



American Society of Agronomy

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Wednesday, July 27, 2011

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

RE: In the Matter of LightSquared Subsidiary LLC Request for Modification of its Authority for an Ancillary Terrestrial Component; SAT-MOD-2010118-00239

Dear Secretary Dortch:

The American Society of Agronomy (ASA) and its International Certified Crop Adviser (ICCA) Program would like to express their concern regarding the potential negative impact to the agricultural industry and the public if LightSquared's request is granted.

ASA and the ICCA Program represent over 21,000 agronomic scientists, researchers and practicing professionals around the world with the majority of its membership located in the United States. CCAs provide agronomic advice and inputs to farmers and we estimate they impact over 50% of the ~320 million acres of cropland in the United States. Each CCA averages between one and five million dollars in annual sales of supplies and services and as a group of 13,000, they represent between \$13 and 65 billion of crop production inputs annually. They are a major component of the agriculture industry and the US economy.

Many CCAs and ASA scientists use precision agriculture technology to improve and expand food production. This technology relies heavily on GPS systems as do other segments of our society. The technology not only allows for improved production but also less negative environmental impact. The loss of GPS systems due to LightSquared's modifications of its authority for an ancillary terrestrial component is not feasible and would eliminate site specific nutrient (fertilizers) and crop protection (pesticides) management for farmers and the CCAs who serve them.

- GPS guidance systems used on agricultural application equipment assures that the proper fields are located and the crop protection (pesticide) treatments and plant nutrients (fertilizers) are accurately applied. These guidance systems allow precise maintenance of stream and surface water setback distances. Increased misapplication of pesticides and fertilizers would occur from the loss of accurate GPS guidance resulting in increased contamination of surface and ground water.

- Agriculture's reliance on GPS-guidance systems for tractors and sprayers for planting, nutrient applications, and pest spraying operations has improved efficiency (in the form of reduced input costs) from 5 to 20% depending on the characteristics of the field. Overlaps and gaps have effectively been eliminated in many fields. Disruption in the service will immediately cause lost net productivity on U.S. farms.
- GIS-based systems allow variable rate nutrient applications, matching the fertilizer material precisely to the crop nutrient requirement on a foot-by-foot basis within the field boundaries. Without GPS, nutrients are applied at blanket rates resulting in over- and under-applications within the field, resulting in potential nutrient loss as water pollutants or loss of yield, respectively.
- Environmentally, if GPS is lost or compromised, agriculture (food) production will be set back 20 years to pre-GPS time and environmental quality will decline due to less accurate applications of fertilizers and pesticides.
 - For example: A South Carolina farmer was able to reduce fertilizer amounts by 66% while maintaining his yields. Before GPS technology he would apply 62 lbs. per acre of actual phosphorus (P) and potassium (K) to 400 acres of corn. After adopting GPS technology he now applies 21 lbs. of P and K per acre. Consider the amount of corn acreage in the US (USDA: 92.3 million acres planted in 2011) and the impact it will have if GPS systems stop functioning.
- All agricultural equipment today is GPS compatible and the majority of suppliers to farmers utilize this feature to better serve their customers with improved accuracy and management data collected at application and harvest. Leading to increased food production for an expanding world population. (9 billion people by 2050 requiring all food stuffs' production to increase by 70 to 100%, United Nations estimate)
- Although our focus is agriculture, this issue also impacts rural community emergency medical services (EMS). These units are frequently staffed by volunteers who may not be familiar with the roads in the large areas served by the EMS. GPS-based guidance allows these volunteers to quickly mobilize to an accident site, greatly reducing response time and improve the victims' chances of survival and recovery.

LightSquared's operations and GPS are fundamentally incompatible at this time. Until a solution can be found that does not negatively impact the GPS delivery, we strongly urge the FCC to not permit LightSquared to use its mobile satellite services frequency for terrestrial broadcast. The FCC's own Technical Working Group tasked with

investigating this issue and the Departments of Defense and Transportation, all agree on this. It is not "acceptable collateral damage" as stated by LightSquared to allow the current GPS system for agriculture to become inoperable.

Thank you Secretary Dortch for considering our request. Please feel free to contact us if you would like to discuss this further.

Sincerely,



Ellen Bergfeld, PhD, CEO
American Society of Agronomy (ASA)



Luther Smith, CAE, Director
International Certified Crop Adviser (ICCA)