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National Telecommunications Regulatory Commission (NTRC)

Annual Report 2009

1. *Mission Statement*

To efficiently regulate the Telecommunications Sector in collaboration with the Eastern Caribbean Telecommunications Authority (ECTEL) and provide advice and direction to the Minister of Telecommunications on policy and regulatory issues relating to Telecommunications.

2. *Vision Statement*

To ensure that the demand for existing and future telecom services is met in order to support economic growth and diversification, by providing a suitable environment for the tourism, information and financial sectors through a liberalized and competitive telecom environment.

3. *Functions*

The NTRC in collaboration with ECTEL is responsible for carrying out a variety of functions that are associated with regulating the telecommunication sector in St. Vincent and the Grenadines. These functions are outlined in detail in the Telecommunication Act of 2001.

4. Photos of Commissioners

5. Photo of Staff Members

Back : Mishka Quashie (Office Assistant), Roscian Charles (Temporary Staff), Rohand Charles (Accountant)
Middle: Andra Keizer (Admin Assistant), Keisha Gurley(Office Assistant), Kyron Duncan (USF Administrator), Apollo Knights (Director)
Front: Nadine Hull(ICT Manager), Omar Wyllie(IT Technician)

6. *SWOT Analysis*

6.1   Strengths

-The NTRC has responsibility for regulating most aspects of the telecommunications sector.

-Availability of ICT infrastructure and software to efficiently carry out our regulatory functions.

- Diversity of relevant skills among current staff.

6.2   Weaknesses

-Inadequate pricing control mechanism existing for those services offered by the incumbent operator that are not exposed to sufficient competition at this time.

-Lack of a formal link between the ECTEL organizational structure and that of the various NTRCs.

-Absence of an appropriate funding mechanism to cover possible litigation costs.

6.3   Opportunities

- Development of projects under the Universal Service Fund. Such projects should see direct benefits to certain communities, organizations and individuals that would have had difficulties with telecommunications access.

- Review and implementation of a new pricing control mechanism for the incumbent operator to replace the existing system that has come to an end.

- New legislative regulatory framework to replace the existing Telecommunications Act. This work is being undertaken as part of the TICT project being executed by ECTEL.

- Staff is keen to participate in continuing capacity building programmes inline with the needs of the organization.

6.4 Threats

-Continued possibility of litigation from Licencees.

-Churn of Commissioners and Staff when considering the small staff complement of the NTRC and the resources expended on developing the regulatory skills of both Commissioners and staff.

-The inability of the current fee structure to maintain an adequate funding source for the regulatory system (ECTEL and the NTRCs) in the short term.

-The issue of ICT/Cyber security is a threat facing not only the NTRC but our country and the region.

7. Critical Issues.

Currently there are two critical areas that need to be addressed in the sector (1) ICT Security and (2) Broadcast standards.

ICT/Cyber Security is the most critical issue facing the Caribbean region at this time and it is also a major issue for the World at large. Our country and the region have been embarking on a number of initiatives in ICT over the last 10 years but nothing is being done (of a substantive nature) that the NTRC is aware of on this issue either locally or regionally. Anti-viruses and similar software cannot stop the real threats that we can face from this issue in the short to medium term.

Our country should not wait until something goes very wrong before we act. It is even worst as we migrate our telecom systems to NGNs (which has taken place in SVG already) and which will most likely take place in other Caribbean countries. Imagine the implications if no one in SVG can make a call, send a fax, send an email or use the internet for a whole day or a week. Will this not be the same result or even worse that when our country experiences a hurricane or other natural disasters? For natural (and some man made) disasters we have established specialized agencies to address these types of disasters both locally and regionally but we have no similar agencies to handle threats and damages from cyber attacks. Now take it a step further and imagine that our banks start having losses due to fraudulent electronic activity, our institutions especially the Government service (most susceptible) start losing confidential electronic documents, our private sector IT companies not able to operate and worst we start having our electronic records altered so as to provide wrong data to the user. These are all acts that can take place due to cyber attacks on our ICT infrastructure and are not issues that are only in someone's imagination but have already occurred in a number of developed countries such as the USA with access to more resources than us.

ICT/Cyber security needs to be looked at carefully as we develop our ICT industry and we increase the speeds that we access the internet. In this new era we will have less physical threats and more cyber threats. While in the past we would not be looked at as a party that will be involved in physical threats among developed countries we will be a

party in cyber threats from three angles: (1) by entities trying to get at developed countries, (2) by criminal entities trying to obtain resources (financial) from our countries and (3) by entities trying to reduce our ICT capabilities in a competitive market.

The other critical issue is one of Broadcast Content/programming standards. While the NTRC does not have a mandate on this issue base on the current regulatory framework it is closely linked to our mandate since all broadcasting requires a Telecom/ICT network of some form. The issue is not being addressed on any substantive basis by any other entity and the NTRC is of the view that we need to raise the importance of the issue. The issue is even getting more critical with continued technological convergence of our telecommunication /ICT networks. More and more services are now being offered not via a network but by software which can be regarded as "content". As an easy example radio stations are licence in most countries around the world for both technical and content reasons. Sometimes the content component is regulated via the technical route when the regulatory framework for content is absent.

However, with persons now able to establish a radio station on the Internet at almost any location in the world and reach persons in another location it is a whole different landscape. The legal, cultural and social implications are tremendous, and have to be addressed. We can no longer ignore it and try to regulate only the "physical side" and leave the so called "virtual" side alone. To do this will be trying to create two parts to our civilization. Our citizens are now being exposed to a minimum of six streams (multiple radio stations, the Internet, Cable TV, Video games and Mpeg, DVD and CD players) of unregulated media content per day as compared to about two streams (1 radio and 1 Television station) 30 years ago.

Education is a form of content , our country regulates this form of content that is taught in our schools so why should we not regulate in some form the other content forms that are affecting our citizens and which are direct competitors to the content being thought in our schools? Such regulation is done in a number of developed western countries as such it is not an issue of free speech or suppression of personal rights. Its basically outlining what should be okay for what audience and at what time base on our cultural traditions, morals and believes as a country.

8. *Sector Review*

8.1 Revenue Analysis

The NTRC is responsible for the collection of all fees levied under the Telecommunications Act. These include Application, Licence, Frequency Authorization, Numbering and Universal Service Fund fees.

8.1.1 Revenue of the Telecom Operators

The following table and graph illustrate the total revenues earned by providers of telecom services for the last ten years.

Note: The years in the table run from April 1 to March 31 e.g. 1998 runs from April 1 1997 to March 31 1998. This coincides with the financial years of Cable & Wireless (WI) Ltd and Digicel (SVG) Ltd. For the remaining entities whose financial years are not the same, their revenues have been apportioned to the same periods using an average monthly revenue figure calculated by dividing its total revenue for its financial year by 12.

Total Revenue earned by providers of telecommunications services 1998 to 2009:

	Cable and Wireless (SVG) Ltd			Cable and Wireless Mobile	Digicel St. Vincent Ltd	Kelcom Int'l	Caribbean Business Machines Ltd	
	Inter. Revenue (EC$)	Domestic Rev (EC$	Total Revenue (EC$)	Total Revenue (EC$)	Total Revenue (EC$)	Total Revenue (EC$)	Total Revenue (EC$)	Grand Total (EC$)
Year								
1998	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	x	x	xxx,xxx	77,278,044
1999	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	x	x	x, xxx,xxx	81,942,322
2000	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	x	x	x, xxx,xxx	85,427,143
2001	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	x	x	x, xxx,xxx	98,971,727
2002	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	x	x	x, xxx,xxx	93,748,621
2003	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xxx,xxx	x	x, xxx,xxx	106,681,224
2004	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	x, xxx,xxx	x, xxx,xxx	143,593,160
2005	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	x, xxx,xxx	x, xxx,xxx	144,743,690
2006	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	x, xxx,xxx	x, xxx,xxx	150,485,868
2007	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	x	x, xxx,xxx	158,032,662
2008	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	**x**	x, xxx,xxx	151,263,326
2009			**xxx,xxx,xxx**	**xxx,xxx,xxx**	**xxx,xxx,xxx**	**xx, xxx,xxx**	**xx, xxx,xxx**	152,548,105
	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	xx, xxx,xxx	x	x	xxx,xxx	

Table # 1

Source: For 2009 the breakdown of revenue submitted to the NTRC were used for Digicel and Cable & Wireless (SVG) Ltd and Cable & Wireless Mobile.

