Key Events in LightSquared-GPS Proceeding

June 22, 2015 – LightSquared representatives meet with FCC officials to discuss the company's plan to test the compatibility of terrestrial broadband and GPS through an outside consultant, Roberson and Associates. The GPS Innovation Alliance (GPSIA) responds, saying it "supports a consensus-driven process, including all government and non-government stakeholders, to clearly identify and address remaining technical issues raised by LightSquared proposals to repurpose mobile satellite spectrum for terrestrial broadband use." GPSIA added, "While we welcome the participation of LightSquared consultants, any further analysis of the technical issues should be informed by input from all of the relevant stakeholders, rather than the one-off efforts of an interested party."

June 1, 2015 – The FCC solicits comments on LightSquared's bid for regulatory approval of its emergence from bankruptcy and the transfer of its licenses and authorizations to a successor entity to be known as New LightSquared.

April 6, 2015 – As a condition of its bankruptcy exit plan, LightSquared asks the FCC to approve transferring its spectrum and other authorizations to a successor entity to be known as New LightSquared.

March 26, 2015 – U.S. Bankruptcy Court Judge for the Southern District of New York, Shelley C. Chapman, approves LightSquared's bankruptcy exit plan after more than a dozen earlier plans have failed to gain approval.

September 18, 2014 – The Department of Transportation (DOT) holds its first open public workshop to discuss implementation of a GPS Adjacent Band Compatibility (ABC) Assessment initiative, which will provide a detailed technical assessment of the potential GPS interference arising from LightSquared's proposals to repurpose mobile satellite spectrum for nationwide terrestrial mobile broadband use. It is the first of several workshops, which initially were suggested when the FCC denied LightSquared's plan to use spectrum adjacent to GPS for a terrestrial wireless broadband network. Subsequent workshops are held on December 4, 2014 and March 12, 2015.

July 1, 2014 – The National Telecommunications and Information Administration (NTIA) submits a filing to the FCC, saying that after participating in several meetings with various government agencies regarding LightSquared's proposal to operate terrestrial wireless handsets in the 1626.5-1660.5 MHz band and its potential impact on GPS: "the agencies are not in complete agreement that the *Uplink Assessment* has adequately addressed these issues to support a recommendation to NTIA and the FCC." A September 18, 2013 letter from DOT is attached to the filing, reading in part: "NTIA and FCC should seek to ensure that LightSquared's proposals are adequately supported by data, and should not be in haste to support or approve any such approval without a full understanding of the potential impacts."

June 20, 2014 – The FCC holds an all-day workshop on "GPS Protection and Receiver Performance." GPS manufacturers participate in the event, which FCC Chairman Tom Wheeler characterizes as being "about the best way to protect GPS operations in the context of evolving technology and adjacent spectrum activities."

April 14, 2014 – LightSquared files two additional reports prepared by Alion Science and Technology that purport to demonstrate that 4G LTE wireless operations could be conducted in the 1675-1680 MHz

band on a shared basis with earth stations operated in that band by the National Oceanic and Atmospheric Administration (NOAA).

January 30, 2014 – LightSquared files a report with the FCC, purporting to confirm the feasibility of sharing spectrum with NOAA systems.

December 23, 2013 – GPSIA files an *ex parte* letter with the FCC, reiterating its view that "the Commission should not permit the operations proposed in LightSquared's pending requests unless and until . . . technical interference concerns have been resolved in transparent, public notice and comment rulemaking proceedings."

April 29, 2013 – The FCC approves LightSquared's request to test the feasibility of sharing the 1675-1680 MHz band with federal agencies, including the NOAA.

February 13, 2013 – The GPS Innovation Alliance launches. The Alliance states that it "recognizes the ever increasing importance of Global Positioning System (GPS) and other Global Navigation Satellite System technologies to the global economy and infrastructure and is firmly committed to furthering GPS innovation, creativity and entrepreneurship." The Alliance says it will build on the achievements of both the Coalition to Save Our GPS and the long-time GPS advocacy and information group, the United States GPS Industry Council (USGSIC).

September-November 2012 – LightSquared petitions the FCC to expand the ground-based use of the mobile satellite service (MSS) spectrum adjacent to GPS. LightSquared also requests permission to share spectrum currently controlled by federal government agencies, saying it would relinquish its use of the MSS spectrum directly adjacent to GPS.

May 14, 2012 – LightSquared files for bankruptcy in May 2012, which the company's CFO says "is intended to give LightSquared sufficient breathing room to continue working through the regulatory process that will allow us to build our 4G wireless network."

