

TELECOMMUNICATIONS REGULATORY COMMISSION

VIRGIN ISLANDS

**SPECTRUM MANAGEMENT FRAMEWORK: ANNEX B**

**SPECTRUM POLICY FOR THE VIRGIN ISLANDS**

May 2011



## INTRODUCTION

1.1. Economic growth and much social activity in the 21<sup>st</sup> century rely on efficient, resilient and widely available communications infrastructure – both wired and wireless. Spectrum is an essential input for wireless networks. Such networks deliver services to many users. They can also provide coverage in locations where there is no wired access, communications access when users are mobile as well as back-up in the event that the wired network fails. Mobile telephony and broadcast services (e.g. radio and TV) are the most familiar services but wireless broadband, satellite communications and dedicated networks for the police, fire and ambulance services are equally important in helping to achieve economic and social goals. In addition spectrum is used to provide navigation and radio location activities required for safe operation of the maritime and aeronautical sectors which are particularly important for island territories such as the Virgin Islands which comprises over 50 islands. The Virgin Islands' location in the Eastern Caribbean means that robust communications infrastructures (both fixed and wireless) are required in order to provide reliable services during seasonal periods of heavy rainfall and hurricanes.

1.2. Mobile phone and broadband penetration in the Virgin Islands are high at over 180% and 25% per head of population respectively, while the telecoms sector accounts for around 6% of GDP<sup>1</sup>. Although the Virgin Islands has a relatively small population of about 29,000 inhabitants<sup>2</sup>, its communications needs are significant. Around 60% of the population are expatriates who come to the islands for work, while each year there are 800,000 visitors to the island, mainly from the U.S. and Europe. The finance and tourism industries are the mainstays of the economy and the health and growth of these sectors depend on access to globally competitive, reliable, high-quality, low-cost communications services. It is particularly important that wireless devices (such as mobile phones and tablets) work seamlessly when people visit the Virgin Islands. This means that wireless communications technologies deployed in the Virgin Islands must keep abreast of and be as compatible as possible with those deployed elsewhere in the world, such as those supporting mobile broadband services.

1.3. Competitive, low cost and high quality wireless communications require the implementation of an effective spectrum policy based on best international practice so that wireless networks can be deployed efficiently and with sufficient capacity to meet rapidly rising demands and expectations from customers, especially for broadband services. This has been recognised in policies developed by many governments, and recent examples include the FCC's National Broadband Plan<sup>3</sup> and the European Digital Agenda<sup>4</sup> and Radio Spectrum Policy Plan<sup>5</sup>. This document presents a Spectrum Policy for the Virgin Islands.

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<sup>1</sup> [http://www.trc.vg/attachments/020\\_020\\_Stats\\_062010\\_updated.pdf](http://www.trc.vg/attachments/020_020_Stats_062010_updated.pdf)

<sup>2</sup> The Development Planning Unit estimates that in 2009 the population totalled 28,882 of whom 17,423 are expatriates (60%) and 11,459 local (40%).

<sup>3</sup> "Connecting America: The National Broadband Plan", <http://www.broadband.gov/plan/>

<sup>4</sup> "A Digital Agenda for Europe", European Commission COM (2010) 245, May 2010, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0245:FIN:EN:PDF>

## OBJECTIVES

2.1. Spectrum is a valuable national asset. This Spectrum Policy derives from the objectives specified in the 2006 Telecommunications Act and forms part of the Telecommunications Policy. The overriding objective of this Policy is “to create the circumstances for a fully effective and successful telecommunications sector in the BVI, delivering excellent value for money to users and maximising the contribution of the sector to the economy”<sup>6</sup>. A key element of the Telecommunications Policy is the introduction of network competition which has been supported by the Telecommunications Regulatory Commission (TRC) providing access to relevant frequency bands.

2.2. The Telecommunications Act 2006 provides the legal framework for Telecommunications Policy. In respect of radio spectrum it variously refers to policy being guided by reference to the following objectives:

- To promote the economic, orderly and efficient utilisation of frequencies – Sections 34(1), 36(c)
- To ensure fair competition among licensees – Section 6(d)
- The public interest – Sections 21(c), 23(d)
- Requirements in respect of national security – Section 35(2)
- Relevant regional and international agreements and standards, including ITU Treaties – Sections 36(d-f).

