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IV. ACTIVITIES UNDER THE LAW ON ELECTRONIC COMMUNICATIONS AND THE LAW FOR THE ELECTRONIC DOCUMENT AND ELECTRONIC SIGNATURE

1. Provision of electronic communications

After conducting public consultation, the CRC adopted models for authorizations for individually assigned scarce resource - radio frequency spectrum usage, and a model certificate of registration in the public register of the undertakings, notifying the CRC of their intention to provide public electronic communications.

In 2008, the information system "Licensing and Registers" was introduced, which created a public register of undertakings notifying the CRC of their intention to provide public electronic communications, and public register of undertakings, authorized to use the individually assigned radio frequency spectrum. The provisional register of the undertakings that notified the CRC of their intention to provide public electronic communications, were set up in accordance with the created public register. The databases were set up into the format needed to be put into a unified database, linked to the maintenance of the public registers on side of CRC, in accordance with the provisions of the LEC. A public register of the radio-amateurs was created.

Almost all individual licences issued under the Telecommunications Act (repealed) have been brought into conformity with the provisions of the LEC. Public operators that under the Telecommunications Act (repealed) had the right to provide telecommunications activities on the basis of registration under General license officially entered the register of undertakings notifying the CRC of their intention to provide public electronic communications. In 2008, 102 registrations under the General license were obliterated, among them: 60 for cable public telecommunications networks for distribution of radio and television programs without use of scarce resource; 1 for providing the service access to public voice telephone service through public payphones; 37 for public telecommunications networks for data transfer without use of scarce resource; and 4 for RLAN public networks of mobile radio service.

1.1. Individual licences under TA (repealed) and authorizations for individually assigned scarce resource use under LEC

Table No. 21

Individual licences under TA						
<i>№</i>	<i>Telecommunications network</i>	<i>Individual licences 2008</i>			<i>Valid individual licences as of 31.12.2007 (number)</i>	<i>Valid individual licences as of 31.12.2008 (number)</i>
		<i>Amendments/Supplements/Transfers (number)</i>	<i>Nullified /Discontinued/Withdrawn/Cancelled/Expired (number)</i>	<i>Brought into conformity (number)</i>		
100	Public telecommunications network and provision of telecommunications services	12	-	-	1	1
101	Available and/or new telecommunications networks for terrestrial analogue broadcasting: Television broadcasting with national and local coverage Radio broadcasting with national and local coverage	9 9	- -	44 265	44 266	0 1
102	Telecommunications networks for terrestrial digital broadcasting	-	-	1	1	0
106	Paging telecommunications networks	-	1	2	4	1
107	TRUNK mobile telecommunications networks	-	-	2	2	0
108	Provision of geostationary orbital positions, assigned to Republic of Bulgaria by international agreements	-	-	2	2	0
110	Cellular mobile telecommunication networks under GSM standard	42	-	-	3	3
111	3G Cellular mobile telecommunication networks (UMTS)	-	-	-	3	3
112	Telecommunications network of fixed satellite radio service	2	6	27	36	3
113	Point-to-point telecommunications networks of fixed radio service	16	9	138	147	0
114	Cellular mobile telecommunications network under NMT and/or CDMA standard	3	-	-	1	1
115	Point-to-multipoint telecommunications networks of fixed radio service	-	-	5	5	0
115A	Point-to-multipoint telecommunications networks of fixed radio service in radio frequency band 26 GHz	1	-	5	5	0
116-A	Telecommunications networks for provision of fixed voice telephony service	18	-	6	18	12
116-B	Telecommunications networks for provision of the service access to voice telephone service through the carrier-selection service	-	-	4	12	8
117	Telecommunications networks for data transfer with individually assigned scarce resource - numbers	-	1	-	4	3