CBM gross revenue for 2009 is based on conservative estimates from the previous year while 2006 to 2008 is based on gross revenues breakdown for these years which were submitted to the NTRC. For previous years, the figures are based on Gross revenue as per audited statements. Note that the revenues outlined for 2006 to 2009 in relation to Karib Cable/Kelcom International are conservative estimates based on trends from the previous years.

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Fig: # 1
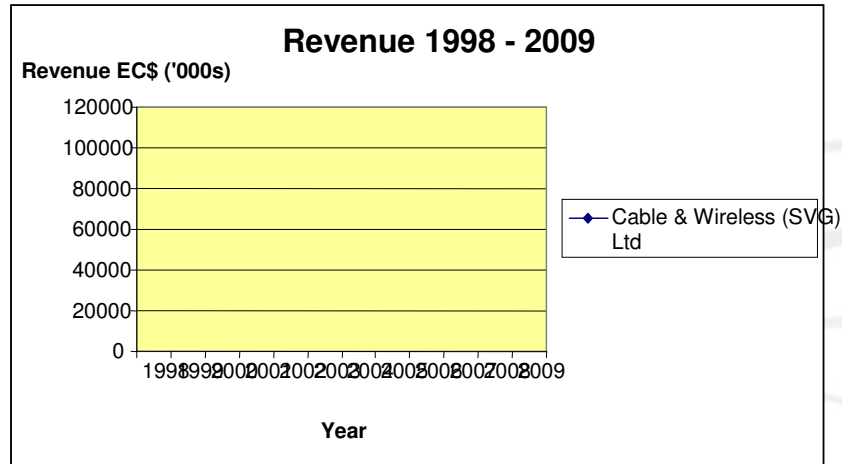
Fig# 1

The revenue generated by the telecom operators in 2009 increased by a small margin. Although there was a decrease in Cable and Wireless Mobile Division this was compensated by an increase in its other business segments. Also there was a small increase in Digicel and Karib Cable revenue.

Revenue 1998 - 2009

Revenue EC$ ('000s)

Fig# 2

The revenue for Cable and Wireless mobile decrease during the period, however this was compensated by an increase in revenue from their domestic fixed services. This resulted in the overall revenue remaining relatively constant for 2009.

Cable & Wireless (SVG) Ltd

Year

Fig: # 2

11

Fig # 3

Fig # 3
The revenue for Digicel slightly increased during the period 2009.

Fig # 4

Fig # 4
The revenue for Karib Cable increased moderately during the period 2009.

Fig #5

Fig #5
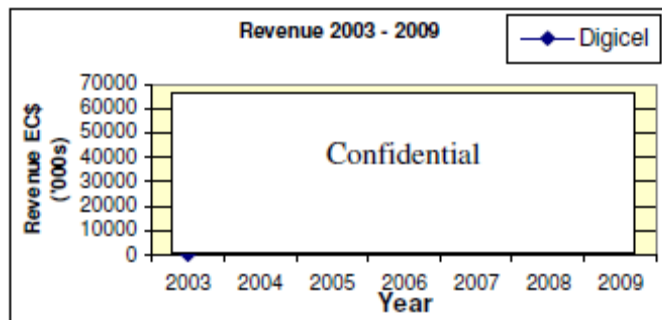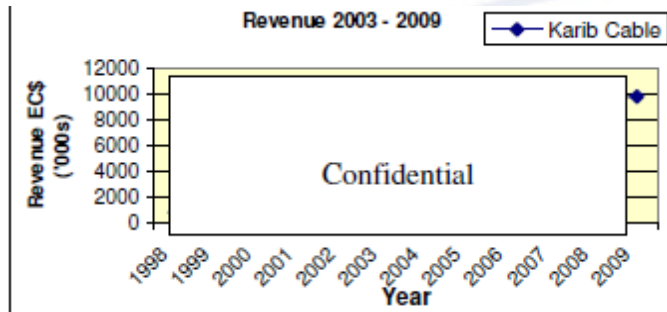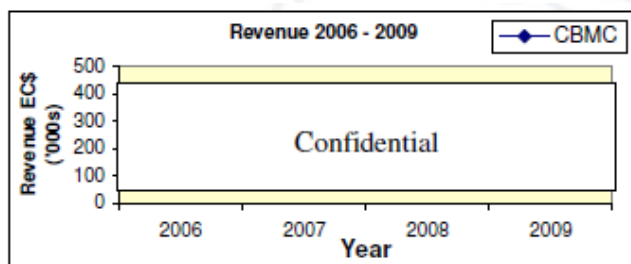The revenue for CBMC declined during the period 2009.

8.1.2 Revenue of the NTRC and ECTEL for the period 2002 to 2009

Frequency fees are shared between the National Telecommunication Regulatory Commission (NTRC) and the Eastern Caribbean Telecommunication Authority (ECTEL).

In 2009, there was a slight decrease in the application fees. The reason for this is due to a decrease in applications for frequency authorization and individual license in 2009 compared to the year before.

There was a 21% decrease in 2009 for frequency fees which was as a result of prepayments in 2008 for frequency fees from telecommunication providers.

8.1.3 Revenue received by the Government for the period 1998 to 2009

Note: Calendar year was the period used in this table

Revenue of NTRC and ECTEL 2002 to 2009				
	NTRC Application fees	Percent increase	NTRC & ECTEL Frequency Fees	Percent increase
'02	$107,036		$607,600	
'03	$5,100	-95%	$1,366,604	125%
'04	$8,800	73%	$1,577,400	15%
'05	$10,300	17%	$1,539,669	-2%
'06	$11,275	9%	$1,681,560	9%
'07	$22,725	101%	$1,245,183	-25%
'08	$13,325	-42%	$1,906,089	53%
'09	$13,225	-7%	1,487,390	-21%
	191,786		**11,411,495**	

Table #2

Government of St. Vincent and the Grenadines				
	Royalties	License Fees	Total	Percent Increase
'98	1,303,189	15,001	1,318,190	
'99	1,286,342	31,119	1,317,461	0%
'00	1,450,800	43,529	1,449,329	13%
'01	639,000	61,143	700,143	-53%
'02	0	3,365,391	3,365,391	381%
'03	0	2,803,927	2,803,927	-17%
'04	0	3,329,145	3,329,145	19%
'05	0	3,421,159	3,421,159	3%
'06	0	3,850,955	3,850,955	5%
07	0	4,301,521	4,301,521	11%
'08	0	4,081,151	4,081,151	-6%
09	0	4,065,706	4,065,706	-4%
		29,369,747	**34,004,078**	

Table #3

13

The market has seen a slight drop in revenue for license fees collected by the NTRC on behalf of the Government in 2009 compared to 2008. This is as a result of outstanding licence fees to be collected at the end of the financial year.

Before the enactment of the Telecom Act 2001, fees paid by Cable & Wireless to the Government were called Royalties. After that date, the companies are required to pay an annual licence fee that is 3% of gross annual revenue.
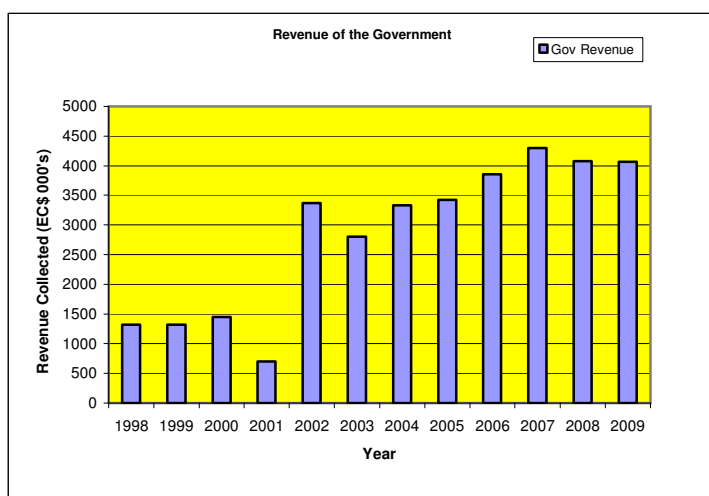

Fig #6

In 2009, license fees collected by the NTRC on behalf of the Government decreased by 4% compared to 6% in the previous year. The 2009 decline is due to outstanding licence fees to be collected at the end of the financial year.