February 15, 2012 – The FCC's International Bureau issues a Public Notice seeking comment on the NTIA letter and on proposals to 1) rescind the January 2011 waiver authorizing LightSquared to proceed with its planned wireless network, subject to demonstration of non-interference to GPS; and 2) modify LightSquared's satellite license to prohibit LightSquared from building a ground-based wireless network.

February 14, 2012 – LightSquared and the Coalition to Save Our GPS (Coalition) issue statements reacting to the NTIA recommendations. LightSquared says it "remains committed to finding resolution" and asserts that the NTIA's recommendation relied on "flawed conclusions." The Coalition calls the release of the NTIA's conclusions "a pivotal moment," says that the FCC "has acted appropriately," and notes that it "stands ready to work with the NTIA and the FCC to address the important policy issues relating to longer term use of satellite spectrum and reduction of potential interference to maximize the efficient use of all satellite spectrum."

February 14, 2012 – As a follow-up to the January 13, 2012 letter below, NTIA releases assessments by the National Space-Based PNT Systems Engineering Forum (NPEF) and Federal Aviation Administration (FAA) finding that LightSquared's proposed plans would cause widespread interference to GPS.

February 14, 2012 – NTIA writes the FCC to say that its "independent evaluation of the testing and analysis" of LightSquared's proposed plans concludes "that LightSquared's proposed mobile broadband network will impact GPS services and that there is no practical way to mitigate the potential interference at this time. Furthermore, while GPS equipment developers may be able to mitigate these issues via new technology in the future, the time and money required for federal, commercial, and private sector users to replace technology in the field and the marketplace, on aircraft, and in integrated national security systems cannot support the scheduled deployment of terrestrial services proposed by LightSquared."

February 8, 2012 – Both the Airlines for America (A4A) and the Aircraft Owners and Pilots Association (AOPA), in testimony before the Subcommittee on Aviation of the House Transportation and Infrastructure Committee, call for an end to consideration of LightSquared's proposals. A4A's Senior Vice President of Safety, Security and Operations, Thomas L. Hendricks, testifies that LightSquared's plans would have "ruinous effects on aviation" and calls for LightSquared's proposal to be withdrawn. AOPA's President, Craig Fuller, testifies that, "We strongly urge the FCC to rescind waivers that keep this cloud" over the aviation industry.

February 8, 2012 – Department of Transportation Deputy Secretary John Porcari testifies before the Subcommittee on Aviation of the House Transportation and Infrastructure Committee that LightSquared's proposed terrestrial network is "not compatible" with numerous GPS-enabled aviation safety-of-flight operations and that "there appears to be no practical solutions or mitigations" that would permit LightSquared "to operate in the next few months or years without significantly interfering with GPS." Referring to the most recent tests, Porcari says: "We worked with LightSquared. They were part of developing the testing protocols. They were a part of the testing itself. And the results, I think, are very clear cut."

January 19, 2012 – U.S. Senator Pat Roberts (R-Kan.) calls on the FCC to deny licensing to LightSquared after more testing confirms interference with GPS. Says Roberts, "While I will continue to support efforts to expand broadband across the U.S., particularly in underserved rural parts of Kansas, any proposal that could have negative impacts on aviation, navigation and safety, is unacceptable and cannot go forward without unequivocally proving that it doesn't interfere with these systems. The results are clear – the FCC should deny this license."

January 13, 2012 – Deputy Secretary of Defense Ashton B. Carter and Deputy Secretary of Transportation John D. Porcari, co-chairs of the National Executive Committee for the PNT write the NTIA that it is the unanimous conclusion of the nine PNT federal departments and agencies that both LightSquared's original and modified plans "would cause harmful interference to many GPS receivers" and that "there appear to be no practical solutions or mitigations" that would solve the interference problem. The letter states that "no additional testing is warranted at this time."

December 31, 2011 – President Obama signs the National Defense Authorization Act for Fiscal Year 2012, which includes a provision introduced by U.S. Rep. Mike Turner (R-Ohio) prohibiting the FCC from approving LightSquared's plans unless it can determine that there will be no interference to military GPS devices and requiring the Secretary of Defense to report to Congress on interference with the military's use of GPS caused by a commercial communications service.

December 23, 2011 – President Obama signs the Consolidated Appropriations Act for 2012 (Omnibus), which includes language introduced by U.S. Reps Steve Austria (R- Ohio) and Kevin Yoder (R- Kan.)

prohibiting the FCC from spending money to give LightSquared a go-ahead until the agency has resolved concerns over the potential for interference to GPS.

