



Rt Hon Jeremy Hunt MP
Secretary of State
Department for Culture, Media and Sport
2-4 Cockspur Street
London SW1Y 5DH

Dear Sir,

30th June 2011

ASTRA (GB) Ltd. is pleased to participate to the consultation organized by the DCMS on the future of communications in the UK.

ASTRA (GB) Ltd. is SES ASTRA's affiliate company based in London. Astra (GB) develops broadcast, enterprise and government services opportunities in the UK and Ireland. Astra (GB) Ltd. also provides their clients with marketing and technical support. Over 11 million UK households have access to digital satellite services via the ASTRA satellites at the 28.2 east orbital position and more than 4 million are viewing in HD. This well-established audience continues to grow, offering opportunities for new television, radio and broadband services.

Here attached, you will find our comments on the most critical questions to us that are raised by the consultation, namely related to the section on "A communications infrastructure that provides the foundations for growth."

We remain at your disposal for any question you may have in relation with our response.

Yours sincerely,



**ASTRA (GB) Ltd. Response to the DCMS Open Letter
'A Communications Review for the Digital Age', Q5-Q8**

Q5. What further market and regulatory developments would lead to widespread take-up of superfast broadband? What regulatory action would government need to take to make superfast broadband more readily available in a) urban areas; and b) rural areas?

As a reminder, although “superfast broadband” has not been clearly defined, there is some indication of its meaning from the DTI: ¹

"There is currently no agreed upon definition of superfast broadband or next generation access. It is expected that connections have:

- *Faster and more symmetrical download and upload speeds, with a minimum of 20Mbps download speed and 10Mbps upload speed.*
- *Higher quality of services, with increased bandwidth for greater consistency over time and space, with less contention in the network resulting in consumers achieving the speeds promised, within a reasonable margin.*
- *Improved reliability of service, with it being rare to lose connection."*

On the one hand, next generation satellites are designed to be able to achieve these technical goals. On the other hand, ASTRA (GB) Ltd. believes that the UK Government should accept the principle that broadband is not just about speed and other technical constraints; we believe that is also about the quality of life that it facilitates, especially given our emerging knowledge economies. superfast broadband should be about access to “any-application, at anytime from anywhere” clearly no one technology can deliver this.

The UK government must realise that one size does not fit all; fibre, cable or wireless solutions are not appropriate in every location. Reaching all citizens especially in remote / rural areas is not possible by terrestrial means alone. For instance, the deployment of ‘fibre to the home’ (FtH) and to the ‘cabinet (FtC), though necessary, is a huge engineering feat, one that will take a long time and may never economically justify a 100% coverage policy.

¹ BIS consultation doc on proposals for a Next Gen Fund, Jan 2010 – page 46:
<http://www.bis.gov.uk/assets/biscore/corporate/docs/migrated-consultations/consultation%20on%20proposals%20for%20a%20next%20generation%20fund.pdf>

ASTRA (GB) Ltd. accepts that download and upload speeds, latency, reliability and effective throughput are all critical elements of quality of service for broadband services, but they must be considered in conjunction with the consumers' application needs, disposable income and lifestyle choices. The objective of broadband should be to improve the quantity and quality of life for all citizens by providing immediate access to the emerging information society "for any-application, at any-time from any-where".

For example, satellite offers, and will continue to offer, the most cost effective way to deliver broadcast and multicast video service. This positions satellite as an essential component of modern communications and a strong contributor to what will constitute the superfast broadband experience as according to most predictions, most of the NGN bandwidth will be occupied with video traffic.