8.1.4 Financial Performance of the NTRC

Revenue

The NTRC budgeted to receive $824,665.13 for the year ending December 31, 2009; however, $870,811.30 was actually received giving a difference of $46,145.97, more than the budgeted amount. The main reasons for the difference have to do with the following items:

- Interest Revenue- The amount of $5,500 had been budgeted; however, the NTRC received $14,503.63 on its savings accounts.

- Application Fee- The amount for Application fees exceeded its budgeted amount by $1,225.00. The amount Budgeted was $12,000.00 and the amount of $13,225.00 was collected.

- Photocopy & Printing – The Commission provides this service primarily for students. The amount budgeted to be collected for 2009 was $4,000.00 and the actual amount received was $5,490.85 which created a surplus of $1,490.85.

- Numbering Fees- The amount of $27,870.00 was budgeted to be collected during the year. However, $30,825.00 was received for annual fees from Central Office and Short Codes issued during the period.

Expenditure

Recurrent

For the year ending December 31, 2009, the NTRC budgeted to spend $725,504.19 on recurrent expenditure; however, $813,437.99 was actually spent. The main reasons are expenses paid during 2009 were incurred in the 2008 financial year such as rent and office supplies and materials.

Capital

The amount of $49,000.00 had been budgeted for capital expenditure for the financial year 2009. However, only $25,304.30 was spent as the Spectrum Analyzer that was budgeted for wasn't purchased during the financial year.

Conclusion

The NTRC's financial performance over the 2009 financial year was satisfactory. Although we exceeded our budgeted amount for the year, this was compensated for by the surplus revenue that was collected. At the end of the 2009 financial year, a gross surplus of $81,018.11 was recorded, from this amount; $22,862.31 was paid out as a bonus to staff. This resulted in a net surplus of $58,155.80.

8.2 Projected Revenue for 2010:

For the fiscal year 2010, the NTRC has projected to collect $1,407,337 in revenue from frequency fees. This is an increase of 1% compare to the projected amount of $1,389,385.00 in 2009. This slight increase in projection for 2010 compared to that of 2009 is due to new frequency assignments that were assigned and billed during the 2009 year and which are expected to be collected during 2010.

Application fees showed a decrease in 2010 compared 2009. The Commission is always conservative regarding the budgeting of application fees due to the difficulties in projecting the amount of new applications.

8.3 Capacity building in 2009:

The NTRC continued to expose its staff and Commissioners to relevant courses and seminars that would benefit the organization both in the short and long term taking into account the limited resources available. The particular areas covered during 2009 were as follows:

- 7th Caribbean Spectrum Management Policy Development Seminar (CTU)
- The Essentials of Business Communication (CED).
- Next Generation Network Master Class (TRMC)
- Regulatory Master Class (TRMC)
- Licensing Workshop (ECTEL)
- Financial Statement Analysis, Budgeting & Forecasting Seminar (CED).
- Annual Conference and Exhibition (CANTO).
- Procurement and Contract Management Workshop (CDB)

- 3rd ECTEL/NTRC Administrative Professional Training Workshop (ECTEL)
- Cooperate Governance Training Clinic (CIC)
- Computerized Accounting Seminar (CED)
- Caribbean ICT Road Show (ITU/CTU)
- Bringing Broadband Access to Rural Areas Seminar (ITU/CTU)

8.4 Regulations: Please note that no regulations were gazetted in the year 2009.

8.5 Staff: The NTRC continues to see some turnover in its staff. The IT Technician has resigned from his position and will be leaving in January 2010. Additionally two members of staff went on maternity leave in the last quarter of 2009.

8.6 ECTEL: The NTRC continues to provide the necessary support to ECTEL as required by the ECTEL Treaty. However, there continue to be issues that exist and which have to be resolved so as to reap the benefits of a harmonized regulatory regime in the contracting states. Our NTRC hosted the bi-annual ECTEL/NTRC forum in July 2009. The first time it has been held outside St. Lucia.

8.7 Numbering: - There was an increase in applications for short codes during 2009 and there is interest for use of these codes by private entities for promotions, ease of access, etc. Such issues will need to be addressed via regulations in the near future. The main issue in relation to numbering is that of number portability especially with the recent launch of a fixed line competitor in the market and an existing mature mobile market. It is difficult for new entrants to attract existing customers without number portability.

8.8 Spectrum Management: - The NTRC hosted a regional spectrum management training workshop in February 2009. The workshop was a practical one with hands on training on spectrum monitoring equipment. The Mobile monitoring vehicle encountered serious mal functions in the last quarter of the year. It is expected that this system will be replaced by mobile handheld units in 2010.

8.9 Internet Access: This issue continues to be one of utmost importance for the further development of our country. While we have seen some improvement in the numbers of customers having access to the Internet mainly via their mobile phones the penetration figures for Broadband access is still too low. The trend is showing that more users are purchasing laptops instead of desktops which will allow for easier access to the Internet. Such trend was taken into consideration in the developing projects under the Universal Service Fund (USF) in 2009.

8.10 Policy Development/Public Consultation: -

The NTRC worked closely with ECTEL in the development of a number of draft policy and technical documents. These were in the following areas:

- **Universal Service Fund Guidelines**
- **Telecommunications Interconnection Code**
- **Telecommunications Access to Facilities Regulations**
- **Quality of Service for Resellers Regulation**
- **Assessment of the Current Price Cap Plan**
- **Policy Recommendations on Regulation of Voice over Internet Protocol (VoIP) IP Telephony**
- **Assessment of the Access Deficit Scheme (ADC)**

The consultations were carried out in various formats. Additionally the NTRC implemented cost oriented rates for wholesale services that were developed and recommended by ECTEL for the sector. These new rates are manifested in the new Interconnection agreement that was approved by the NTRC for Digicel/Lime in May 2009.

8.11 Retail Tariffs: The NTRC was not able to have a new Price Cap Plan (PCP) implemented in 2009 as originally planned since a proposed plan was not completed by ECTEL during the period. The new plan is expected to be completed in early 2010. Notwithstanding this the NTRC was able to facilitate a small voluntary reduction to the fixed to mobile and mobile to mobile retail rates of Lime. This was possible noting the reductions to the wholesale rates in the new Interconnection agreement and the commitment made by Lime in 2007 to reduce such rates if the Interconnection rates

were adjusted. Further reductions are expected in 2010 under the new PCP.

8.12 Universal Service Fund: The Universal Service Fund (USF) was formally launched in 2009 and three projects were developed to the tender stage after having conducted an island wide assessment of current ICT infrastructure, penetration levels and needs of our citizens. More information on the USF could be found in our 2009 USF Annual report.

8.13 Statistics The NTRC continued in 2009 with the provisioning of statistical data from the Telecommunications sector to a number of local, regional and international entities. The following graphs depict some of the more relevant information on the sector. Also note that for Graphs 1 through 4 the rate increases reflected in 2007 are due to the implementation of the value added tax (VAT) by the Government in May of 2007.