December 14, 2011 – In a statement, the technical steering group comprised of the nine federal departments and agencies that make up the Space-based Positioning, Navigation, and Timing (PNT) writes that preliminary analysis of the tests required by the NTIA and FCC "found no significant interference with cellular phones" but that the "testing did show that LightSquared signals caused harmful interference to the majority of other tested general purpose GPS receivers."

November 8, 2011 – The Coalition, in a filing with the FCC, calls on the Commission to "promptly rule" that LightSquared can never use the upper mobile satellite spectrum (MSS) band for high-powered terrestrial operations. Such use of the upper band "should be taken off the table now," the filing said.

October 31 - November 4, 2011 – The National Space-Based Positioning, Navigation, and Timing Systems Engineering Forum (NPEF) conducts the NTIA and FCC-mandated tests at the White Sands Missile Range in New Mexico.

September 21, 2011 – The Coalition to Save Our GPS responds to the LightSquared/Javad announcement, saying LightSquared has "oversimplified and greatly overstated the significance of the claims of a single vendor to have 'solved' the interference issue," and calls for testing of the prototype in the next round of testing of high-precision GPS receivers to verify LightSquared's claims.

September 21, 2011 – LightSquared issues a press release announcing it has signed an agreement with Javad GNSS Inc. to develop a system that it says will eliminate related interference issues for high-precision GPS devices.

September 20, 2011 – The Coalition to Save Our GPS calls on LightSquared to step forward and accept responsibility for bearing the full costs associated with any transition required to implement any proven solution to interference issues.

September 20, 2011 – Seven Republican members on the House Science, Space, and Technology Committee send letters to the White House Office of Science and Technology Policy (OSTP) and to the Office of Management and Budget (OMB) requesting documents related to the Administration's involvement with LightSquared.

September 16, 2011 – U.S. Department of Defense (DoD) issues a press release on concerns DoD officials have over LightSquared's planned network. The release reads, in part: "LightSquared's new terrestrial network has the potential to wreak havoc on GPS systems that are vital to the military and used in a host of applications, Teresa Takai, the DoD's chief information officer, and Air Force Gen. William L. Shelton, commander of Air Force Space Command, told members of the House Armed Services Committee's Subcommittee on Strategic Forces yesterday."

September 15, 2011 – House Aviation Subcommittee Chairman Thomas Petri (R-Wis.), in a letter to LightSquared CEO Sanjiv Ahuja, complains of LightSquared's latest marketing campaign that inaccurately claims that GPS services are using the company's spectrum.

September 15, 2011 – House Armed Services Subcommittee on Strategic Forces holds a hearing where witnesses warn of high costs and national security concerns associated with the LightSquared network.

U.S. Air Force General William Shelton said: "Based on the test results and analysis to date, the LightSquared network would effectively jam vital GPS receivers . . . . And to our knowledge thus far, there are no mitigation options that would be effective in eliminating interference to essential GPS services in the United States." When asked about cost, Shelton said it would "be very safe to say that the cost would be in the b's – billions of dollars."

September 13, 2011 – FCC issues a public notice calling for further testing of the LightSquared network and its revised roll-out plan.

September 9, 2011 – Lawrence Strickling, head of NTIA, sends a letter to the Departments of Defense and Transportation, calling for further testing of the LightSquared network to conclude by November 30. He calls for testing of cellular and personal/general navigation devices initially, noting that additional testing will be required for high-precision receivers once new equipment that might address the interference issue is available for testing.

September 8, 2011 – U.S. House Science, Space and Technology Committee holds a hearing entitled "Impacts of the LightSquared Network on Federal Science Activities," where representatives from U.S. agencies call for more testing of LightSquared's revised plan.

September 7, 2011 – In a filing with the FCC, LightSquared offers a revised roll-out plan – its third of the year – to limit the power level from its signals.

August 10, 2011 – The FCC's Office of Engineering and Technology (OET) requests via letter additional technical information from LightSquared and the U.S. GPS Industry Council.

August 3, 2011 – James Schlesinger, chairman of the National Executive Committee for Space-Based Positioning, Navigation & Timing and Dr. Bradford Parkinson, co-chair, write in an FCC filing that LightSquared's plans would cause "great harm" and ask the FCC to rescind its conditional approval for the project.

July 29, 2011 – Reps. Ed Markey (D-Mass.) and Brian Bilbray (R-Calif.) urge FCC Chairman Julius Genachowski in a letter "to consider carefully the interference concerns regarding LightSquared's network, which have been raised by the GPS industry and federal agencies who are responsible for our security and our national wellbeing."