In terms of policy / regulatory actions, ASTRA (GB) Ltd. therefore believes that state aid should be focused on lowering the cost of enabling individual households and or businesses to gain access to broadband in their local market. For example broadcast infrastructures already provide a future infrastructure to deliver high quality video services to consumers and businesses without state aid. Therefore it would be counter productive both in terms of value creation and consumption for state aid to undermine these existing free market investments by pushing deliberately for the (costly) deployment of certain technologies to the detriment of others already deployed and already delivering added value services.²

Finally, ASTRA (GB) Ltd. is convinced that deploying next generation access networks based on a mix of different solutions, with equitable and transparent criteria for public support, will be the most effective policy to guarantee a wide deployment of superfast broadband over the UK territory.

Q6. What are the competing demands for spectrum, how is the market changing and how can a regulatory framework best accommodate any rapidly changing demands on spectrum and market development?

As people demand high-speed broadband the demand for access to spectrum will significantly increase. This demand is not just driven by a need for the mobile terrestrial industry. Other technologies such as licence-exempt services (e.g. Wi-Fi) and satellite require access to spectrum to ensure that everyone has access to broadband services.

As a general principle, ASTRA (GB) Ltd. expects the UK government to create a stable regulatory environment. An unstable or unpredictable regulatory environment will drive away investors, particularly in the case of satellites which are designed during 3-4 years to have an operational life for approximately 15 years.

² Any public support for a deviation from a technology neutral approach should be seen as a potentially market-distorting subsidization of some operators, constituting unfair state aid.

Satellite also needs to be specifically assigned the spectrum which it's using, in order to guarantee that advanced digital and broadband services remain immune from harmful interference and are delivered under the best quality of service conditions to end-users. This requirement (spectrum assignment that is technology specific) has been well recognised in the EU Regulatory Framework for Electronic Communications, due to be fully implemented in all EU Member States by 27 May 2011.³

In our sector, harmonisation of spectrum is another essential element. It is critical that the UK remains in line with other countries as regards satellite access to some frequency bands. This is very much the case of the Ka band spectrum.

The Ka band in particular can be seen as a breakthrough satellite communications technology for delivering cost-effective, two-way broadband services with 100% coverage. The two-way capability means customers do not need a traditional phone or cable line to receive high-speed Internet access. This enables dramatic improvements in access to two-way, high-speed Internet services for consumers and businesses in rural and remote areas.

Some new services in the Ka band will involve the deployment of a large number of small, transmit-receive terminals. To allow the use of ubiquitous satellite terminals, the ITU has identified a number of uplink and downlink frequency bands which are *exclusively* for satellite usage.

Because of the scarcity of the spectrum resource, certain portions of the Ka band are *shared* on a co-primary basis between satellite and terrestrial services in the ITU table of frequency allocations. Such dual use of the spectrum is possible provided that appropriate coordination is conducted in order to avoid mutual interference.

This shared spectrum (e.g. in the 27.5-29.5 GHz band) can typically be used in the Earth-to-space direction by larger satellite Earth stations such as hubs or gateways (1.2 m and above) that are located at specific locations so that coordination with terrestrial services can be accomplished. Such "hub" stations are invaluable as gateways to connect to the Internet and are an essential part of all satellite networks. They need to be able to access large amounts of contiguous spectrum (between 500 MHz and 1 GHz or more). It is therefore critical that, when establishing their national regulation in the shared portions of spectrum, the UK ensure that such big Earth stations still have the possibility to access the entirety of the shared spectrum, as identified by the ITU, on the basis of individual coordination.

Furthermore, some other parts of the shared Ka band spectrum (such as the 17.7-19.7 GHz band) are and will increasingly be used by satellite operators for space-to-Earth transmissions to gateways as well as to terminals, given the increasing demand for two-way broadband services. Following the adoption of the Ka-Band report on "THE USE OF THE FREQUENCY BANDS 27.5-30.0 GHz AND 17.3-20.2 GHz BY SATELLITE NETWORKS" (ECC Report 152 of September 2010), the CEPT is now studying the

³ See restrictions to technology neutrality in Article 5 of the Amended Authorisation Directive or Article 9 of the Amended Framework Directive, in Better Regulation Directive 2009/140/EC of 25 Nov 2009

possibility of using the 17.7-19.7 GHz spectrum for ubiquitous FSS terminals using satellite space-to-Earth communications.