International Rates to the USA for Fixline
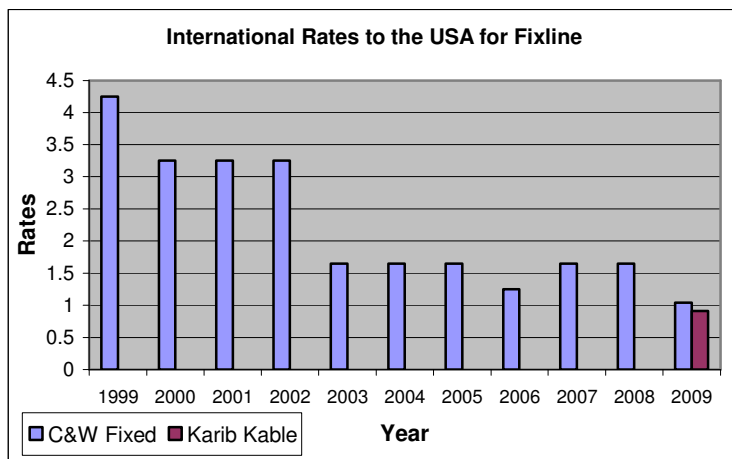
Graph #1

Graph # 1

The rates depicted in Graph 1 are not regulated.
There is no competition in the fixed line market from
Karib Cable in 2009.

International Rates to the USA for Mobile
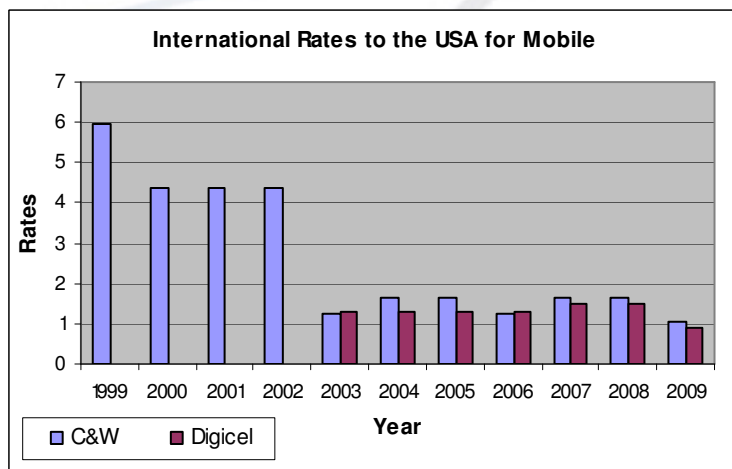
Graph # 2

Graph # 2

The rates depicted in Graph 2 are also not regulated.
In 2009 the rates has reached the lowest ever recorded
to under $1.00 EC per minute during peak time.
.
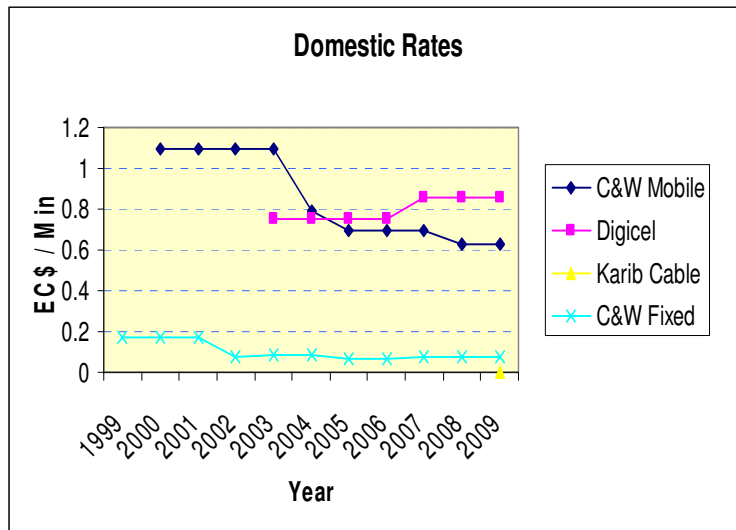
Domestic Rates

Graph 3

The domestic rates in Graph 3 are the daytime rates for calls made to customers on the same network.

The rates remain relatively constant during the 2009 year compared to the 2008 year for the two major providers. The Fixed line rate at the end of 2009 was $0.08EC per minute.

The 2005 to 2009 C&W Fixed rates are set by the Price Cap Regime. An important point to note from the above graph is the large difference between the domestic rates on the mobile networks to that of C&W fixed network. This is far different from what exist with the international rates on C&W fixed and mobile network. Additionally, Cable and Wireless mobile rates between 2007 and 2009 are noticeably reduced from the average rates that consumers (from all networks) were accustomed to paying in the years 2005 to 2007.

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Fixed to Mobile Rates

— C&W Fixed to Mobile

Graph 4

Mobile Customers

Confidential

☐ Cable & Wireless
☐ Digicel
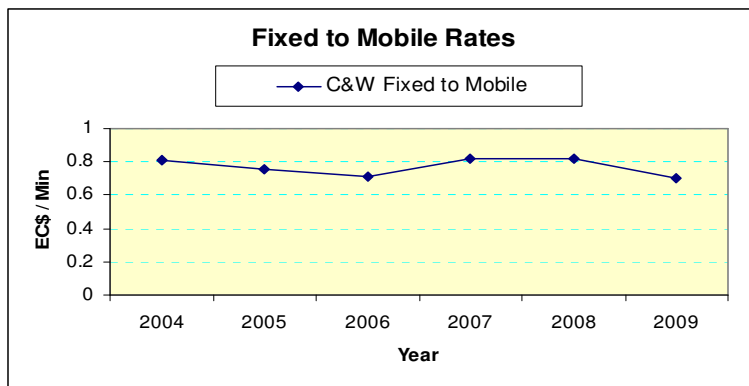
Graph 5

The 2008 to 2009 fixed to mobile rate in Graph 4 was influenced by the interconnection agreement between Cable & Wireless and Digicel. This has resulted in a reduction in rates for Cable & Wireless fixed line to mobile.

For the years 2006 – 2009 the line rental rates include 80 free minutes of fixed to fixed call time (nights and weekends per month). In 2005 the line rental rate included 60 free minutes of fixed to fixed calling on nights and weekends per month.
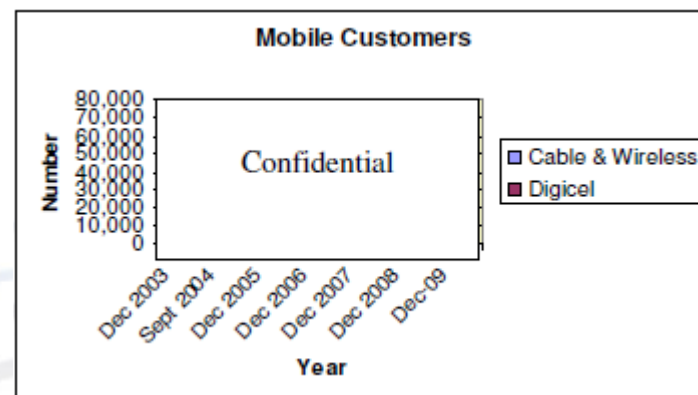
Graph 5 -The number of mobile customers for 2009 has decreased compared to that of 2008. Based on the Data provided the market is almost evenly shared between both providers, however Digicel currently enjoys a small percentage in market share over Cable & Wireless.

20

Fixed Line Customers

Cable & Wireless (SVG) Limited
Karib Cable

Confidential

Number

30,000
25,000
20,000
15,000
10,000
5,000
0

Mar '99 Mar '00 Mar '01 Mar '03 Dec-03 Sep-04 Dec-05 Dec-06 Dec-07 Dec-08 Dec-09

Month
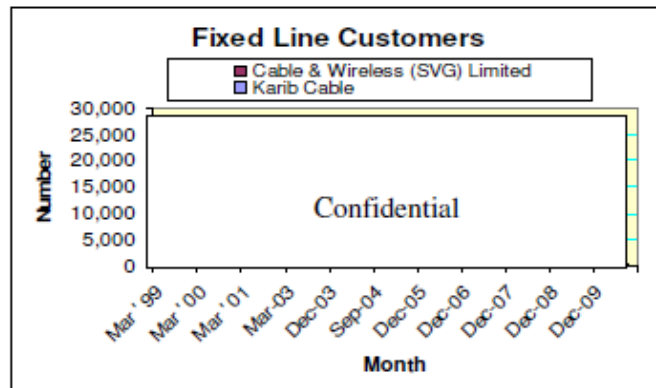
Graph6

Graph 6 shows the number of connected fixed line customers from March, 1999 to December 2009. The amount of customers remains relatively constant in 2009 compared to 2008. We also see a slight market penetration from Karib Cable who entered the fixed line market in March 2009.

