest station must take the necessary action to eliminate whatever interference occurs as the result of its presence").

## **ATTACHMENT**

Letter from James A. Kirkland, Vice President & General Counsel,  
Trimble Navigation Limited to Julius P. Knapp, Chief Engineer,  
Office of Engineering and Technology, FCC, dated June 14, 2011



Trimble Navigation Limited  
935 Stewart Drive  
Sunnyvale, CA 94085

June 14, 2011

Julius P. Knapp  
Chief Engineer  
Office of Engineering and Technology  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

**WRITTEN EX PARTE COMMUNICATION – SUBMITTED VIA IBFS**

Re: LightSquared Subsidiary, LLC; Request for Modification of its Authority for an Ancillary Terrestrial Component; **IBFS File No. SAT-MOD-20101118-00239**

Dear Mr. Knapp:

During our recent meeting, you and other staff members questioned whether manufacturers of GPS equipment should have been aware of the potential harm that would be caused to reception of GPS receivers by the terrestrial services now contemplated by LightSquared Subsidiary, LLC (“LightSquared”). You noted that LightSquared and its predecessors in interest had been provided various forms of relief by the FCC related to the rules governing the provision of the ancillary terrestrial component (“ATC”) of LightSquared’s mobile satellite service (“MSS”). I explained that none of the previous decisions of either the Commission or its International Bureau changed the ancillary nature of the permitted terrestrial service and that GPS manufacturers expected that they would be protected from harmful interference as a consequence of LightSquared’s protection of its own MSS operations.

While LightSquared has continued to assert that its proposed operation of a stand-alone, nationwide, high-powered terrestrial network “is not a new development,”<sup>1/</sup> I thought it would be useful to provide you with a summary of Commission actions which make it clear that LightSquared’s recent plans are not an outgrowth of the type of ATC authority the FCC contemplated.

As an initial matter, though, it is useful to remember when considering the “history” of the GPS interference issue and the role of the “GPS industry” that the GPS satellite constellation was launched as a *Federal government initiative* and represents a national asset paid for by American taxpayers. The Federal government has a very large investment in the GPS constellation and is the authorized user of the spectrum allocated for radio transmissions by GPS satellites. One

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<sup>1/</sup> See, e.g. Letter from Jeffrey Carlisle, Executive Vice President, Regulatory Affairs & Public Policy, LightSquared, to The Honorable Anna Eshoo, United States House of Representatives (Apr. 15, 2011).

official recently estimated that investment to be \$35 billion dollars in the constellation alone, with an additional required investment of \$1 billion each year.<sup>2/</sup> Precise numbers of the Federal government's investment in GPS-related systems and equipment are not available, but are estimated to amount to many additional billions.

The many public statements to date about what the GPS industry knew or should have known would happen in the future simply miss the point – *the FCC itself has an affirmative duty to proactively protect critical government spectrum uses and investments.* In fact, in its 2005 ATC Decision, the FCC explicitly undertook to do exactly that. In discussing a proposal to codify certain emission limits in the FCC rules, the FCC stated:

*While we agree with the GPS Industry Council, NTIA, and other government agencies that it is essential to ensure that GPS does not suffer harmful interference, it is also important to ensure that new technologies are not unnecessarily constrained. In this regard, we recognize that the President's new national policy for space-based positioning, navigation, and timing (PNT) directs the Secretary of Commerce to protect the radio frequency spectrum used by GPS and its augmentations through appropriate domestic and international spectrum management regulatory practices . . . . Furthermore, the President's PNT policy calls for the establishment of an inter-agency Executive Committee, on which the Chairman of the FCC will be invited to participate as a liaison, and a National Space-Based PNT Coordination Office. It is our intention to establish discussions with other agencies, through the PNT Executive Committee and Coordination Office as appropriate, to better understand what protection levels for GPS are warranted. The results of those discussions may lead to future rulemaking proposals in order to ensure that all FCC services provide adequate protection to GPS, and produce a more complete record upon which to establish final GPS protection limits for MSS ATC licensees.<sup>3/</sup>*

The Presidential policy that the Commission committed to implement in 2005 has been followed and amplified by the present Administration. The June 28, 2010 *National Space Policy of the United States* provides that the United States “must maintain its leadership in the service, provision, and use of global navigation satellite systems” and lists as a critical objective “invest[ing] in domestic capabilities and support[ing] international activities to detect, mitigate, and increase resiliency to harmful interference to GPS.”<sup>4/</sup> Similarly, this Administration's policy statements on spectrum policy make clear that advancing broadband deployment and competition should not come at the expense of critical government assets such as GPS. The June 2010 Presidential Memorandum directing the Department of Commerce to work with the FCC to develop a plan to make available additional spectrum for broadband services states that any such

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<sup>2/</sup> Peter B. de Selding, *LightSquared Plans Hinge on Outcome of GPS Interference Debate*, SPACE NEWS, March 4, 2011 (reporting U.S. Air Force estimates of the U.S. government's GPS investments).