As a conclusion, it should be a priority for the UK, as for every other national administration, to ensure that communication satellite users in their countries are guaranteed access to the Ka band frequencies designated by the ITU for satellite services. ASTRA (GB) Ltd. also expects that the UK government will fully subscribe to the overall harmonisation effort within Europe to set up a regime of exemption from individual licensing could be developed in appropriate sub-bands within the 17.7-19.7 GHz band.

Q7. How should spectrum be managed to deliver our growth objectives whilst also meeting our policy objectives of furthering the interests of citizens and consumers in relation to communications matters?

- Avoiding interference

The success and stability of satellite services for users is inextricably linked to the ability of the satellite operator to use the spectrum free of damaging interference and without the risk that such spectrum may be taken away after the investment has been made.

To assure efficient use of spectrum, it is very important that individual states abide by their international commitments and with ITU & CEPT policies and regulations. To avoid damaging interference, communication satellite users need as much identified / designated frequency bands on an exclusive basis as possible, notably based on ITU-RR and CEPT decisions.

In other cases, when the frequency band has to be shared with terrestrial systems, technical criteria and measures to protect sensitive satellite earth stations against damaging interference must be developed and implemented before terrestrial services are rolled-out.

- Neutrality in spectrum area

The satellite industry favours the Technology Neutrality (TN) principle as it was originally developed (*i.e.* as a competition principle). ESOA favours ‘regulatory or platform neutrality’ whereby the same economic regulations apply regardless of the type of network or service. For example, when countries encourage the take up of broadband, satellite technology should be recognized as an enabler and have equitable access to government funding as other communications technologies.

Where TN is used as a spectrum management tool to introduce “flexibility” in the usage of spectrum, ASTRA (GB) Ltd. believes that the limitations of “avoidance of interference” need to be taken into account with regard to satellites. In the radio spectrum area (*i.e.*, that affecting satellites), TN is sometimes used as a term to justify the opening of frequency bands to all uses (*i.e.*, the sharing of the same frequencies amongst different systems). It is further used to justify relying on market mechanisms to allocate or assign frequencies to users in the name of (economic) efficiency. These justifications can be very detrimental to satellite services if not applied with care.

‘Allocational neutrality’, aimed to encourage the most efficient use of a scarce resource such as spectrum, does not level the playing field for all technologies. Certain types of technologies, such as satellites, are inherently more suited to specific frequency bands and services, while being more prone to interference from other services.

Appropriate technical constraints that recognize the technical features inherent to satellite networks in order to avoid damaging interference need to be adopted which do not contradict allocational neutrality. In fact, failure to recognize necessary technical requirements would violate TN by not permitting the appropriate technical constraints required for communications satellites to operate without interference.

- Spectrum pricing

There’s also a need to repeat that given the international nature of satellite communication services, spectrum pricing on a large, global scale could cause enormous harm to the satellite industry. At a minimum, spectrum pricing beyond administrative cost recovery would damage competitiveness, innovation and could lead to substantial increases in consumer costs for services. If each country in the satellite footprint imposed spectrum pricing, the additional costs resulting from such pricing would inevitably be calculated into the downstream pricing for customers and end-users thereby reducing consumer benefit and choice without improving spectrum efficiency. This makes spectrum pricing particularly burdensome and would likely place satellite operators providing services in Europe in an unfavourable competitive position against terrestrial service providers.

