



AIRCRAFT OWNERS AND PILOTS ASSOCIATION

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Statement of Craig Fuller, President and CEO

Aircraft Owners and Pilots Association

Before the

**Subcommittee on Aviation and Subcommittee on Coast Guard and Maritime
Transportation**

U.S. House of Representatives

Concerning

**“GPS Reliability: A Review of Aviation Industry Performance, Safety Issues,
and Avoiding Potential New and Costly Government Burdens”**

June 23, 2011

Statement Highlights:

1. The availability of a reliable Global Positioning System (GPS) signal is critical to the safety of the national air transportation system, and multiple studies have demonstrated that signals transmitted by LightSquared on frequencies close to those used by GPS cause significant interference with the aviation GPS signal.
2. Since LightSquared requested a modification of its authority for ancillary terrestrial broadcasting, AOPA has been clear and on the record that, based on proven interference, LightSquared should not be allowed to proceed with its November 2010 plan to operate in the bands of 1525 to 1559 MHz and 1626.5 to 1660.5 MHz frequency range.
3. The FCC received AOPA's strongly stated concerns about the threat to GPS *prior to* that agency's granting of an unprecedented waiver to LightSquared on January 26, 2011. In addition, the Department of Transportation, Department of Defense, National Telecommunications and Information Administration (NTIA) and Department of Homeland Security have all raised significant concerns about interference from the LightSquared system on GPS frequencies.
4. Thirty-three U.S. Senators have sent a letter to the FCC expressing their concern and requesting that "the FCC ensure the uninterrupted operation of our nation's critical GPS system." And 80 Members of the U.S. House Representatives have also signed letters to the FCC expressing their concern.
5. We call on Congress to fully investigate just how this process has proceeded to a point where the nation's GPS system is being put at risk by a single agency in the face of overwhelming government, private sector and citizen concern.
6. In addition we recommend that, in view of the importance of GPS to the safety and utility of our national transportation system, the FCC rescind the waivers granted to LightSquared immediately and that Congress require the FCC to receive FAA and DOD concurrence before providing any approvals of the LightSquared application.

The Aircraft Owners and Pilots Association (AOPA) is a not-for-profit individual membership organization representing more than 405,000 members. AOPA's mission is to effectively represent the interests of its members as aircraft owners

and pilots concerning the economy, safety, utility, and popularity of flight in general aviation (GA) aircraft.

Each year, 170 million passengers fly using personal aviation, the equivalent of one of the nation's major airlines, contributing more than \$150 billion to U.S. economic output, directly or indirectly, and employing nearly 1.3 million people whose collective annual earnings exceed \$53 billion.

While AOPA members fully support the expansion of broadband services, especially to underserved and rural communities, such expansion cannot take place at the expense of the safety of the hundreds of millions of Americans who rely on our national air transportation system.

Those Historic Questions....

- What did they know?
- When did they know it?
- (to which we would add) When will they get it?

On behalf of all who use the air transportation system, we want to be very clear: Putting the nation's GPS system – which is a national treasure and absolutely critical to the safety of airborne transportation of all types – at risk is unacceptable.

For one agency of the federal government to have engaged in a procedural process at an accelerated pace that puts our GPS system at risk is confounding. That the same agency actually issued waivers to allow a company to proceed in the face of clear and substantial objections from users, including multiple federal agencies and millions of citizens, is inexplicable.

We call on the Congress, on behalf of millions of Americans who utilize and benefit from the GPS system, to stop this process now and ask for a full investigation of how we have arrived at this point.

Statements suggesting “everyone knew what was being planned” are absurd on their face. And, suggesting fixes on an ad hoc basis while providing regulatory approvals to march forward gives our community real concern with regard to whether the full implications of the actions already taken are understood by the agency granting the waivers. Frankly, there is far too much at stake to simply hope the FCC can sort out the facts on its own.

Importance of GPS to pilots

General aviation pilots rely on GPS in all phases of flight. From takeoff through landing, GPS provides navigation information that allows for the safe and efficient operation of general aviation aircraft for business and personal transportation as well as medical, firefighting, law enforcement, humanitarian, and agricultural operations. Approximately 70 percent of AOPA's members rely on GPS as their primary means of navigation while many of the remainder use it as a backup form of navigation.

In addition, thousands of GPS-based instrument approaches are in use at airports nationwide, with more such approaches being added each year. For general aviation, the availability of GPS and Wide Area Augmentation System (WAAS) precision instrument approaches has allowed all-weather access into more than 2,000 airports nationwide at a fraction of the cost of traditional ground-based approaches. WAAS represents the world's only satellite-based augmentation system certified for 24-hour per day operations. This system has been embraced by the general aviation community, with more than 74,000 WAAS units sold to date.

As of March 2011, there were a total of 9,748 approaches that rely on GPS operating in the United States, compared to only 4,825 ground-based instrument approaches. Without reliable access to GPS in all areas and at all altitudes, thousands of airports would no longer be accessible in low weather conditions, critically diminishing the utility and safety of general aviation flying.

GPS is also a foundational technology in the FAA's ongoing efforts to modernize the air traffic system, an effort known as NextGen. As the FAA continues to move away from a ground-based system and toward a satellite-based system, pilot and air traffic controller reliance on GPS will necessarily increase exponentially, making it vital that we protect the integrity of the GPS system not only now, but also far into the future.