<sup>3/</sup> *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*, Memorandum Opinion and Order and Second Order on Reconsideration, 20 FCC Rcd 4616, ¶ 70 (2005) (“2005 ATC Decision”).

<sup>4/</sup> *National Space Policy of the United States of America*, at 5, June 28, 2010, available at [http://www.whitehouse.gov/sites/default/files/national\\_space\\_policy\\_6-28-10.pdf](http://www.whitehouse.gov/sites/default/files/national_space_policy_6-28-10.pdf).

plan “must take into account the need to ensure no loss of critical existing and planned Federal, State, local, and tribal government capabilities.”<sup>5/</sup>

Among other assurances (in Commission decisions) described below, the GPS industry (and the interested government users) reasonably relied on the FCC’s express commitment to diligently and proactively protect GPS from encroachments, whether by private parties such as LightSquared or otherwise.

As set forth in more detail below, instead of diligently and proactively protecting GPS in regulating use of the MSS band, it appears that the FCC simply ignored GPS interference considerations in the *March 2010 Order* that first sanctioned LightSquared’s plans to build extensive terrestrial facilities and approved the transfer of control to Harbinger. From the standpoint of private and government GPS users, the decision did not purport to change the Commission’s prior policies requiring that any terrestrial service in the MSS band be *ancillary to and integrated with* primary satellite operations, the policies that provided fundamental protections to private and government users of GPS. To the extent that the Commission contemplated, in March 2010, or at any time prior to that, different types of operations that presented “significant interference concerns” or which created a “new and more challenging interference environment,” as NTIA described LightSquared’s November 2010 proposal,<sup>6/</sup> it was clearly incumbent upon the FCC itself to proactively evaluate interference issues in accordance with, among others, its 2005 commitment. The Commission should not now attempt to revise history and shift its own obligation to protect GPS to the private sector.

In any case, the Commission’s January 2011 waiver decision represented a fundamental change in Commission policy regarding ancillary terrestrial operations in the MSS band, and so could not have reasonably been foreseen by either the GPS industry or knowledgeable GPS experts in the U.S. government.

### **The GPS Industry Reasonably Expected ATC That Was “Ancillary”**

Since 2003, the FCC has contemplated terrestrial operations as an ancillary supplement to a primarily satellite-based service. LightSquared’s November 18, 2010 letter<sup>7/</sup> describes a new service that is completely inconsistent with this expectation. There, LightSquared said that it plans to build a “nationwide network of 40,000 terrestrial base stations,” and states that “the capacity of its fully deployed terrestrial network across all base stations will be *tens of thousands of times* the capacity of either of [its] satellites.”<sup>8/</sup> Similarly, under the only combined

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<sup>5/</sup> White House Office of the Press Secretary, *Presidential Memorandum: Unleashing the Wireless Broadband Revolution*, § 1, June 28, 2010, available at <http://www.whitehouse.gov/the-press-office/presidential-memorandum-unleashing-wireless-broadband-revolution>.

<sup>6/</sup> Letter from Lawrence E. Strickling, Assistant Secretary for Communications and Information, U.S. Department of Commerce, to Julius Genachowski, Chairman, FCC, at 1-2 (filed January 12, 2011).

<sup>7/</sup> Letter from Jeffrey J. Carlisle, Executive Vice President, Regulatory Affairs & Public Policy, LightSquared, to Marlene H. Dortch, Secretary, FCC, SAT-MOD-20101118-00239, at 2 (Nov. 18, 2010) (the “November 18, 2010 Letter”).

<sup>8/</sup> *Id.* at 7 n.7.

satellite/terrestrial service plan described in the letter, an end user would be provided with basic usage (*i.e.*, usage before additional charges apply) of one *gigabyte* of terrestrial wireless broadband usage but only *500 kilobytes* of satellite data usage, less than what is needed to send a single email in many cases.<sup>9/</sup> In fact, a LightSquared executive was recently quoted as expressing “LightSquared’s hope that people would use its satellite coverage as a last resort saying, ‘We’ve likened satellite coverage to gym membership. We want everyone to have it, be we don’t want people to go!’”<sup>10/</sup>

LightSquared itself principally promotes its provision of terrestrial wireless broadband capacity, not of satellite capacity.<sup>11/</sup> It has announced that it has entered into transactions with various companies in which LightSquared will make its terrestrial network available, so that its customers can compete with current wireless providers like mobile phone companies (and in some cases, LightSquared will provide those current wireless carriers with additional capacity to supplement existing spectrum).<sup>12/</sup>

This is precisely the opposite of what the FCC anticipated when it authorized ATC. Then, the FCC said that it did *not* expect ATC services to be comparable to and therefore competitive with the services of established consumer terrestrial services like cellular.<sup>13/</sup> In fact, the FCC used the

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<sup>9/</sup> *Id.* at 6.