July 19, 2011 – The European Commission sends a letter to the FCC expressing "deep concerns" about possible interference by LightSquared to Galileo, Europe's planned space-based navigation system, and to aviation navigation equipment.

July 12, 2011 – FAA report warns that LightSquared's revised roll-out plan does not sufficiently mitigate interference with some GPS devices used in aviation and that in the next 10 years could cause 794 deaths and more than $72 billion in additional costs to U.S. taxpayers.

July 1, 2011 – The Coalition to Save Our GPS response to LightSquared, "LightSquared's 'Recommendation' Document: A Review," points out that LightSquared's new proposal had never been discussed with the FCC-mandated Technical Working Group (TWG) during its months of testing, questions the credibility of LightSquared's new proposal given the TWG test results and asks what LightSquared had disclosed to the FCC when it sought the conditional waiver.

June 30, 2011 – Simultaneously with the TWG report, LightSquared files a document, "Recommendation of LightSquared Subsidiary LLC," in which it agrees that the tests show substantial interference in the higher MSS band, but proposes an entirely new deployment scenario that centers on using the lower MSS band and castigates "the commercial GPS receiver industry."

June 30, 2011 – The TWG report is filed, showing widespread GPS interference, and the FCC's International Bureau seeks comment on the same.

June 23, 2011 – The Transportation Construction Coalition (TCC), representing 29 national construction industry groups, sends a letter to Department of Transportation Secretary Ray LaHood requesting his "active engagement to block the Federal Communication Commission from considering this unusual waiver."

June 23, 2011 – The Senate Armed Services Committee's National Defense Authorization bill for fiscal year 2012 includes language that would require the Secretary of Defense to report quarterly to Congress if any commercial communications services are causing or will cause widespread interference with national security GPS receivers. It expresses the sense of Congress that reliable provision of navigation and timing signals by GPS satellites owned and operated by the Department of Defense is critical to the economy, public health and safety, and the national security of the United States.

June 23, 2011 – In a hearing of the House Transportation and Infrastructure Subcommittee on Aviation and the Subcommittee on the Coast Guard and Maritime Transportation, representatives of three members of the Coalition to Save Our GPS call on Congress to put a stop to deployment of LightSquared's planned broadband network in spectrum that threatens to disrupt GPS signals. Top officials from the Departments of Defense and Transportation also express strong concerns.

June 22, 2011 – An economic study by Dr. Nam D. Pham of the Washington, D.C.-based NDP Consulting Group finds that more than 3.3 million U.S. jobs in agriculture and industries rely heavily on GPS technology and the disruption of interference with GPS posed by LightSquared's planned deployment of 40,000 ground stations threatens direct economic costs of up to $96 billion to U.S. commercial GPS users and manufacturers.

June 20, 2011 – LightSquared announces what it claims is a "comprehensive solution to the problem of interference with GPS." The Coalition to Save Our GPS issues a statement explaining that it's no solution at all, describing it as a "Hail Mary" move.

June 15, 2011 – The National Public Safety Telecommunications Council (NPSTC), which represents first responders nationwide, files a report confirming that "interference to public safety operations will occur" if LightSquared's plans are allowed to proceed. According to the report, "Denial-of-GPS-Service to portable devices represents perhaps the largest concern to the Public Safety market. Officers rely on 'Man-Down' signaling for immediate response under life and death situations. In certain circumstances, an officer may be unable to voice their location; GPS tracking is the only backup they may have for rescue or aid."

June 14, 2011 – U.S. Rep. Charles F. Bass (R-N.H.) and two colleagues send a letter to the FCC urging it to rescind LightSquared's waiver if testing and comment periods fail to show conclusive evidence that interference will not occur.

June 10, 2011 – Thirty-six U.S. Representative co-sign a letter to the FCC outlining the importance of GPS in aviation and asking the Commission to take all necessary steps to ensure the protection of GPS.

June 9, 2011 – The National Space-Based PNT Advisory Board holds a meeting to discuss results of two sets of extensive government tests of LightSquared's impact on GPS signal. The results are devastating. In 46 tests "all the GPS receivers" were affected by LightSquared's signals, according to FAA official Deane Bunce. Peter Marquez, vice president at Orbital Sciences Corp., says that "Time travel is more likely . . . than mitigating this issue."

June 9, 2011 – In written testimony to the Senate Armed Services Committee, Leon Panetta vows to "work with the FCC to ensure GPS remains accessible to support national security, public safety, and the economy" if he is confirmed as Secretary of Defense.