Incompatibility of LightSquared proposal with GPS

Multiple reports have shown that the broadband communications network proposed by LightSquared causes serious interference with the GPS signals that are integral to the safety of the national air transportation system. These studies have

demonstrated effects ranging from the inability to acquire and receive GPS signals over large areas to interference with signals at low altitudes—those most critical for safety in low weather conditions.

A special advisory committee of the not-for-profit organization RTCA that serves as a federal advisory panel on navigation and air-traffic management policy concluded that elements of the cellular network proposal by LightSquared are “incompatible” with aviation because of GPS signal interference. AOPA, a member of RTCA, served on the committee that conducted the review.

Similarly, a report issued by the National Space-Based Positioning, Navigation, and Timing Systems Engineering Forum concluded that LightSquared’s system “cannot successfully coexist with GPS.”

An FCC-mandated report from LightSquared detailing the interference problem has been delayed until July 1 after LightSquared received an extension of the original June 15 deadline. But a June 20 press release from LightSquared acknowledges the problem of interference.

With so much of the early evidence showing that LightSquared’s proposed network would potentially endanger nearly every flight operating in U.S. airspace, it seems evident that no further development of this system can be allowed.

While some reports have indicated that modifications to the proposed communications network might reduce the interference problem, no acceptable solutions have been identified at this time. While some have begun to suggest “fixes” that include narrowing the bandwidth used by LightSquared and adding filters to GPS receivers, there is absolutely no evidence that these actions would effectively safeguard the GPS system at a time when reliance on that system is rapidly increasing. Indeed, the “solution” proposed by LightSquared in its June 20 press release indicates that, even when moving its signals to a lower block of frequencies, some high-precision GPS receivers would continue to experience interference. We have also heard preliminary evidence that some levels of interference would still be possible with mass market GPS receivers, with unknown effects.

Clearly, such partial solutions are inadequate. Much more study and testing is needed before any potential solution can be implemented, and with the safety of so many people in the balance, extreme caution must be used in determining what constitutes an adequate resolution.

Any potential solution must ensure that existing aviation GPS units can continue to acquire and receive GPS signals with at least the same degree of reliability as they do today. In addition, the burden for implementing any solution must not fall on aircraft operators. Requiring changes to FAA-approved equipment, the purchase of new equipment such as filters, or procedural changes to the way pilots operate would be wholly unacceptable, creating unnecessary expense and potential new safety concerns.

Conclusion

On behalf of the members of AOPA, thank you for your leadership in protecting the integrity of the GPS system that forms a critical safety component of the national air transportation system. We urge you to move expeditiously in halting the proposed development of the LightSquared broadband network. We strongly recommend that the FCC immediately rescind the waivers issued to LightSquared in light of the negative impacts on GPS already identified by RTCA and others. We also ask that Congress require the FCC to obtain concurrence from FAA and DOD before approving any new or revised LightSquared application. Further, we ask Congress to investigate the process that has brought us to a point where the nation's entire GPS system is threatened.

Craig L. Fuller

Craig L. Fuller has enjoyed an extensive and varied career in public service, government affairs, public policy, and association management. He served in both the Reagan and first Bush administrations before moving into government affairs consulting and later into association leadership, heading the National Association of Chain Drug Stores before accepting his current position as President and CEO of the Aircraft Owners and Pilots Association (AOPA). He is an active pilot with more than 40 years aviation experience. He owns and operates a Beechcraft Bonanza A36 and flies numerous other aircraft, including a Cessna Citation jet, for both business and personal transportation.

Education

M.A., Urban Planning, Occidental College	1974
Fellowship, Coro Foundation	1974
B.S., Political Science, University of California Los Angeles	1973

Professional Experience

Aircraft Owners and Pilots Association President and CEO	2009-Present
APCO Worldwide Executive Vice President	2007
The Fuller Company LLC Chairman and CEO	2006
National Association of Chain Drug Stores President and CEO	1999

Korn/Ferry International Managing Partner	1996
Philip Morris Companies Inc. Senior Vice President	1992
Wexler, Reynolds, Fuller, Harrison, Schule Inc. President	1989
President-Elect George Bush Transition Co-Chairman	1988
Office of Vice President George Bush Chief of Staff	1985
Office of President Ronald Reagan Assistant to the President for Cabinet Affairs	1981
Deaver & Hannaford Vice President	1977
Pacific Mutual Manager, Public Affairs	1974

Memberships

Aircraft Owners and Pilots Association, Board of Trustees
U.S. Chamber of Commerce, Board of Directors and Executive Committee
Stillwater Mining Corporation, Board of Directors
PharmMD, Board of Directors

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
Truth in Testimony Disclosure

Pursuant to clause 2(g)(5) of House Rule XI, in the case of a witness appearing in a nongovernmental capacity, a written statement of proposed testimony shall include: (1) a curriculum vitae; and (2) a disclosure of the amount and source (by agency and program) of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) received during the current fiscal year or either of the two previous fiscal years by the witness or by an entity represented by the witness. Such statements, with appropriate redaction to protect the privacy of the witness, shall be made publicly available in electronic form not later than one day after the witness appears.

(1) Name:
CRAIG FULLER

(2) Other than yourself, name of entity you are representing:
AIRCRAFT OWNERS & PILOTS ASSOCIATION

(3) Are you testifying on behalf of an entity other than a Government (federal, state, local) entity?

YES If yes, please provide the information requested below and attach your curriculum vitae.

NO

(4) Please list the amount and source (by agency and program) of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) received during the current fiscal year or either of the two previous fiscal years by you or by the entity you are representing:

NONE

Craig Fuller

Signature

6-16-11

Date