<sup>10/</sup> Benny Har-Even, *LTE World Summit 2011*, TELECOMS.COM, May 20, 2011, <http://www.telecoms.com/27960/lte-world-summit-2011-tweets-from-the-floor/>.

<sup>11/</sup> *See, e.g.*, Press Release, LightSquared, *LightSquared and SI Wireless Announce They Have Entered Into a Bilateral Roaming Agreement* (Apr. 21, 2011) (“LightSquared’s mission is to revolutionize the U.S. wireless industry. . . . Through its wholesale-only business model, those without their own wireless network or who have limited geographic coverage or spectrum can develop and sell their own devices, applications, and services using LightSquared’s open 4G network – at a competitive cost and without retail competition from LightSquared.”).

<sup>12/</sup> *See, e.g., id.*; *LightSquared Plans to Offer 4G Nationwide*, CNBC.COM, March 23, 2011 (reporting LightSquared’s plan to offer wholesale nationwide 4G networks to wireless phone service providers and quoting CEO Sanjiv Ahuja stating, “We are here to provide enough capacity to the wireless guys so that they can take it and in turn provide it to their customers”); Dan Jones, *LightSquared Leaps into Best Buy Deal*, LIGHT READING MOBILE, March 23, 2011 (reporting that LightSquared announced a deal with Best Buy where “the retailer will offer own-brand 4G service and devices with LightSquared running the network in the background”); Peter Svensson, *LightSquared Gets First Deal with a Phone Company*, ABCNEWS.COM, March 22, 2011 (“LightSquared, a company building a new wireless broadband network to compete with those of AT&T Inc., Verizon Wireless and Clearwire Corp., announced Tuesday its first phone-company customer, Leap Wireless International Inc.”).

<sup>13/</sup> *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; Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands*, Report and Order and Notice of Proposed Rulemaking, 18 FCC Rcd 1962, ¶¶ 39, 41 (2003) (“2003 ATC Decision”) (“As a preliminary matter, terrestrial [Commercial Mobile Radio Service (“CMRS”)] and MSS ATC are expected to have different prices, coverage, product acceptance and distribution; therefore, the two services appear, at best, to be imperfect substitutes for one another that would be operating in predominately different market segments. . . . MSS ATC is unlikely to compete directly with terrestrial CMRS for the same customer base . . .”).

distinction between ATC and cellular-like services to justify the fact that the ATC spectrum should not be auctioned, as is most terrestrial wireless spectrum.<sup>14/</sup>

Instead, both the FCC and LightSquared's predecessors expected ATC to be a means by which MSS operators could provide service in urban areas where satellite coverage would be difficult to achieve.<sup>15/</sup> As the FCC noted in its original *Notice of Proposed Rulemaking* considering ATC authority in the MSS band:

Motient [LightSquared's predecessor] seeks authority to operate terrestrial base stations, as part of Motient's next-generation mobile satellite system in both the upper and lower L-band. The terrestrial base stations would be integrated with the satellite network and would enable co-channel reuse of the satellite service link frequencies in adjacent satellite antenna beams to provide coverage to areas where the satellite signal is attenuated by foliage or terrain and to provide in-building coverage. The satellite path would be the preferred communications link, but if the user's satellite path is blocked, the communications link would be sustained via the fill-in base stations.<sup>16/</sup>

LightSquared's planned network turns this original vision on its head. In September 2010, LightSquared, after stating that its "ancillary" terrestrial network would have "the capability to serve hundreds of millions of users," also noted that:

LightSquared will achieve these results while at the same time maintaining service to its existing MSS customer base of over 300,000 terminals used in rural and remote areas and by emergency service providers that need a reliable replacement service in the event terrestrial infrastructure is destroyed.<sup>17/</sup>

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<sup>14/</sup> *Id.* ¶¶ 220, 225.