As repeatedly stated to Ofcom, ASTRA (GB) Ltd. and all other satellite operators notably believe that the AIP (‘Administered Incentive Pricing’) policy introduced by Ofcom to charge spectrum usage is neither an appropriate tool, nor is it necessary to stimulate efficient spectrum use by the satellite sector. As explained during the recent review of this policy,⁴ we firmly believe that a tool like AIP, even if deemed attractive from a theoretical perspective, can never achieve its intended goals in practical situations and is therefore more likely than not to have significantly negative consequences on the satellite sector. For instance, a key element of the AIP calculation is the definition, and subsequent determination, of the opportunity cost. This is a largely theoretical exercise which must take full account of technical considerations, the broad competitive landscape, public and consumer benefits, as well as the public good attached to spectrum for cross-border services such as satellite. We have a serious concern that AIP does not give sufficient weight to these considerations. We are further concerned that AIP may ultimately have a damaging effect on the continued ability of the satellite sector to satisfy UK societal needs and provide important public benefits.

Q8. How should the UK engage on an EU/international level in relation to spectrum?

⁴ SRSP: The revised Framework for Spectrum Pricing - <http://stakeholders.ofcom.org.uk/consultations/srsp/>

Involvement by the UK is required at both an EU and an international level if we are to make best use of spectrum for the development of innovative services to the benefits of all consumers. When international harmonisation of spectrum use is an absolute necessity, e.g. for the satellite sector, the UK must ensure that it commits sufficient resources to participating at the UN agency that leads of spectrum issues, the International Telecommunication Union (ITU), the European spectrum managers grouping (CEPT) and the European Union (EU). Failure to secure the correct result for the UK in these fora will make it difficult for the UK to realise the best value for citizens and consumers from its spectrum. This level of representation will require additional resources sustained over a long period. Debate over access to spectrum often begins years before the first network is deployed.

A strong UK presence at all major international fora is of particular importance to UK operators, including satellite operators. With a single satellite providing service across a number of countries, our industry relies on international harmonisation more than most sectors in order to be able to deliver a plurality of media services and a large variety of audiovisual content to people, as well as ensuring Broadband For All. Satellite networks require substantial up-front investment and may take two to four years from contract signing, over design, manufacturing and launch to entry into commercial operation. Satellites are designed to have an operational life for approximately 15 years. Loss of spectrum rights or ability to use spectrum adequately post-investment, in whole or in part, could destroy or be extremely damaging to the viability of the planned or existing satellite services, ultimately resulting in less competition and fewer choices for consumers – and in some cases, risking to actually lead to switching off the service.


However, currently, Ofcom is under no obligation at all to consider the view of the industry, and this can lead to the under-representation of the UK industry position on the international scene – to the detriment of national interests. We believe that Ofcom must better take into account the position of the UK industry when preparing the UK position for international spectrum management meetings.

This is a legitimate demand that would meet the UK government’s political priorities. In the case of the satellite industry, for instance, the H M Treasury and the BIS have now fully recognised the space sector as an important contributor to growth in the UK and identified a number of actions to support the space sector, including full and fair access to the limited supply of satellite orbit slots. The global space industry is assessed to be worth around £160 billion and the Government expects to win a substantial share of these markets.⁵

It is worth reminding that the Wireless Telegraphy Act 2006 gives the Secretary of State a power to direct Ofcom, by order, giving “general or specific directions to Ofcom about the carrying out of their radio spectrum functions”.⁶ In the case of UK preparations for a World Radiocommunications Conference (WRC), the formal responsibility for the UK preparations notably rests with the UK Government – although the Spectrum Strategy Committee IFPG, chaired by Ofcom, has delegated responsibility.

⁵ See the UK Plan for Growth, March 2011 - http://cdn.hm-treasury.gov.uk/2011budget_growth.pdf

⁶ In Part 1, section 5 - <http://www.legislation.gov.uk/ukpga/2006/36/section/5>



ASTRA (GB) Ltd. therefore invites the UK government to increase the weight of industry amongst Ofcom's priorities. Possibly, the Secretary of State may consider giving formal direction to Ofcom under section 22 of the Act ("Representation on international and other bodies") so as to require the impact of Ofcom's actions on UK industry to be duly considered