June 3, 2011 – RTCA, a nonprofit research group, submits a report to the FAA, finding that "The impact of a LightSquared . . . deployment is expected to be complete loss of GPS receiver function."

May 27, 2011 – Deere & Co. reports to the FCC that during testing it suffered "a complete loss of service" to the GPS systems of its tractors at ranges between four and 22 miles of a LightSquared tower.

May 25, 2011 – Sixty-six members of the U.S. House of Representatives sign a letter to the FCC requesting that it only grant final approval to LightSquared if the company can prove its service will not interfere with GPS technology.

May 20, 2011 – Led by Sens. Pat Roberts (R-Kan.) and Ben Nelson (D-Neb.), 33 U.S. Senators send a letter to the FCC asking Chairman Julius Genachowski to revoke a waiver granted to LightSquared and to do all that is necessary to protect GPS.

May 14, 2011 – National Defense Authorization Act (NDAA) passes in committee and includes language introduced by U.S. Rep. Michael Turner (R-Ohio) requiring the Secretary of Defense to notify Congress if he determines there is widespread interference with the military's use of GPS.

May 11, 2011 – New Mexico's E-911 Program Director Bill Range sends a letter to the FCC reporting that during testing a LightSquared tower knocks out GPS signals in some areas.

March 25, 2011 – Top officials from the U.S. Departments of Transportation and Defense send a letter to the FCC expressing concerns over GPS interference by LightSquared, "strongly" advising the FCC to perform a "comprehensive study of all the potential interference" issues to GPS.

March 23, 2011 – Lt. Gen. Michael Basla expresses Air Force concerns that LightSquared could interfere with GPS receivers. "Can you imagine if we have to change a half billion receivers?" he asks at a Greater Colorado Springs Chamber of Commerce meeting.

March 23, 2011 – The Coalition to Save Our GPS announces its membership has more than doubled in two weeks, with new members such as UPS, TomTom, the American Car Rental Association, and four key aviation groups.

March 15, 2011 – Gen. William L. Shelton, U.S. Air Force Space Command, testifies before the Subcommittee on Strategic Forces of the House Committee on Armed Services. He says, "We believe from what we've seen thus far that virtually every GPS receiver out there would be affected."

March 11, 2011 – U.S. House Appropriations Subcommittee on Commerce, Justice, and Science holds hearing in which Jim Kirkland, vice president and general counsel to Trimble, a founding member of the Coalition, testifies. He says "the new system [should] not be deployed unless it can be conclusively guaranteed that the GPS users are fully protected from radio interference."

March 10, 2011 – Coalition to Save Our GPS launches.

January 26, 2011 – The FCC's International Bureau grants a conditional waiver to LightSquared authorizing expansion of terrestrial use of the MSS spectrum immediately neighboring that of GPS, subject to demonstration of non-interference to GPS.

January 21, 2011 – A LightSquared spokesman states that it "always knew" there would be interference to GPS.

January 12, 2011 – NTIA submits a letter to Chairman Genachowski expressing its concerns with overload interference to GPS from LightSquared's proposal, cautioning that LightSquared's proposal "raises significant interference concerns that warrant full evaluation . . . to ensure that LightSquared services do not adversely impact Global Positioning System (GPS) and Global Navigation Satellite System (GNSS) receivers, maritime and aeronautical emergency communication systems, and Inmarsat receivers used by the Federal agencies."

January 12, 2011 – The Department of Defense writes to the FCC Chairman raising national security concerns with LightSquared's proposed operations.

December 2, 2010 – The U.S. GPS Industry Council (USGIC) submits comments to the FCC that LightSquared's proposal effectively seeks a reallocation of the L-Band MSS spectrum to provide a co-primary allocation for terrestrial wireless service, causing the potential for harmful interference to adjacent GPS L-band operations and users. It attached comments submitted on September 15, 2010 in a separate proceeding that proposed to potentially expand terrestrial services in the L-Band, noting the degradation that expanded service could cause to GPS reception.

November 19, 2010 – The FCC seeks comment on LightSquared's "updated" business plan, noting that the request is an expansion of LightSquared's Ancillary Terrestrial Component (ATC) authority.

November 18, 2010 – LightSquared submits an "updated" business plan and applies for a modification of its ATC authorization. For the first time, LightSquared states that it plans to build a "nationwide network of 40,000 terrestrial base stations" operating on its MSS spectrum to provide free standing, nationwide broadband wireless services.

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