<sup>15/</sup> *See, e.g., id.* ¶ 24 (noting that "improved coverage in urban areas should significantly expand the consumer market that MSS is capable of serving"); *2005 ATC Decision* ¶ 27 ("On the contrary, the MSS/ATC operators' interest in avoiding unnecessary capital expenditures would deter them from installing ATC base stations in non-urban areas where traffic is light enough to be handled by MSS alone. Thus, we believe that MSS/ATC operators will only install ATC base stations in areas where the satellite signal is substantially affected by blocking or where consumers demand more communications paths than the satellite can provide. These are the precise situations for which we authorized ATC."); Comments of Motient Services Inc., TMI Communications and Company, Limited Partnership, and Mobile Satellite Ventures Subsidiary LLC, IB Docket 01-185, ET Docket No. 95-18, at 23 (filed Oct. 22, 2001) ("MSV 2001 Comments") ("MSV [LightSquared's predecessor] will not operate a terrestrial-only system; rather, terrestrial operations will only supplement the satellite service in urban and indoor environments with terrestrial extensions.").

<sup>16/</sup> *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 Band*, Notice of Proposed Rulemaking, 16 FCC Rcd 15532, ¶ 15 (2001).

<sup>17/</sup> Comments of LightSquared Subsidiary LLC, ET Docket No. 10-142, at 6-7 (filed Sept. 15, 2010) ("LightSquared 2010 Comments").



Now, under LightSquared’s plan, the purpose of the satellite service would be to provide ancillary service in remote areas not covered by the ubiquitous primary terrestrial network, or in the event that the terrestrial network is destroyed – exactly the opposite of what the FCC authorized and the GPS industry could have reasonably anticipated.

### **The GPS Industry Reasonably Expected ATC That Was “Integrated”**

When the FCC adopted its ATC rules, it required that the terrestrial service be *integrated* with the satellite service.<sup>18/</sup> GPS providers relied on this requirement and were satisfied that with an ATC that was integrated with MSS, ATC would continue to be ancillary to MSS and would not be configured in a way that would harm GPS reception.<sup>19/</sup> LightSquared’s own filings with the FCC, as late as September 2010, indicate that it understood that ATC operations must be integrated with, and not independent of, the underlying MSS service.<sup>20/</sup>

One long-established means of fulfilling the integrated service requirement was to offer dual-mode handsets – *i.e.*, handsets that were capable of receiving both satellite and terrestrial services.<sup>21/</sup> LightSquared’s November 18, 2010 Letter acknowledged this requirement when it stated:

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<sup>18/</sup> See, e.g., *2003 ATC Decision* ¶¶ 87-88 (“MSS licensees must make an affirmative showing to the Commission that demonstrates that their ATC service offering is truly integrated with their MSS offering . . . This integrated service requirement and the other rules adopted today will help ensure that MSS remains first and foremost a satellite service and that the terrestrial component remains ancillary to the primary purpose of the MSS system.”); *2005 ATC Decision* ¶ 19 (reiterating that to “ensure that ATC will be ancillary to provision of MSS . . . [w]e require[ ] the offer of MSS and ATC services to be integrated” and that MSS/ATC operators have to make a showing to that effect). In addition, the Commission further clarified the integrated nature of the service by prohibiting ATC-only subscriptions. See, e.g., *id.* ¶ 33 (“We reiterate our intention not to allow ATC to become a stand-alone system. The purpose of ATC is to enhance MSS coverage, enabling MSS operators to extend service into areas that they were previously unable to serve, such as the interiors of buildings and high-traffic density urban areas. We will not permit MSS/ATC operators to offer ATC-only subscriptions, because ATC systems would then be terrestrial mobile systems separate from their MSS systems. We therefore clarify that ‘integrated service’ as used in this proceeding and required by 47 C.F.R. § 25.147(b)(4) forbids MSS/ATC operators from offering ATC-only subscriptions.”).

<sup>19/</sup> See, e.g., *2003 ATC Decision* ¶ 3 n.5 (“While it is impossible to anticipate or imagine every possible way in which it might be possible to ‘game’ our rules by providing ATC without also simultaneously providing MSS and while we do not expect our licensees to make such attempts, we do not intend to allow such ‘gaming.’”).

<sup>20/</sup> LightSquared 2010 Comments at 12 (stating that at present, “ATC in the L-band, because it lacks a primary allocation in the United States, may have to protect other services and to accept interference from other services . . . The Commission could, however, make it substantially easier to implement ATC domestically in the future by expanding the definition of MSS in its rules to include ATC and thus rendering ATC a primary service.”).