Fixed Line Wait List

Cable & Wireless
Karib Cable

Confidential

Number

2000
1500
1000
500
0

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009

Year
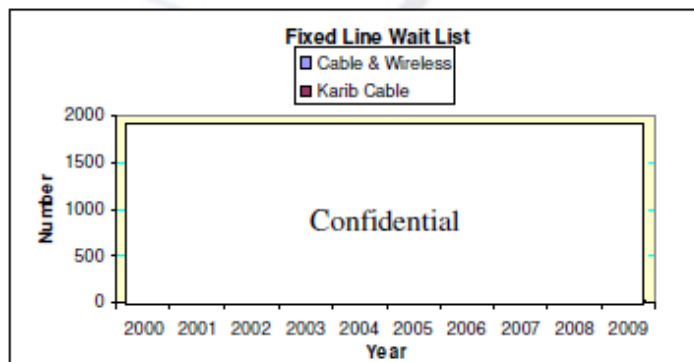
Graph 7

Graph 7 shows the number of persons on C&W's and Karib Cable's waiting list for fixed line telephones. These amounts remain constant in 2009 compare to 2008. The list also remain minimal which is mainly driven by competition.

It should be noted that persons on the waiting list are not just located in rural and undeveloped areas but in suburban areas that are well developed. The reason for being on the waiting list in suburban areas is due to limited line plant capacity.

Fixed Line Applications

☐ Cable & Wireless
■ Karib Cable

Confidential

Graph 9

Fixed Line Disconnections

☐ Cable & Wireless
■ Karib Cable

Confidential

Graph 8

Graph 9 shows the number of applications made for fixed line service. The application for this service has decreased compare to 2008. The spill off in the amount from Cable & Wireless is as a result from the entrance of Karib Cable in the fixed line market.

Graph 8 shows the number of fixed line customers disconnected during each year between 2000 and 2009. The number of persons disconnected reduced in 2009 compared to 2008.

Fixed Line Internet Customers

□ Cable & Wireless   ■ Karib Cable

Confidential

Number

10,000
8,000
6,000
4,000
2,000
0

Sept 2004   Dec 2005   Dec 2006   Dec 2007   Dec 2008   Dec 2009
Year

Graph 10

Mobile Internet Customers

□ Cable & Wireless   ■ Digicel

Number of Subscribers

70000
60000
50000
40000
30000
20000
10000
0

Confidential

Dec -06   Dec-07   Dec-08   Dec-09
Year

Graph 11

Graph 10 shows the number of fixed line internet customers by provider. The number of fixed line internet customers has greatly outweighed these figures (see notes below). Both Cable and Wireless and Karib Cable have experienced increases in its internet customers over the past three years, possibly due to new promotions and the demand for such services. However, their customer base for this service remains low. This is an area to be addressed via the USF.
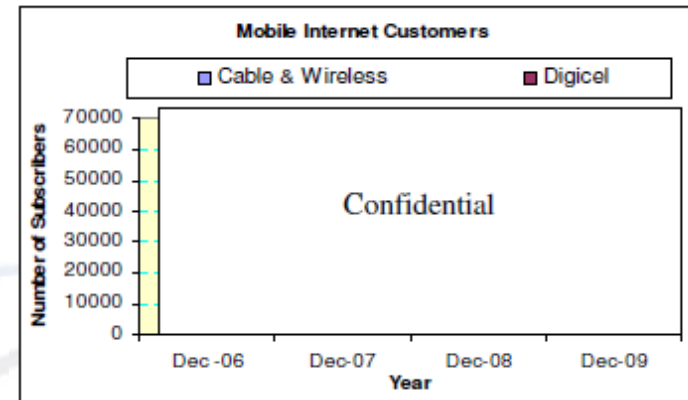
Note: The number of mobile internet customers for Cable and Wireless as at December 2007 and 2008 are estimated

.

As of December 2009, the number of mobile internet customers (customers with internet access capabilities such as GPRS, Wi-Fi and Edge) fell for Cable & Wireless and Increase for Digicel.

Cable TV customers

Confidential
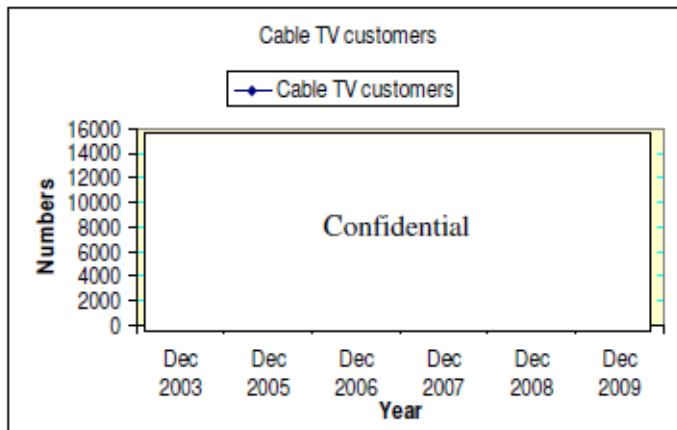
Graph 12

Graph 12 shows the number of Cable TV customers.

The amount of Cable TV Customers has increased for the 2009 year.

8.12.1 Detailed Customer Statistics (as supplied by providers)

Cable & Wireless (SVG) Limited(LIME)		Dec '05	Dec '06	Dec '07	Dec '08	Dec' 09
Fixed line Customers						
	Residential	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
	Business	xxxx	xxxx	xxxx	xxxx	xxxx
	Total	**xxxxx**	**xxxxx**	**xxxxx**	**xxxxx**	**xxxxx**
Internet Customers						
	Dialup					
	ISDN	xxxx	xxxx	xxxx	xxx	xxx
	ADSL	xx	x	xx	x	x
	Total	xx	x	xxxx	xxxx	6785
Cable & Wireless(LIME) Mobile		**xxxx**	**xxxx**	**xxxx**	**xxxx**	**7,315**
Mobile Customers						
	Post paid					
	Prepaid					
	Total	xxx	xxxx	xxxx	xxxx	xxxx
	Data - Post Paid	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
	Data - Prepaid	**xxxxx**	**xxxxx**	**xxxxx**	**xxxxx**	**xxxxx**
Digicel					xxx	
Mobile Customers					xxxx	
	Post paid				**xxxx**	
	Prepaid					
	Total					
	Data (pre & post)					
Karib Cable		xxxx	xxxx	xxxx	xxxx	xxxx
Fixed Customers		40,083	xxxxx	xxxxx	xxxxx	xxxxx
	Total	**xxxxx**	**xxxxx**	**xxxxx**	**xxxxx**	**xxxxx**
Cable TV customers						
	Residential	**xxxx**	**xxxx**	**xxxx**	**xxxx**	**xxxx**
	Business					
	Total	xxxx	xxxx	xxxx	xxxx	xxxx
Internet customers						

Table 4

8.12.2 Computer and Internet penetration

| | No. of House Holds | | Computers | | | | Internet Connection | | | |
| | | | No. | | % | | No. | | % | |
	2001 Census	2009 NTRC survey	2001 Census	2009 NTRC survey	2001 Census	2009 NTRC survey	2001 Census	2009 NTRC survey	2001 Census	2009 NTRC survey
Kingstown	3983	228	553	133	14%	58%	345	103	9%	45.20%
Suburbs	3378	172	252	91	7%	53%	135	72	4%	41.90%
Calliaqua	6562	228	955	155	15%	68%	687	129	10%	56.60%
Marriaqua	2206	186	128	119	6%	64%	82	104	4%	55.90%
Bridgetown	1849	152	77	63	4%	42%	43	47	2%	30.90%
Colonarie	1993	150	62	46	3%	31%	22	31	1%	20.70%
Georgetown	1921	67	52	31	3%	46%	28	16	1%	23.90%
Sandy Bay	622	150	10	58	2%	39%	0	23	0%	15.30%
Layou	1861	215	110	113	6%	53%	60	81	3%	37.70%
Barrouallie	1577	193	39	58	2%	30%	19	28	1%	14.50%
Chateaubelair	1603	263	49	74	3%	28%	27	33	2%	12.50%
N/Grenadines	1721	350	127	210	7%	60%	83	170	5%	48.60%
S/Grenadines	1242	364	103	167	8%	46%	52	153	4%	42.00%
Total	**30518**	**2718**	**2517**	**1318**			**1583**	**990**		

Table 5

Table 5 shows data extracted from a recent island-wide survey conducted by the Commission and compared with similar data from the 2001 census. This information forms an integral part of our Universal Service Fund Operating plan.