2.3. To help achieve these objectives, it is proposed that the Virgin Islands Spectrum Policy:

- Promotes the economic and socially efficient use of radio spectrum, such that
  - the public interest is served; and
  - competition between licensees is promoted.
- Takes into account requirements in respect of national security
- Complies with relevant regional and international agreements and standards, including ITU Treaties.

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<sup>5</sup> Proposal for a Decision of the European Parliament and of the Council establishing the first radio spectrum policy programme, 2010/252, 20 September 2010; <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0471:FIN:EN:PDF>

<sup>6</sup> Telecommunications Liberalisation in the Virgin Islands, 10 January 2007

## **ROLES**

3.1. Under the Telecommunications Act 2006, the Minister is responsible for developing and reviewing telecommunications policies and international matters affecting the Virgin Islands including international, regional and bilateral frequency co-ordination.

Responsibility for managing the spectrum is delegated to the Telecommunications Regulatory Commission. Specific functions in respect of spectrum management that the Telecommunications Regulatory Commission is expected to undertake include:

- The development of a Spectrum Plan that will be published and will describe spectrum allocations, how spectrum shall be used and the procedures used to assign frequency bands.
- The allocation and reallocation of spectrum.
- The determination of frequency authorisations and the monitoring and enforcements of licence or authorisation conditions.

## **INTERNATIONAL DEVELOPMENTS**

4.1. International best practice in spectrum management has evolved in recent years to meet the challenges of technology change, market liberalisation and growing demand for spectrum from many different users and applications. New policies have been introduced in many countries including the UK and more widely the EU (European Union), North America, Australia, New Zealand as well as in some countries in the Caribbean<sup>7</sup>, Latin America and Asia.

4.2. The key changes involve (to a varying degree in different countries):

- Increased transparency in spectrum management decisions, greater provision of information on available spectrum and the regulators' future plans (e.g. for future releases to users), and formalisation of all users' rights (including government and commercial users).
- Liberalisation of choices over how spectrum is used, whereby spectrum licensees are free to decide which technology to use and which services to provide, subject to meeting specified technical constraints on emissions.
- The use of financial incentives use (through spectrum fees, trading and auctions) to promote efficient spectrum use and ensure spectrum licences are assigned to uses that offer the greatest benefits to society.
- Clear justification for spectrum reservations for valuable public sector use of spectrum.
- A presumption in favour of exempting services from licensing, or adoption of "light licensing" regimes wherever this is practical, subject to the need to avoid harmful interference.
- Recognition of the vital contribution of broadband wireless networks to the overall development of broadband services which are an essential part of a

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<sup>7</sup> For example the Bahamas, Trinidad and Tobago, Barbados and Jamaica have all published spectrum plans. In addition the Eastern Caribbean Telecommunications Authority (ECTEL) has published a spectrum plan for Commonwealth of Dominica, Grenada, St Kitts and Nevis, St Lucia and St Vincent and the Grenadines.

country's or region's infrastructure to improve social welfare, and economic health and competitiveness.

4.3. These developments have informed the spectrum policy principles given below, taking account of the small size of the Virgin Islands economy, the importance of the financial and tourism sectors, and its island geography and proximity to the US and other territories as well as its historic political and social links with Europe.

## **POLICY PRINCIPLES**

5.1. The policy principles that derive from the policy objectives and international best practice are as follows.

- Harmonising spectrum use in the Virgin Islands with use in other regions, particularly neighbouring countries such as the US, so as to take advantage of low cost consumer and infrastructure equipment, minimise interference with neighbouring countries and support services to visitors to the Virgin Islands, who also include significant numbers from Europe.
- Permitting the flexible use of technology in spectrum bands where this is technically feasible and practical, consistent with principles of “technology neutrality” and “service neutrality”.
- Providing all users with incentives and opportunities to make the most productive use of spectrum. This means that the TRC should release spectrum in a timely manner and users should have incentives to make efficient use of spectrum.
- Recognising the essential roles and considerable value of defence, emergency services and other public services, and making provisions in spectrum allocation to meet the reasonable communications needs of such services.
- Promoting effective competition in the provision of telecommunications services through the prevention of spectrum hoarding.
- Setting spectrum fees that, as a minimum, recover the administrative cost of spectrum management and monitoring.
- Avoiding harmful interference through a range of measures including application of appropriate licence conditions, establishment of appropriate infrastructure for spectrum monitoring, international co-ordination and enforcement activities.
- Reviewing and, where justified, establishing conditions for the return and re-assignment of frequencies acquired in market environments for wireless communications that are competitively and technologically different from prevailing or emerging conditions today, and where these previous assignments frustrate objectives such as the efficient utilisation of frequencies and fair competition between licensees (as are included in the Telecommunications Act 2006 referred to earlier).