<sup>21/</sup> In furtherance of the integrated service requirement, the FCC adopted a safe harbor for MSS/ATC applicants to demonstrate that ATC would be integrated with the underlying MSS system where such applicants would have to show that they use a dual-mode handset to provide the proposed ATC service. See, e.g., *2003 ATC Decision* ¶ 87. LightSquared’s authorization was premised on its ability to meet this safe harbor. See *Mobile Satellite Ventures Subsidiary LLC Application for Minor Modification of Space*

At the time LightSquared's predecessor applied for ATC authority, the company, in order to demonstrate compliance with the Commission's integrated service requirements, planned to use dual-mode handsets *exclusively*.<sup>22/</sup>

The November 18, 2010 Letter abandoned the concept entirely. Under LightSquared's proposal, its wholesale carrier customers are not required to offer satellite service to end customers, nor are they required to provide handsets that are capable of receiving satellite service. In other words, at that customer level, there is absolutely no integration of terrestrial and satellite service.<sup>23/</sup>

Under these circumstances, there can be no doubt, as LightSquared's public statements described above make clear, that terrestrial-only data usage will greatly predominate over time, rendering satellite service a distant second in LightSquared's business plans and priorities.

LightSquared's current "integration" plans are thus the polar opposite of what the FCC and the GPS industry "anticipated" when the ATC rules were adopted and thereafter. In 2003, the Commission stated:

We will authorize MSS ATC subject to conditions that ensure that the added terrestrial component remains ancillary to the principal MSS offering. We do not intend, *nor will we permit*, the terrestrial component to become a stand-alone service.<sup>24/</sup>

In 2004, the International Bureau reaffirmed the "integration" requirement, making clear that it was an essential part of ensuring that terrestrial operations remain truly "ancillary":

The Commission's decision to permit implementation of MSS ATC was based on the premise that ATC must be "ancillary" to MSS operation. To that end, the Commission established "gating" requirements for ATC authorization and operation *to ensure that ATC will augment, rather than supplant, MSS*. In order to satisfy the gating requirements, which are set forth in Section 25.149 of the Commission's rules, an MSS-ATC licensee must, among other things, . . . integrate its offering of ATC services with its offering of MSS.<sup>25/</sup>

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*Station License for AMSC-1, et al.*, Order and Authorization, 19 FCC Rcd 22144, ¶¶ 19-21 (2004) ("2004 ATC Decision") ("MSV asserts that the handsets that will be used to access its ATC network will be dual-mode devices that can also be used for MSS communication . . . The ATC authorization granted by this order is conditioned accordingly.").

<sup>22/</sup> November 18, 2010 Letter at 1.

<sup>23/</sup> LightSquared's November 18, 2010 Letter attempts to claim that terrestrial and satellite services were "integrated" because the rate card it presented to its wholesale customers (who in turn resell the service to end customers) would only list combined satellite/terrestrial services. November 18, 2010 Letter at 6-7. These assertions cannot overcome the fact that these wholesale customers were not required to buy specialized dual-purpose handsets or sell them to their customers, or even tell their customers that satellite services were available.

<sup>24/</sup> 2003 ATC Decision ¶ 1 (emphasis added).

<sup>25/</sup> 2004 ATC Decision ¶ 18 (footnotes omitted) (emphasis added).

Under these circumstances, it is not surprising that the FCC concluded in the *January 2011 Order* that “LightSquared fails to satisfy the integrated service rule.”<sup>26/</sup> The Commission nonetheless decided to waive the rule, despite repeated prior assurances that terrestrial service would not be allowed to supplant satellite service in the MSS band. On the other hand, there is simply *no language in prior Commission orders* that might have put the GPS community on notice that the integrated nature of an MSS’s provider’s terrestrial service could be changed in such a fundamental way.

### **The Incremental Changes the FCC Made to Its Rules Were No Signal That LightSquared Would Abandon the Need to Protect Its Own MSS**

The Commission’s established policies requiring that terrestrial uses be strictly ancillary to primary satellite uses were a critical part of the spectrum plan for the L-Band, where GPS has historically operated. The spectrum plan grouped satellite operations with other satellite operations intentionally, to avoid the kinds of interference issues presented by inconsistent spectrum uses in adjacent frequency bands – in this case, to avoid the interference that would result when ubiquitous, high-powered terrestrial transmitters operate in spectrum directly adjacent to spectrum where highly sensitive GPS receivers attempt to detect faint satellite signals. The ancillary usage the FCC permitted in prior decisions was a limited accommodation designed to enhance a *satellite service*. The limited accommodation of ATC did not represent a considered decision to allow ubiquitous high-powered use of the band.<sup>27/</sup>

