



April 25, 2014

The Honorable Fred Upton
Chairman
Energy and Commerce Committee
U.S. House of Representatives
Washington, D.C.

The Honorable Henry Waxman
Ranking Member
Energy and Commerce Committee
U.S. House of Representatives
Washington, D.C.

The Honorable Greg Walden
Chairman
Communications and Technology
Subcommittee
Energy and Commerce Committee
U.S. House of Representatives
Washington, D.C.

The Honorable Anna Eshoo
Ranking Member
Communications and Technology
Subcommittee
Energy and Commerce Committee
U.S. House of Representatives
Washington, D.C.

Via Email

commactupdate@house.gov

Re: Spectrum Policy White Paper

The Satellite Industry Association¹ (“SIA”) welcomes the opportunity to respond to the U.S. House of Representatives Commerce Committee’s recent White Paper on spectrum policy. The satellite industry is uniquely qualified to comment on spectrum policy because of the ubiquitous, critical services it provides to consumers, government users, and industry throughout the United States and the world. Below we focus our comments on the discussion points in the White Paper that are most important to the satellite industry.

FCC Licensing Structure (Discussion Question #1). SIA supports the continued use of individual Bureaus or offices handling licensing for different communications technology, with appropriate engineering support in each office. Many technologies, including satellite, have complex technical requirements that must be evaluated as part of any licensing process. Moreover, issues related to the timing of different applications from an operational standpoint will be very different depending on the

¹ SIA is a U.S.-based trade association providing worldwide representation of the leading satellite operators, service providers, manufacturers, launch services providers, and ground equipment suppliers. Since its creation almost twenty years ago, SIA has advocated for the unified voice of the U.S. satellite industry on policy, regulatory, and legislative issues affecting the satellite business.

technology/service at issue. It is extremely useful to have staff that is familiar with these operational timing needs so that consumers can receive service in a timely fashion. Accordingly, because of these unique features that require technology-specific expertise, it would be ill-advised to have a single licensing group review all FCC license applications. Instead, each broad area of technology, whether satellite or terrestrial wireless or broadcast, should have dedicated staff with appropriate legal and engineering expertise to adequately review each application.

Spectrum Sharing (Discussion Point #3). The satellite industry is used to sharing its spectrum. In a number of satellite bands, the satellite industry shares its spectrum with government users, terrestrial microwave services or intelligent transport systems. Moreover, in all satellite bands, satellite operators must share their licensed frequencies with all other satellite operators that have been licensed to use the same frequencies to serve the same area from slightly different orbital locations (typically, every two degrees across the geostationary arc). This is a form of spatial sharing that has been a feature of the satellite industry since its inception. Importantly, these sharing regimes assume that each service in the band can continue to grow, unlike some recent “sharing” proposals that effectively “freeze” an existing service in place to make room for a new service.

SIA expresses no view on whether increased sharing would encourage efficient use of spectrum by government users. But as an experienced user of shared spectrum, SIA and its members would caution against adopting an unthinking policy that more spectrum sharing is always good. Instead, there are invariably trade-offs, as each service that is required to share will be constrained by the interference created by the other service or the need to protect the other service. In the satellite context, for example, the constraints imposed by the need to protect terrestrial microwave systems in some bands have resulted in reduced deployment of both satellite and microwave systems when compared with bands where either service is exclusive. Even in successful sharing scenarios, e.g. Wi-Fi, spectrum can become “exhausted” by too much sharing (i.e., over-deployment), leading to calls for more unlicensed spectrum.

Auctions as Public Interest Consideration (Discussion Question #5). SIA has considerable concern about the FCC utilizing auction revenue as part of the public interest licensing analysis. Most noticeably, SIA is concerned that if auction revenues are utilized as a factor in the public interest calculation in licensing scenarios, non-auctioned services, such as unlicensed devices, satellite and fixed microwave services, could be negatively impacted – especially in situations where frequency bands are shared between non-auctioned and auctioned services.

Congress has found that international satellite services are appropriately exempted from any auction requirements.² This sound policy was based on the recognition that domestic auctions would be unduly burdensome on international satellite systems assigned spectrum on a non-exclusive basis to serve multiple countries. Operators of these systems could not continue to serve multiple countries if faced with auction

²47 U.S.C. 765(f); see GAO, *Intelsat Privatization and Implementation of the Orbit Act* (2004) available at: <http://www.gao.gov/assets/250/244064.pdf>

scenarios in each of them. Mandating auctions under these circumstances would put at risk critical public interest services provided by international satellite systems, including for emergency response, rural, and government communications.