Table 5 highlights the percentage of computers and internet connections for each census division. The tables show that computer and internet penetration for Saint Vincent and the Grenadines has increased considerably over all districts. Despite the overall increases, Calliaqua area remains the district with both the highest computer and internet penetration with Marriaqua taking over Kingstown as the District with the second highest internet and computer penetration.

Computer Penetration
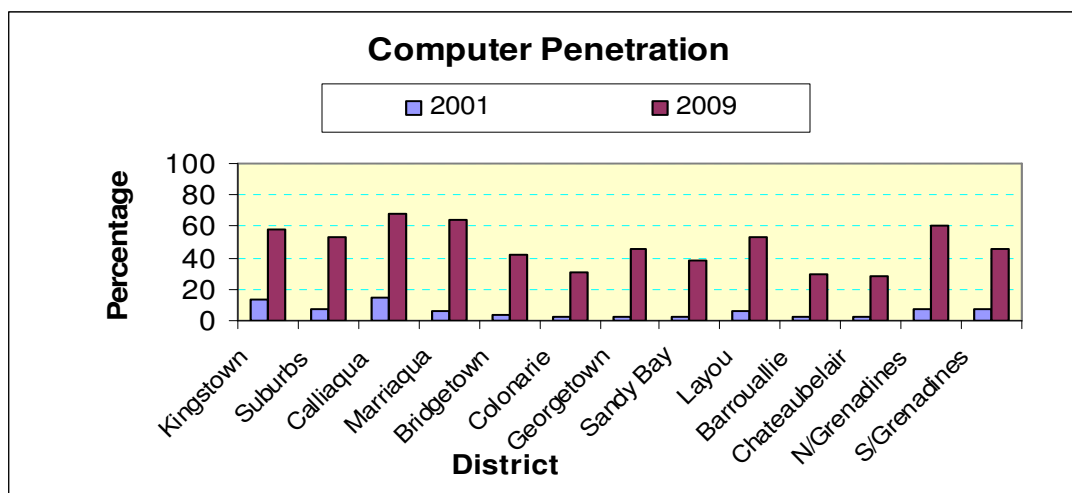
Graph13

Graphs 13 and 14 highlight the differences in internet and computer penetration in the years 2001 and 2009.

Internet Penetration
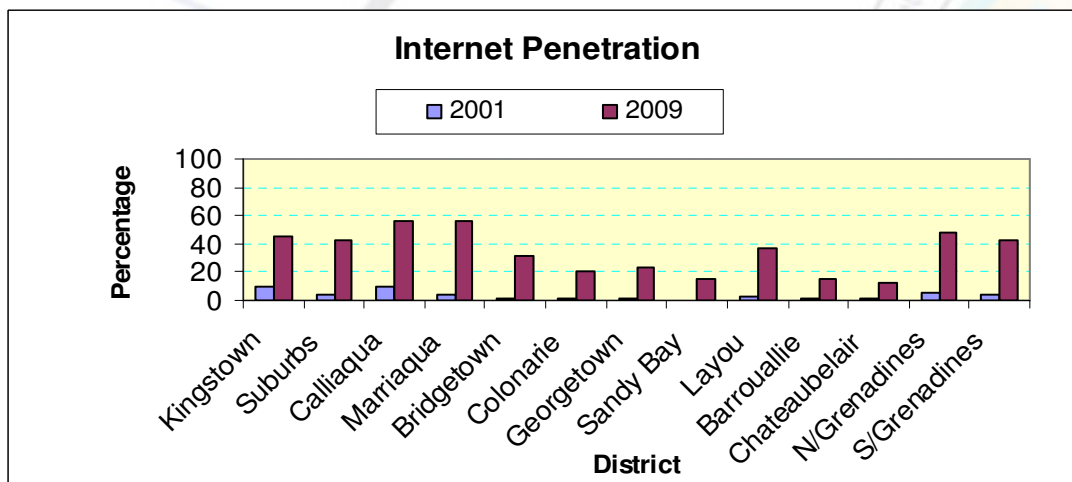
	07		08		09	
Individual type licenses	New	Renew	New	Renew	New	Renew
Fixed Public	1	N/A	0	N/A	0	N/A
Internet Networks	1	N/A	1	N/A	0	N/A
Subscriber Television	0	N/A	0	N/A	0	N/A
Int'l Simple Voice Resale	0	N/A	0	N/A	0	N/A
Mobile Cellular	1	N/A	0	N/A	0	N/A
Public Radio paging	0	N/A	0	N/A	0	N/A
Submarine cable	0	N/A	0	N/A	0	N/A
Class type licenses						
Private network/services	2	N/A	0	N/A	0	N/A
Internet services	1	N/A	0	N/A	0	N/A
Radio Broadcast	0	N/A	1	N/A	0	N/A
Community radio	1	N/A	2	N/A	1	N/A
Television Broadcast	0	N/A	0	N/A	0	N/A
Maritime mobile	4	30	1	31	1	23
Land mobile	2	451	1	334	1	275
Aeronautical radio	0	0	0	0	1	0
Aircraft station	1	15	0	15	3	18
Amateur Radio station	13	6	11	15	29	23
Citizen Band radio	0	3	2	3	0	0
Family Radio Band	0	0	1	1	4	0
Ship Station	49	228	45	136	61	112
Miscellaneous						
CPE Dealers reg. fee	0	10	0	15	18	12
Exam Fees for Rad. Oper.	2	N/A	1	N/A	0	N/A
Type Approval fee	0	N/A	0	N/A	0	N/A
Ship station Operators	25	32	29	32	24	16
Aircraft Station Operators	0	0	0	0	0	0

Table 6

8.13 Licensing

The NTRC continued to facilitate the application process for new licenses under the Telecommunications Act. Individual type applications were forwarded to ECTEL to be evaluated while Class type applications were evaluated by the NTRC. The NTRC also evaluated and made recommendations to the Minister on a number of frequency applications.

Table 6 outlines the number of licences issued from 2007 to 2009. In recognition of the fact that not all issued licences are new licences but may be renewals of existing licences issued in a previous year. Table 7 outlines the new licences and the existing licences renewed in the year 2008 and 2009.

8.14   Policy Recommendations:

The following need to be examined in the policy framework of the Government, at the local, regional and International level.

Cyber Security- This threat needs a regional approach noting the resources needed and the complexity of the problem. Such an initiative can be facilitated with possible assistance from the USA noting the potential threat to their country and the role the Caribbean can play in minimizing this threat if the member states of the region are properly prepared. Entities have already started cyber attacks on the USA in recent years with the Google incident recently being one of the most public ones. The issue to note with these attacks is they are not usually linked directly to the country

or organization that planned the attack. The criminal entity will take over computers in other countries (security issue at hand) then use these compromise computers which usually have high speed connections) to launch the attacks. As such two things are needed computers/networks with low security and high speed internet connections. At this time we have the low security networks and are working on increasing the speeds of our networks. As such we will be a prime candidate to be used in attacks against other countries and most likely the USA noting our close proximity. We have a direct connection to the USA via our submarine cables. With attacks from countries in Asia and the Middle East they will have to go through other countries first. In other words the Caribbean is a prime location to be used by entities to launch cyber attacks on the USA. In this context it is in their interest that they work in assisting us with better security systems for our networks.