Notwithstanding the longstanding rationale for limiting ancillary operations, and clear Commission policy against free-standing terrestrial services, LightSquared points to a series of incremental modifications of the Commission’s technical rules that it claims opened the door to its current business plans. Whether the modifications which came before it were incremental, the change which resulted from LightSquared’s November 2010 filing – its plans to indirectly sell entirely free-standing terrestrial broadband services – was not. That required, as the International Bureau recognized, a reversal of longstanding Commission policy, which the Bureau elected to adopt by “merely” waiving its rules.<sup>28/</sup>

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<sup>26/</sup> *LightSquared Subsidiary LLC Request for Modification of its Authority for an Ancillary Terrestrial Component*, Order and Authorization, 26 FCC Rcd 566 ¶ 24 (2011) (“*January 2011 Order*”) (finding that LightSquared failed to satisfy the integrated service rule).

<sup>27/</sup> Trimble is not suggesting, nor is it the case, that terrestrial uses cannot ever coexist in or adjacent to satellite bands, and that policy makers are stuck with decisions made long ago. However, the FCC must engage in detailed consideration of the affected existing uses and the proposed new uses, and carefully craft rules to support coexistence. In this case, it is clear that an intensive, ubiquitous terrestrial use (LightSquared’s new terrestrial business plan) cannot be authorized adjacent to a satellite band that is intensively used on an even more ubiquitous basis (GPS). There are very few satellite uses comparable to GPS in ubiquity and importance, so the repurposing of alternative underutilized satellite bands may be less problematic.

<sup>28/</sup> See Letter from Julius Genachowski, Chairman, FCC, to The Honorable Charles E. Grassley, United States Senate, at 1 (May 31, 2011) (“*Genachowski Letter*”).

Put another way, the earlier changes cited by LightSquared all occurred against the backdrop of the fundamental requirements that the terrestrial operations would be *ancillary to and fully integrated with*, a primary satellite service. The GPS community evaluated changes in the technical rules in this context and did its best to cooperate in technical modifications that would apply to terrestrial operations which were subject to these fundamental constraints.

Chairman Genachowski's recent effort to downplay the importance of the integrated service requirement misses the point.<sup>29/</sup> The *January 2011 Order* did not "merely" waive the integrated service requirement. It eliminated a critical basis on which GPS protection rested. Similarly, the Chairman overstates the case when he says that the GPS industry sent a letter to the FCC in August 2009 "agreeing that the GPS interference issues *had been resolved*."<sup>30/</sup> The GPS industry's concerns at the time were limited to out-of-band emission limits associated with femtocells and data cards.<sup>31/</sup> It certainly had no reason to consider those, or any other issues, in the context of the potential elimination of the integrated service obligation.

From an interference standpoint, so long as LightSquared and its predecessors were obligated to provide ATC that was truly ancillary to and integrated with its primary MSS, they were necessarily compelled to protect their own primary satellite operations from interference. The same protection that the ATC operator's own satellite operations required was also sufficient to protect GPS receivers.

The Commission and LightSquared's predecessors specifically recognized that ATC would be limited by the need to ensure that ATC operations did not cause harmful interference to LightSquared and its predecessors' own MSS operations.<sup>32/</sup> Because of LightSquared's self-interest in protecting its own satellite signals in-band, the GPS industry focused its efforts on limiting out-of-band emissions from the anticipated ATC operations to GPS reception in the adjacent spectrum band, as evidenced by the agreements reached between the GPS industry and LightSquared. Now that LightSquared is no longer required to provide an integrated service, it is free to view mobile satellite service as important only in "remote" areas and when terrestrial facilities have been "destroyed." Therefore, it has no incentive to protect its own MSS operations from interference from its core terrestrial operations, removing its fundamental motivation to engineer its own system in a manner that protected GPS reception as well.

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<sup>29/</sup> *Id.*

<sup>30/</sup> *Id.* at 2 (emphasis in original).

<sup>31/</sup> See Letter from Bruce D. Jacobs, Counsel for SkyTerra Subsidiary LLC and Raul R. Rodriguez, Counsel for The U.S. GPS Industry Council, to Marlene H. Dortch, Secretary, FCC, at 1 (Aug. 13, 2009) ("We are pleased to inform you that . . . the U.S. GPS Industry Council ('Council') and SkyTerra have agreed on out-of-band emissions ('OOBE') limits for the operation of low-power base stations with a maximum EIRP of -4 dBW/MHz that are intended to be deployed indoors ('femtocells') and personal computer ('PC') data cards communicating with such base stations.").