5.2. These principles shall be used to guide the Telecommunications Regulatory Commission in the development of a Spectrum Plan<sup>8</sup> and more generally in managing spectrum resource.

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<sup>8</sup> Section 34 of the Telecommunications Act, 2006.

## **SPECIFIC SPECTRUM MANAGEMENT ISSUES**

### **NATIONAL FREQUENCY ALLOCATION PLAN AND SPECTRUM RELEASE**

6.1. In order to implement spectrum management principles efficiently and effectively, comprehensive and accurate information on (a) the actual allocation and assignment of spectrum to licensees and users and (b) the technical characteristics of the usage of the frequencies involved must be available and kept up to date so that the regulator can:

- Allocate and assign new frequencies, and re-assign existing frequencies to licensees with confidence that they will not cause or be subject to harmful interference
- Monitor spectrum usage to verify that it is being used efficiently and to be able to intervene rapidly where necessary to identify accurately and resolve promptly questions and claims of harmful interference with licensed frequencies
- Establish and educate users about procedures and rules to follow to ensure that they do not use wireless devices in ways that cause harmful interference
- Resolve spectrum planning and interference issues with its neighbours, notably the USVI, in a timely manner from a sound and well documented base of knowledge.

6.2. In order to fulfil these responsibilities efficiently the TRC shall formulate plans with respect to frequency allocation, and ensure that it has adequate resources for its key role in interference management, as outlined in the following paragraphs.

6.3. To achieve the ends just outlined, the Telecommunications Regulatory Commission shall develop a National Frequency Allocation Table as well as supporting technical and licence information.

6.4. In addition, demands for additional spectrum shall be identified, and the justification and conditions for re-allocation and re-assignment of existing frequencies shall be specified. An approach to the release of spectrum shall be developed as part of a Spectrum Plan. The most pressing requirement in this regard is to identify bands for broadband wireless services.

### **SPECTRUM PRICING**

6.5. To provide users with incentives for efficient spectrum use the Telecommunications Regulatory Commission shall consider the case for spectrum pricing.

### **INTERFERENCE MANAGEMENT**

6.6. Many aspects of spectrum regulation, such as international co-ordination, frequency planning, licensing and technical regulations, are aimed at creating an environment in which services may operate with a very low risk of harmful interference from and/or to other radio services. The Telecommunications Regulatory Commission needs to put in place necessary requirements and from time to time undertake investigations and possibly also pursue enforcement actions when there are complaints or some evidence of harmful

interference. To meet this responsibility the TRC shall secure resources (people and equipment) to monitor spectrum use to detect and identify possible sources of interference, and to investigate and resolve interference complaints.

## **ENVIRONMENTAL AND OTHER IMPACTS OF WIRELESS SERVICES**

6.7. The widespread deployment of wireless networks and ubiquity of mobile devices have given rise to concerns about the possible harmful effects of exposure to electromagnetic radiation generated by network equipment and user devices on humans and animals, as well as other environmental impacts (e.g. visual aesthetics of wireless towers, and the consequences of other related activities such as the construction of roads to enable these towers to be installed and maintained in remote locations). Electromagnetic radiation is part of everyday life, emitted by natural sources like the sun, the earth and the ionosphere, as well as artificial sources such as mobile phone base stations, broadcast towers, radar facilities, remote controls, and other electrical and electronic equipment such as TV receivers.

6.8. The TRC shall follow the best information and practices, procedures and regulations developed by leading regulators elsewhere to assess the risk of deploying and using wireless systems and to avoid adverse health and other environmental consequences.