Regulatory focus for convergence – Our Country has to move from our current approach of just regulating networks and some services offered over these networks. We have to move to regulating what goes on these networks and not just the "content", etc but more so the applications that can operate on these networks. One aspect of technology change is that what was once done by hardware can now be done in software. As such applications will control what can or cannot be done over the new telecom networks such as Next Generation Networks (NGN), etc. With these networks the providers will have more control on what they allow to travel/operate on their networks. Similar to how our current regulatory frameworks requires interconnection to be mandatory so that two networks could be interconnected to share communication between two users on different networks we will need to regulate and mandate

interconnection between a network(or device on the network) and an application from a third party**.** This will allow the user of the application to communicate with users of other applications or networks. If we do not provide for this critical element in our regulatory framework we will leave it to a few telecom providers to decide what can and cannot be done on their networks. We will then have a situation of large multi national corporations deciding what content/services should be available to the public and not our countries. Which scenario is worst?

ICT Opportunities- One of main challenges facing the Caribbean at this time is a growing demographic of educated persons(secondary and higher education along with specific ICT skills) in the age group 17- 30 who are looking for employment in knowledge fields(compared with agricultural fields hitherto). The expected materialization of available jobs in the ICT sector that was envisioned 10-15 years ago has not occurred. It was envisioned that with reduced telecom cost our countries would have had a number of call centers and other data processing entities being established in our region. While the cost of lease circuits has been reduced substantially over the last 9 years with the liberalization of the sector in the region the job growth that was expected has not occurred. The main reason for this shortfall is that due to the globalization trend that covered this period new markets became opened to trade that was not available 10-15 years ago and which offer similar skills but at a lower cost (wages). The liberalization of the telecom market also occurred in other parts of the world which also enabled cost of communication to be independent of location. Thereby allowing countries such as India that is located very far from the USA to attract the call centers and data processing jobs our countries were looking to attract.

Noting this development our countries need to look to the future to see what opportunities are there that we can use our resources to capture (for our knowledge workers in the 17 - 30 age group). We have to look outside the data centre and call centre market. Both of these markets are filling a need generated by companies whose only interest is obtaining a service and keeping their expenses to a minimum. It is similar to the banana market. If the countries can get the same product/service else where at a lower cost they will go there. The skills needed for these centres while being in the IT field is at the low end and could be easily obtained in a number of countries that we will find hard to compete with(mostly due to the labour issue). Our countries have to look beyond this and make our own trends in the market. We need to develop our own companies that will offer services to our local market, the region and the world. Instead of depending solely on "entrepreneurs" from outside to come to our shores to (in the form of investors) set up IT industries, we can set up our own. The ICT industry specifically the software/services sector does not require substantial capital intensive funding to develop as compared to the Tourism sector. We have seen this time and time again in the USA where many ICT companies (software/services) have started from small funding to value hundreds of millions just in the last ten years in the USA. Have we had any similar IT companies in SVG or the whole region in this same period? This is where our opportunities lie and where we need to target our energies. See what frameworks (educational, financial, etc) are in place to allow these companies to be established and succeed in the USA. The vast majority of these successful ICT companies are software oriented. Over the last ten years the NTRC is not aware that our country has any software teaching/training in any of our schools, projects, etc. The other area we believe is

important to their success is funding. While it is not very capital intensive, funding is still needed to move the idea and application to the main stream. In the US venture capital funding plays a big role. We can look to similar arrangement/structures for our country and the region. In addition the NTRC is of the view our companies would be able to access venture capital funding from US sources since these entities are looking for good ideas to invest in no matter where they are located. It just means that you need to have a relationship to link our promising talent with these entities. This can be a role for Invest SVG.

In short we have been spending considerable amounts on training our citizens on the hardware/networking aspects of IT to date which is good but we need to expand beyond this so that we can reap the real benefits. There is nothing preventing our citizens to develop the next Google or Facebook if they have the right tools and assistance. All we need to do is give them the tools and the frameworks and they will develop the products/services. In the long run we will have successful local/regional ICT entities that will be providing software products and services to our citizens, the region and internationally. These companies will then provide the employment opportunities for the knowledge workers that we are producing and will have an in grown interest seeing our countries develop as they will be part of our community. To achieve this goal requires a shift in our educational policy as it relates to ICT education. It has to be software focused and has to start from a minimum the secondary level.

In closing the NTRC will like to note the number of third party software applications currently available for sale for the Apple IPhone which is around 150,000. The developers of these applications get a royalty from each sale from Apple

(the applications are hosted on Apple web site for sale to its customers). This type of applications can be developed from a home office. How many of these applications were developed by Vincentians or persons from our region?

policies will be manifested in a new regulatory framework for the Telecommunications sector by 2010/11. Additionally the NTRC will use the Universal Service Fund to help facilitate the opportunities available in the sector and ensure that access is not only available to particular segments of our country whether it be geographical or financially defined.

9. Broad Response Strategies:

As the Telecom Sector continues to function within a liberalized environment, the NTRC in collaboration with ECTEL has to respond to the requirements of a competitive sector so as to protect the interests of both the providers and the consumers and facilitate a relevant regulatory framework that will cater for the increased rate of changes in sector.

The NTRC has to operate within the harmonized framework of the ECTEL Treaty and the Telecommunications Act of 2001. Most of its objectives cannot be accomplished on its own due to the mandate given to ECTEL on certain issues.

Recognizing the limitations outlined above, the NTRC would seek to continue to work closely with ECTEL, the Ministry of TSTI and relevant stakeholders so as to ensure that the revised regulatory framework for the telecom sector and other related legislation are capable of addressing the issues that currently exist and those that are envisioned.

Our NTRC will continue to provide feedback and advice on the draft policies being developed for the sector. These

10. Result Indicators 2008 and 2009

1. **Increase the public awareness of the NTRC in coordination with the dispute resolution services now available.** This objective was not completed in 2009. Some additional work was done via media releases, hosting of Radio call in programs and Public Forums in 2009. The plan program is for a more structured approach using the services of a PR consultant. This will be completed in 2010.

2. **Start identifying potential projects that could be funded from the Universal Service Fund.** A number of projects were identified and listed in the 2009 USF Operating Plan.

3. **Re License SVG broadcasting under the Telecommunications Act of 2001 in relation to their Television broadcasting operations.** This task was not addressed. Will work on it in 2010.

4. **Prepare and publish a procedural manual covering all functions currently carried out by the NTRC.** This task was completed in 2009.

5. **Seek to settle matter relating to the disputed licences fees from Cable & Wireless covering the period April to September 2001.** This task was not addressed in 2009. Will work on it in 2010.

6. **Conduct a study to document the location of all transmitters/Towers in St. Vincent and the Grenadines and the possible changes/implications that could occur within the next five years taking into consideration the entry of new entrants and technology into the market.** All transmitters and Towers and now documented. The projected changes/implications will be completed in 2010.

7. **Redesign and deploy an updated NTRC website with the objective of having more information more easily available to interested parties locally, regionally and internationally.** The new website has been launched.

8. **Continue with the implementation of the Universal Service Fund with specific emphasis on developing the 2009 Operating Plan.** The USF Operating Plan for 2009 was developed and published in July 2009.

9. **Work with Stakeholders in developing potential projects to be funded under the Universal Service Fund.** The NTRC received a number of potential project ideas from stakeholders throughout the country. These were used to develop priority project areas in our 2009 USF Operating Plan.

10. **Continue with the implementation of the Dispute Resolution work programme.** As outlined above some areas were addressed in 2009 but the work will be completed in 2010.

11. **Facilitate the hosting of a regional training workshop on Spectrum monitoring techniques for NTRC staff.** The NTRC hosted a three day regional workshop in February 2009.

12. **Have a new Interconnection Agreement implemented based on cost oriented rates to replace the existing agreement between C&W and Digicel that expired in 2008.** A new three year agreement was implemented in May 2009.

13. **Have a new Price Cap regime implemented on the incumbent operator Cable & Wireless (Lime) to replace the existing regime that expires in December 2009.** This was not completed. A draft plan was developed by ECTEL in 2009 but was not implemented by the end of the year. It is expected that the new Plan will be in place in the second quarter of 2010.