<sup>32/</sup> See, e.g., MSV 2001 Comments at 17 ("Because MSV's own satellite system will be the most affected by signals generated by ancillary terrestrial operations, it will have every incentive to monitor and minimize these signal levels in order to ensure that the quality of its satellite service is not compromised."); *2003 ATC Decision* ¶¶ 130-188 (discussing, among other things, MSV's incentive and efforts to eliminate self-interference to its satellite operations caused by ATC).

This is not a mere theoretical possibility. LightSquared's proposed services will not only interfere with GPS, they will also create massive interference to other users of satellite services in the MSS band, exactly the outcome the FCC sought to avoid through its repeated statements that terrestrial uses must remain ancillary and integrated with satellite services. This is highlighted by LightSquared's agreements with Inmarsat, which shares the MSS band with LightSquared. When LightSquared negotiated with Inmarsat to obtain favorable concessions on spectrum use, LightSquared both acknowledged the substantial interference problems in the MSS band and provided Inmarsat with compensation as a result. LightSquared agreed to pay Inmarsat hundreds of millions of dollars, and Inmarsat has publicly estimated that its costs to mitigate interference to its own operations, with approximately 50,000 affected users, at approximately \$250 million dollars.<sup>33/</sup>

It is unclear what, if any, provision LightSquared intends to make for its own MSS customers or the many thousands of other users of the MSS band who rely indirectly on MSS services provided by LightSquared or Inmarsat. Under LightSquared's new business plan, in which its main revenue opportunity is with terrestrial services, this interference appears to be merely a cost of doing business or acceptable collateral damage. Private and government GPS users, who also relied upon and benefited from prior requirements and the resulting imperative to avoid MSS in-band interference, will be similarly affected. Worse, according to LightSquared, they are to be blamed for failing to foresee the eventual rollback by the FCC of rules protecting the integrity of what for decades was a satellite band.

### **LightSquared's Plans Are New and Not an Outgrowth of Historic FCC Authority**

Chairman Genachowski recently stated that it "should be no surprise to anyone involved in the LightSquared matter" that the terrestrial component of the network Harbinger planned would cover 90 percent of the United States.<sup>34/</sup> To set the record straight, LightSquared's first, limited description of its new business model was included in the public record for the first time days before, and as a condition of, the release of the Commission's *March 2010 Order*.<sup>35/</sup> Prior to March 2010, LightSquared's intentions were hardly longstanding or transparent. In response to Harbinger's application for transfer of control, the FCC's International Bureau asked Harbinger in 2009 about how it planned to provide ATC. Much of Harbinger's response was provided in redacted format, hiding from the public how it intended to offer ATC.<sup>36/</sup> Since Harbinger's

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<sup>33/</sup> See, e.g., Peter B. de Selding, *Inmarsat Awaits Harbinger Payment for Interference Mitigation*, SPACE NEWS, May 13, 2010.

<sup>34/</sup> *Genachowski Letter* at 2.

<sup>35/</sup> Letter from Henry Goldberg and Joseph A. Godles, Counsel for the Harbinger Capital Partners Funds, to Marlene H. Dortch, Secretary, FCC, IB Docket No. 08-184 (Feb. 26, 2010) (*see* Attachment). Harbinger's business plan was also appended to the *March 2010 Order*. *SkyTerra Communications, Inc., Transferor, and Harbinger Capital Partners Funds, Transferee, Applications for Consent to Transfer of Control of SkyTerra Subsidiary, LLC*, Memorandum Opinion and Order and Declaratory Ruling, 25 FCC Rcd 3059 (2010) ("*March 2010 Order*") (Appendix B – Harbinger Business Plan Letter of March 26, 2010 at Attachment 1).

<sup>36/</sup> See Response of Harbinger, IB Docket No. 08-184 (filed Dec. 11, 2009).

commitment to cover 90 percent of the country was only made public days before the *March 2010 Order*, interested parties did not, as the Chairman asserts, have “ample time to comment in advance of [the March 2010] orders.”<sup>37/</sup>

Not only did the FCC fail to provide third parties with ample time to consider Harbinger’s plan to build a nationwide terrestrial network prior to the *March 2010 Order*, it declined to consider possible interference issues on its own motion either – neglecting its obligation to ensure that GPS remained protected from the new terrestrial network Harbinger envisioned, not to mention its 2005 commitment to proactively protect GPS from harmful interference by consulting with affected government users. Nor did the *March 2010 Order* purport to modify, or even suggest modification of, the Commission’s policies requiring that terrestrial services be ancillary to and integrated with a primary satellite service, the fundamental requirements that the Commission decided to waive in January 2011.