Individual licences under TA						
№	Telecommunications network	Individual licences 2008			Valid individual licences as of 31.12.2007 (number)	Valid individual licences as of 31.12.2008 (number)
		Amendments/Supplements/Transfers (number)	Nullified /Discontinued/Withdrawn/Cancelled/Expired (number)	Brought into conformity (number)		
117A	Provision of voice telephone service and data transfer through point-to-multipoint public telecommunications network of the fixed radio service with national coverage	1	-	-	2	2
120	Telecommunications PMR/PAMR networks of the mobile radiocommunication service for professional purposes	32	44	715	764	5
121	Telecommunications networks for provision of the leased lines service, including international leased lines	-	-	-	16	0*
122	Public mobile telecommunications network under the TETRA standard with national coverage	-	-	-	-	0
123	Private mobile telecommunications network under the TETRA standard	-	-	1	1	0
125	The radio services: aeronautical mobile, radio location and radio navigation for air traffic control and provision of air navigation service of flights in the civil airspace	-	-	1	1	0
TOTAL:		145	61	1218	1338	43

* The activity passes in notification regime

Table No. 22

Authorizations under the Law on electronic communications							
Electronic communication network	Authorizations 2008						
	Amendments/Supplements/Transfers (number)	Authorizations granted (number)	Ex off granted authorizations (number)	Authorizations granted (total number - incl. ex off issued) (number)	Discontinued/Withdrawn (number)	Valid authorizations as of 31.12.2007	Valid authorizations as of 31.12.2008
Electronic communications networks for terrestrial analogue broadcasting: broadcasting of television signals with national and local coverage	38	0	44	44	-	-	44
broadcasting of radio signals with national and local coverage	108	16	266	282	4	4	282

Authorizations under the Law on electronic communications

<i>Electronic communication network</i>	<i>Authorizations 2008</i>						
	<i>Amendments/Supplements/ Transfers (number)</i>	<i>Authorizations granted (number)</i>	<i>Ex off granted authorizations (number)</i>	<i>Authorizations granted (total number - incl. ex off issued)</i>	<i>Discontinued/Withdrawn (number)</i>	<i>Valid authorizations as of 31.12.2007</i>	<i>Valid authorizations as of 31.12.2008</i>
Electronic communications networks for terrestrial digital broadcasting	-	0	1	1	-	-	1
Paging electronic communications networks of mobile radio service	-	0	2	2	-	-	2
TRUNK electronic communications networks of mobile radio service	-	1	2	3	-	-	3
Provision of geostationary orbital positions, assigned to Republic of Bulgaria by international agreements	-	0	2	2	-	-	2
Electronic communications networks of fixed satellite radio service	-	0	27	27	-	-	27
Point-to-point electronic communications networks of fixed radio service	20	10*	127	137	3	6	140
Point-to-multipoint electronic communications networks of fixed radio service	3	0	5	5	-	1	6
Point-to-multipoint electronic communications networks of fixed radio service in radio frequency band 26 GHZ	1	0	5	5	-	-	5
Electronic communications networks for provision of fixed voice telephony service	1	2	6	8	-	1	9
Electronic communications networks for provision of the service access to voice telephone service through the carrier-selection service	-	0	4	4	-	-	4
Electronic communications networks of mobile radio service - PMR	48	53**	711	764	85	32	711
Electronic communications networks of aeronautical mobile radio service	-	2	5	7	-	-	7
Electronic communications networks of mobile radio service - TETRA	-	1	1	2	-	-	2
The radio services aeronautical mobile, radio location and radio navigation for air traffic control and provision of air navigation service of flights in the civil airspace	-	-	1	1	-	-	1
Temporary authorizations	-	2	-	2	-	-	-
TOTAL:	219	85	1208	1295	92	44	1245

* Assigned radio frequency spectrum for 2746 radio relay links;

** Total number of the assigned radio frequencies is 394

1.2. Notifications on providing of public electronic communications under the LEC

Table No. 23

Notifications of providing public electronic communications under the LEC, for 2008	
Number of notifications received by the CRC for the provision of public electronic communications	269
Number of undertakings entered in the register under Art. 33, par. 1, item 1 of the LEC (public register of the undertakings that have notified the CRC of their intention to provide public electronic communications)	1220 (incl. 1021 entered officially)
Number of undertakings, obliterated of the register under Art. 33, par. 1, item 1 of LEC	14
Number of undertakings, entered in the register under Art. 33, par. 1, item 1 of LEC for providing of electronic communications during short-term events (SNG)	3

1.3. Provision of electronic communications through radio equipments of amateur radio service

Table No. 24

Table No. 25

Authorizations, Certificates and Licences

Document type	As of 31.12.2007 (number)	2008 (number)	Total number
Permits for radio-amateur qualification	1599	147	1746
HAREC certificates	139	24	163
CEPT licences	228	32	260
TOTAL:	1966	203	2169

Examinations for radio-amateur qualification

Exams/Examined persons	As of 31.12.2007 (numbers)	2008 (number)	Total number
Exams	48	3	51
Examined persons	1320	96	1416

In 2008, 100 personal and 22 temporary identification symbols of persons with radio-amateur qualifications were approved.

