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Subject: House Small Business Committee Testimony – Impact of LightSquared’s proposal on GPS users

THANK YOU

Thank you, Chairman Graves, Ranking Member Velazques and Members of the Committee; I appreciate the opportunity to appear before you today. My name is Rick Greene, and I am here to testify on behalf of the Agricultural Retailers Association (ARA), a trade association which represents America’s agricultural retailers and distributors of crop inputs, equipment and services. ARA members are scattered throughout all 50 states and range in size from small family-held businesses or farmer cooperatives to large companies with multiple outlets.

BIOGRAPHY

I am the Precision Agronomy Manager for MFA Incorporated, a cooperative built by farmers for farmers. Our core business includes sales and service of inputs like seed, pesticides, fertilizer, precision agronomy, grain, feed and livestock supplies. I began my precision agriculture journey in 1995 when my father purchased one of the first yield monitoring systems with GPS. During that time it was a struggle to operate this new technology and cope with the inaccuracies of GPS. While at Iowa State University, as accuracy improved, I came to love what precision agriculture can do for farming by preserving the environment, minimizing inputs, and maximizing yield to give our farmers a greater return on their investment.

OVERVIEW OF PRECISION AGRICULTURE

So what is precision agriculture...? Some say “farming by the foot” or “Doing the right thing, at the right time, in the right place with the right amount”. Precision Agriculture is using the latest technology to provide sound agronomic recommendations in a timely fashion in order to maximize yield, manage inputs and preserve the environment to ensure farmers with a sustainable way of farming.

For example, take a look at your lawn. Some areas grow well and others not quite so well. Soil productivity is determined by soil characteristics, nutrient deficiency and lime recommendations. Farm ground is the same, only on a larger scale. Originally, we believed placing more plant food on less productive area would cause it to produce more. However, by using precision agriculture techniques and GPS, we can identify plants who are more efficient consumers of soil nutrients; thus reducing environmental waste.

As stated by Paul Schrimpf, Group Editor of CropLife Media, “From the earliest days of personal computing, retail agronomists and growers had been thinking about how to use computer technology and geographical information to improve the way land is farmed. But it wasn’t until GPS became available to the public in the mid-1990s that this notion would become a practical reality. Virtually everything done on farmland – planting, scouting, fertilization, crop protection application, and harvesting – can be turned into usable data; thanks to the geo-referencing power of GPS.”

ECONOMIC, ENVIRONMENTAL AND GLOBAL IMPACTS

Since then, GPS and technology have evolved exponentially. Fleet vehicles use GPS for logistical tracking to minimizing fuel consumption. Tractors drive themselves with 1-inch accuracy to minimize overlap. Planters and sprayers turn off individual sections automatically to reduce over-application of inputs. On-the-go sensors detect how much nitrogen a plant requires. River levees are surveyed and corrected in



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2/3's of the time it takes traditional surveyors. Aerial applicators vary nitrogen rates on the fly to reduce run-off and increase nutrient uptake. Irrigation systems vary water rates by soil characteristics to reduce water waste...and the list goes on. We would not be able to perform any of these efficient management practices without high-accuracy GPS.

Jess Lowenberg-DeBoer with Purdue University did a study back in 2004 on a 1,800-acre model farm and found that a farmer will decrease his hours of operation by 17% if he uses high accuracy GPS. This decrease includes fuel, maintenance, labor hours, and inputs like seed, pesticides and fertilizer. Times are changing and the producer needs to be more efficient in order to combat global competition. Bruce Erickson's, Director of Cropping Systems Management with Purdue University, study on Economics and Adoption of Precision Farming Technology. From 2002 commodity prices are up 350%, seed prices are up 266% and fuel and fertilizer prices are up 270%. Efficiency and increased productivity is the key to their survival in this global market.

The GPS industry has close to 1 million high accuracy GPS receivers used in Agriculture, Construction, Survey, Oil & Gas, Utilities and Government operations. It will take 10-15 years to complete a normal replacement cycle and affects up to \$10 billion in equipment. Even if the Javad filter (\$300 - \$800) works, implanting it to the 1 million receivers will cost \$300 to \$800 million which doesn't include the additional personnel, installation and down-time. It's like saying that because Chevy has an all-electric car on the market we can shut down every gas station in the US next year or all analog TV's need to be replaced the day the digital switch was turned on.

LightSquared must not be allowed to broadcast their signal in the upper or lower bands of GPS. Not today, tomorrow or ever until a feasible and economical resolution is found.

TO CONCLUDE

It is the accuracy of GPS that makes the technology important to agriculture, and farmers should not be expected to accept or live with a disruption in their service as a result of LightSquared's actions. Ideally, a solution will be found that allows GPS and wireless broadband to co-exist, but LightSquared and GPS providers will have to work together. We believe that farmers, ranchers and GPS companies should not have to bear any additional financial burden in resolving this issue.