14. **Facilitate the hosting of the 10th ECTEL/NTRC Forum in July 2009.** The NTRC hosted the 10th forum in July 2009. This was the first forum to be held outside of St. Lucia.

15. **Seek to have NTRC regulatory initiatives incorporated in the new Telecommunications Bill.** The NTRC participated in a regional workshop in August 2009 that reviewed the draft bill. A number of improvements were recommended to the draft bill.

16. **Improve the ease of doing business with the NTRC.** The NTRC undertook a review of some of its processes and made changes to some. Additional changes will be implemented in 2010 specifically via our new website.

17. **Seek to integrate the access systems for the various databases used by the NTRC. Such integration would improve the productivity of our administrative division.** The NTRC undertook a review of all its applications with the aim of integrating them into a more user friendly and efficient system. The new system will be completed in 2010.

18. **Develop an IT Disaster plan for the NTRC.** A draft plan was developed in 2009. The plan will be completed in 2010.

19. **Source and install an Amateur Radio station for NTRC.** The NTRC procured an Amateur radio station and antenna in 2009. The installation would be completed in 2010.

20. **Seek to reduce quantity of paper printed and used by the NTRC. Such measures will reduce the filing requirements of the NTRC as well as reduce operational costs.** The NTRC has developed and implemented a new policy to handle electronic correspondence. This has resulted in less paper usage than what would occur on a normal basis.

21. **Develop a number of ICT related articles on topics that are of interest to the general public and which would also be used as a public awareness tool of the NTRC.** The NTRC developed ten (10) articles in 2009 but was not successful in getting the local newspapers to carry them. The Papers wanted to carry them as Advertisements.

22. **Develop a monthly ICT research paper. This paper would be circulated to staff of the NTRC and other targeted stakeholders. The objective of this paper would be to keep persons informed of current developments in specific ICT areas and their possible implications to the regulatory system.** The NTRC developed the monthly research paper which is circulated within the NTRC and selected stakeholders outside.

11. Objectives for 2010

1. Complete Public Awareness program started in 2008 relating to the Dispute Resolution Process available through the NTRC to handle complaints/disputes of consumers and service providers.

2. Seek to Licence SVG Broadcasting Corporation Television Service under the Telecommunications Act of 2001.

3. Seek to settle matter relating to the disputed licenses fees from Cable and Wireless covering the period April to September 2001.

4. Complete study documenting the location of all transmitters/towers in St. Vincent and the Grenadines and the possible changes/implications that could occur within the next five years taking into consideration the entry of new entrants and technology into the market.

5. Seek to establish an annual forum for NTRC Directors.

6. Work with ECTEL in arranging a regional training workshop on the Peachtree Accounting application.

7. Migrate all existing Excel format financial reports of the NTRC to automated reports via the Peachtree Accounting System.

8. Seek new avenues for communication with NTRC stakeholders (NTRC short code, Face book etc.)

9. Seek to expand services and information of the NTRC that is available on the NTRC website.

10. Establish an electronic log for Interference complaints.

11. Establish an online registry of telecom equipment that is approved for use in St. Vincent and the Grenadines.

12. Develop component of database to keep track of telecom equipment that were cleared via the NTRC.

13. Review the NTRC IT systems and processes with the objective of improving them for efficiency and security.

14. Integrate existing standalone databases of the NTRC into one database.

15. Hold two stakeholder meetings with the objective of identifying needs that could be addressed by our regulatory system.

16. Develop NTRC handbook to document rules/policies of the institution, etc.

17. Seek to implement the three projects identified by the Universal Service Fund (USF) in 2009.

18. **Identify additional projects to be financed by the Universal Service Fund (USF) taking in consideration the priority areas of the fund as outlined in the 2010 Operating plan.**

19. **Work with ECTEL and other stakeholders in ensuring that the new Telecommunications Bill addresses the relevant issues in the sector for the medium term.**

20. **Approve a new Price Cap Plan (PCP) to replace the existing PCP.**

21. **Seek to have the issue of broadcasting content addressed via some form of regulatory framework.**

22. **Implement an internal training program to further enhance the management skills of the NTRC staff.**

12. Annex A

12.1 *Technical Definitions/Terminology*

CANTO: -   *"Caribbean Association of National Telecommunication Organizations"*

CANTO provides a platform for all Caribbean telecommunications operators to speak with one voice to policy makers, regulators and other stakeholders in the   sector in influencing the creation of a favorable business environment for all stakeholders.

CIDA:-   *"Canadian International Development Agency"*

CIDA supports sustainable development in developing countries in order to reduce poverty and to contribute to a more secure, equitable and prosperous world.

CITEL:-   *"Inter-American Telecommunication Commission"*

CITEL is an entity of the Organization of American States, it is the main forum in the hemisphere in which the governments and the private sector meet to coordinate regional efforts to develop the Global Information Society. CITEL endeavours to make telecommunications a catalyst for the dynamic development of the Americas by working with governments and the private sector.

CTO:-   *"Commonwealth Telecommunications Organization"*

The (CTO) is a partnership between Commonwealth governments and telecommunications businesses to promote ICT in the interests of consumers, businesses and social and economic development. It's Program for Development and Training (PDT) is a unique program of training and expert assistance in every aspect of telecommunications for Commonwealth developing countries.

CTU: -   *"Caribbean Telecommunications Union"*

CTU is the major Telecommunications policy organ in the Region, directed by Inter-Governmental specialized action under a special Agreement establishing the Union.

Frequency: -   *"The rate of a repetitive event. The standard unit for frequency is the hertz (Hz), defined as the number of events or cycles per second. The frequency of electrical signals is often measured in multiples of hertz, including kilohertz (kHz), megahertz (MHz), or gigahertz (GHz)."*

GMDSS: -   *"Global Maritime Distress and Safety System"*
The GMDSS provides for automatic distress alerting and locating in cases where a radio operator doesn't have time to send an SOS or MAYDAY call.

ITU: -   *"International Telecommunication Union"*

ITU works closely with all standards organizations to form an international uniform standards system for communication.

Land Mobile: *" A mobile service between base stations and land mobile stations, or between land mobile stations."*

Maritime Mobile: -   *"A mobile service between coast station and ship stations, or between ship stations, or between associated on-board communication stations; survival craft stations, and emergency position- Indicating radio beacon stations may also participate in this service."*

MMSI: -   *"Maritime Mobile Service Identity"*

MMSI are formed of a series of nine digits which are transmitted over the radio path in order to uniquely identify ship stations, ship earth stations, coast stations, coast earth stations, and group calls. These identities are formed in such a way that the identity or part thereof can be used by telephone and telex customers connected to the general telecommunications network principally to call ships automatically.

Radio frequency spectrum: -   *"that part of the electromagnetic Spectrum used for communications; includes frequencies used for AM- FM radio and cellular phones and television etc"*

Ship Station: -   *"A Mobile station in the maritime mobile service Located on board a vessel which is not permanently moored, other than a survival craft station."*

Spectrum:-   *"(Electromagnetic Spectrum) is an ordered array of the components of an emission or wave. Sound, Radio Frequency Spectrum, Infra Red, Visible Light, Ultraviolet Rays, X-Ray etc are all part of the Electromagnetic Spectrum in that order."*

Stations:-   *"One or more transmitters or receivers or a combination of transmitters and receivers, including the accessory equipment, necessary at one location for carrying on a radio communication service, or the radio astronomy service.*

Telecommunications:-   *"Any transmission, emission or reception of signs, signals, writings, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems.*

Universal Service:-   *"universal service" includes the provision of –*
   (A) Public voice telephony;
   (B) Internet access;
   (C) Telecommunications services to schools,
    hospitals and similar institutions and the disabled
   and physically challenged; or
   (D) Other service by which people access efficient,
   affordable and modern telecommunications.

USAID:-   *"The US Agency for International Development"*

13. <u>Annex B</u>

13.1 *<u>Audited Financial Statements 2009</u>*