2. Market regulation

Main priorities in the CRC activity are the collection of information on the activities of operators providing public electronic communications in Bulgaria, the analysis of the competitive environment of electronic communications markets and the regulatory measures taken to ensure a competitive environment that gives the users a wide range of choice, affordable prices and high quality of the used electronic communications services.

2.1. Monitoring of the electronic communications market

- The monitoring of the Bulgarian electronic communications market is provided by the CRC through monitoring of a set of parameters, for which data are collected directly from more than 1200 operators with the help of specific questionnaires prepared in conformity with the public electronic communications services that operators provide. This set of parameters includes information necessary to the CRC for the following:

- determining, analysis and assessment of the relevant electronic communications markets, according to 2002 European regulatory framework;
- preparation of a summarized annual analysis on the state and development of the electronic communications market in Bulgaria for the previous year, part of the CRC Annual Report;

- providing information to the European Commission aimed at preparation of the annual reports on the Single European Electronic Communications Market (Implementation reports) and of the reports on the development of broadband Internet access in the Community;
- providing information to international institutions and organizations, which by virtue of international agreements CRC is a member of: ITU, ERG, IRG and others;

2.2. Determining, analysis and assessment of the relevant electronic communications markets according to the 2002 European regulatory framework

In accordance with the LEC and the Methodology for determining, analysis and assessment of the relevant markets¹, transposing the 2002 European regulatory framework into the national law, in 2008 the CRC began actively to perform its activity towards the determining, analysis and assessment of the relevant electronic communications markets, the designation of the operators with significant market power on each market and the imposing of specific obligations on these operators in order to ensure a competitive market environment.

In 2008, began the procedure for determining, analysis and assessment of twelve markets identified by the CRC as priority, as follows:

- Access to the public telephone network at a fixed location for residential customers (market 1 of Recommendation 2003²);
- Access to the public telephone network at a fixed location for business customers (market 2 of Recommendation 2003);
- Publicly available local and/or national telephone services provided at a fixed location for residential customers (market 3 of Recommendation 2003);
- Publicly available international telephone services at a fixed location for residential customers (market 4 of Recommendation 2003);
- Publicly available local and/or national telephone services provided at a fixed location for business customers (market 5 of Recommendation 2003);
- International telephone services publicly available at a fixed location for business customers (market 6 of Recommendation 2003);
- Call origination in the public telephone network at a fixed location (market 8 of Recommendation 2003, respectively market 2 of Recommendation 2007);
- Call termination in individual public telephone networks at a fixed location (market 9 of Recommendation 2003, respectively market 3 of Recommendation 2007);
- Wholesale unbundled access (including shared access) to metallic loops and sub-loops for the purpose of providing broadband and voice services (market 11 of Recommendation 2003, respectively market 4 of Recommendation 2007);
- Wholesale broadband access (market 12 of Recommendation 2003, respectively market 5 of Recommendation 2007);
- Voice call termination on individual mobile networks (market 16 of Recommendation 2003, respectively market 7 of Recommendation 2007);

2.3. Prices and costs regulation

According to the LEC regulations, electronic communications prices are subject to regulation only if on the basis of a market analysis is found that the competition on the

¹ The methodology is adopted by CMD No. 40 of 28.02.2008 and is promulgated in SG.27/11.03.2008

² Recommendations of the Commission 2003/311/EC of 11 February 2003 and 2007/879/EC of 17 December 2007 for the relevant product markets in the electronic communications sector, subject to ex-ante regulation, issued on the basis of Art. 15, par. 1 of Directive 2002/21/EC of the European Parliament and of the Council concerning the general regulatory framework for electronic communications networks and services

relevant market is ineffective, and only if the CRC has imposed specific measures on the undertakings with significant power on the market concerned, including obligations in respect of prices. According to §7 of the Transitional and Final Provisions of the LEC, the obligations imposed pursuant to TA (repealed) remain in force, pending the completion of the market analyses, as the procedure for twelve of them was initiated in 2008.