After the *March 2010 Order*, in the next significant proceeding related to MSS, FCC Docket No. 10-142, The U.S. GPS Industry Council, in comments filed in September 2010, extensively discussed its concerns with “overload” of GPS receivers by the sort of dense, high-powered terrestrial network contemplated by LightSquared’s business plan and the Commission’s July 2010 *Notice of Proposed Rulemaking*.<sup>38/</sup> The U.S. GPS Industry Council has consistently raised the overload issue since, as have the NTIA and other government users, especially following the November 18, 2010 Letter.

In short, if the FCC intended in its *March 2010 Order* to make a change in policy that substantially increased the risk of interference to GPS, it did so in a cryptic fashion, with no record to support it. For LightSquared or the FCC to suggest that these decisions, and the industry response to them, justify imposing harmful interference, or mitigation costs, on government and private GPS users defies sound public policy and proper administrative procedure. Given the substantial government and private investment in GPS, the FCC owes much more to these parties than an admonition, much less more serious consequences, for supposedly failing to “read the tea leaves.”

### **Under Longstanding Commission Policy, LightSquared Is Obligated to Eliminate, or Bear All Costs of Eliminating, Harmful Interference to GPS**

Whatever the history, or debatable assertions about it, the responsibility for eliminating interference to GPS, or bearing the costs of eliminating it, rests squarely with LightSquared. When the FCC authorized ATC, it made it clear that in the event that services in bands adjacent to ATC operations, like GPS, suffered harmful interference, it would be *the responsibility of the*

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<sup>37/</sup> *Id.* Even if there was “ample time” to comment on the Harbinger plan to cover 90 percent of the United States, the *March 2010 Order* left in place the integrated service requirement, meaning that regardless of the scope of LightSquared’s terrestrial coverage, it could not practically provide terrestrial service without harming its own satellite operations. Once the obligation to provide integrated service was eliminated, it was no longer so constrained.

<sup>38/</sup> See Comments of The U.S. GPS Industry Council in Response to Notice of Proposed Rulemaking and Notice of Inquiry, ET Docket No. 10-142 (filed Sept. 15, 2010).

ATC operator, not the GPS provider, to cure that interference.<sup>39/</sup> The FCC's rules are crystal clear on this point – Section 25.255 of the Commission's rules states:

If harmful interference is caused to other services by ancillary MSS ATC operations, either from ATC base stations or mobile terminals, the MSS ATC operator must resolve any such interference.<sup>40/</sup>

No Commission decision, in March 2010, January 2011, or otherwise, has modified this rule. LightSquared has already acknowledged this by agreeing to pay Inmarsat for the costs of protecting Inmarsat's customers from interference within the MSS band. The same obligation applies to government and private industry users of GPS, who have invested many billions of dollars in GPS long before Harbinger arrived on the scene in March 2010. The Commission has provided no sound basis for deviating from that approach – that burden remains squarely with LightSquared.

Consistent with the FCC's *ex parte* rules, a copy of this letter has been filed in the above-referenced application file via IBFS. If you have any questions, please let me know.

Sincerely,



James A. Kirkland  
Vice President and General Counsel

cc: (each via e-mail)

Julius Knapp  
Jamie Barnett  
Paul deSa  
Sankar Persaud  
Tom Peters

Michael Ha  
Mark Settle  
John Kennedy  
Robert Nelson  
Edward Lazarus

Walter Johnson  
Brian Butler  
Paul Murray  
Pat Amodio  
Rick Kaplan

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<sup>39/</sup> 2003 ATC Decision ¶ 183 (requiring L-band ATC base stations and mobile terminals to meet certain out-of-band emission levels and requiring MSV to operate its ATC base stations with a maximum transmit power of 23.9 dBW EIRP, per sector, and incorporate a 1.2 MHz guard band “in order to demonstrate that its base stations will be capable of meeting the -70 dBW/MHz and -80 dBW for discrete spurious emissions measured in a 700 Hz bandwidth to protect GPS”); *id.* ¶ 188 (requiring L-band ATC operators to maintain records and submit reports to the Commission in order to resolve interference complaints received from other operators and to ensure compliance with interference rules).

<sup>40/</sup> 47 C.F.R. § 25.255.

**CERTIFICATE OF SERVICE**

I, David S. Keir, hereby certify that a copy of the foregoing “Opposition of the U.S. GPS Industry Council to LightSquared, Inc. Petition for Declaratory Ruling” is being sent on this 27th day of February, 2012, via first class, U.S. Mail, postage prepaid, to the following:

Jeffrey J. Carlisle  
Executive Vice President  
Regulatory Affairs & Public Policy  
LightSquared  
10802 Parkridge Boulevard  
Reston, VA 20191-4334

*s/ David S. Keir*

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David S. Keir