Ascribing public interest value to services based on auction revenue could undermine the licensing of non-auctioned services to the detriment of the public interest – for example, by encouraging the deployment of new services with auction revenues in bands occupied by non-auctioned services, even when the non-auctioned services are intrinsically valuable (e.g., for public safety). The FCC’s public interest evaluation should continue to include an assessment of the social value of different spectrum uses and encourage spectrum efficiency while protecting services from harmful interference. Communications policy should not be based on which service will bring the most revenue. Accordingly, SIA continues to support the Communications Act’s current prohibition on the use of auction revenues as a determinant in licensing.

Licensing Flexibility (Discussion Question #6). With regard to licensing flexibility, SIA is concerned that authorizing services without regard to the Table of Allocations or without appropriate technical rules in place would result in harmful interference to adjacent and co-channel services. Flexibility must be balanced by predictability and interference protection, which are particularly important for sustained investment in satellite services. Satellite services are particularly vulnerable to potential interference from “flexible” usage because weak satellite signals, whether received in space or on the Earth, can be easily overwhelmed or masked by co-frequency or adjacent frequency interference. Further, such an approach would likely result in decreased spectrum efficiency because unfettered spectrum usage would make it extremely difficult for equipment to be designed to account for the unpredictable interference environment that such an approach would create. The result could be a “shouting match” whereby every service transmits high power levels in an attempt to overcome interference. This unregulated interference environment likely would result in constant degradation of – at some point – all services, to the detriment of all consumers. Accordingly, while SIA supports limited flexibility for service providers, such flexibility must be based on the Table of Allocations and the technical rules that ensure a predictable interference environment and provide interference protection.

Build-out requirements (Discussion Question #8). With regard to build-out requirements (or in the case of satellite services, construction milestones) for spectrum-based services, in many cases they lead to increased use of spectrum resources. However, as currently structured, many services are exempt from build-out or milestone requirements. To the extent that build-out requirements are utilized as a means to increase spectrum efficiency use, all radio services should be subject to reasonable requirements.

Receiver Standards (Discussion Question #9). With regard to receiver standards, it is important to recognize that different technologies have different sensitivity levels. Satellite receivers are designed to be very sensitive in order to receive weak signals from space or from the Earth. Accordingly, if there is a review of receiver performance standards, the review should take into account the appropriate sensitivity levels of

satellite receivers, including the potential cost of more resilient receiver front-ends. Any proposed receiver standard should be based on reasonable differences between devices and bands used for terrestrial applications and those used for satellite applications, considering what the present state of the art can deliver.

SIA appreciates the opportunity to comment on this important White Paper. We remain available to answer any questions you may have or provide additional information.

On behalf of the members of the Satellite Industry Association (SIA),³

Respectfully,



Patricia Cooper
President
Satellite Industry Association

³ SIA Executive Members include: The Boeing Company; The DIRECTV Group; EchoStar Corporation; Harris CapRock Communications; Intelsat S.A.; Iridium Communications Inc.; Kratos Defense & Security Solutions; LightSquared; Lockheed Martin Corporation.; Northrop Grumman Corporation; SES Americom, Inc.; and SSL. SIA Associate Members include: Artel, LLC; Astrium Services Government, Inc.; ATK Inc.; Cisco; Cobham SATCOM Land Systems; Comtech EF Data Corp.; DigitalGlobe, Inc.; DRS Technologies, Inc.; Encompass Government Solutions; Eutelsat America Corp.; Globecomm Systems, Inc.; Glowlink Communications Technology, Inc.; iDirect Government Technologies; Inmarsat, Inc.; Exelis, Inc.; Marshall Communications Corporation.; MTN Government; NewSat America, Inc.; O3b Networks; Orbital Sciences Corporation; Panasonic Avionics Corporation; Raytheon Space and Airborne Systems; Row 44, Inc.; Spacecom, Ltd.; TeleCommunication Systems, Inc.; Telesat Canada; The SI Organization, Inc.; TrustComm, Inc.; Ultisat, Inc.; ViaSat, Inc., and XTAR, LLC.