Detailed information about the prices for fixed voice telephone services of BTC AD, the universal service, the carrier-selection services, interconnection and unbundled access, termination in mobile networks, as well as about the cost accounting system of the incumbent, is presented in Section II of the current report.

International roaming provided in public mobile telephone networks is charged at prices regulated in accordance with Regulation 717/2007 of the European Parliament and of the Council, as information on those prices could be found in Section II of the current report as well.

2.4. Cooperation with CPC

Over the year, the CRC continued cooperating with CPC in many investigations concerning potential breaches of the Competition Protection Law (CPL), and in evaluations of economic concentration cases involving operators providing electronic communications services.

With the view of achieving the objectives set out in Article 4 of the LEC and Article 1 of the CPL, in early 2008, a joint working group of representatives of both the institutions drafted Rules for interaction and coordination between the Commission and CPC (the Rules) which aim at creating conditions for effective cooperation and coordination between both institutions when exercising their legally delegated powers and implementing national and European electronic communications and competition law. In the document, the forms of interaction between both institutions when exercising their authorities under the LEC and the CPL are regulated, as well as the rules to be observed in the work with and exchange of information representing professional secret. On the grounds of Article 44, Paragraph 1 and Paragraph 2 of the LEC, the Rules have been adopted by CRC Decision No. 62/31 January 2008.

3. Standardization

Over the year, CRC successfully acted as a National Standards Organization to the European Telecommunications Standards Institute (ETSI), organizing public enquiry in Republic of Bulgaria on draft ETSI standards.

In 2008, the Commission took part in the following ETSI procedures:

Table No. 26

2008	Number of processed documents	Number of procedures
PE – Public Enquiry	22	12
Vote – Voting	32	16
OAP – One-Step Approval Procedure	17	9
MV – Membership voting	103	21
PUB – Publications (documents received on a weekly basis)	1463	

Currently, on the CRC website are maintained and updated ETSI documents on Public Enquiry and Voting, which gained a statute of European standard (EN).

Information on the transposed ETSI standards as national ones, over the year, was provided to ETSI through periodically expanding the ETSI database.

Over the year, the number of the ETSI standards implemented as Bulgarian ones, as well as the standardization documents amounted to fifty, as forty eight of them are transposed by endorsement as Bulgarian standards, and two specifications are transposed directly with translation in Bulgarian language. Twenty standards, transposed by endorsement in the previous year, are transposed by translation in Bulgarian language in 2008, as their transposition and the transposition of the two specifications were funded by the CRC.

In 2008, the CRC participated actively in the work of four Technical Committees (TCs) to the Bulgarian Institute for Standardization (BDS) concerned with the electronic communications.

The Regulator's representatives took part in the 52nd General Assembly of ETSI and in a discussion of the national standardization organisations on ETSI.

4. Interconnection and access

The legal proceedings on the appeal of BTC AD against CRC Decision No. 572 of 30.03.2006 ended in 2008, which approved the Reference Interconnection Offer (RIO), and binding instructions were given to BTC AD for changing of RIO, as the Supreme Administrative Court sustained the immediate execution of the CRC decision. In this regard, BTC AD sent to the alternative undertakings a proposal for conclusion of supplementary agreements to the interconnection agreements. Besides the CRC binding instructions, the proposals contained also texts and descriptions, diverging from the vested decision. By the end of 2008, six of the alternative undertakings signed the so proposed supplementary agreements.

In relation to number portability in mobile networks, additional interconnection agreements have been concluded and entered into force, providing conditions and allowing companies to route calls to ported numbers.

In 2008, complaints of alternative undertakings on terms of interconnection agreements were received as part of them are as follows:

- High wholesale prices of calls to non-geographic numbers;
- High prices of physical implementation of interconnection;
- Lack of cost-oriented prices of the carrier-selection service;

The conditions under some of the above problematic issues were modified and improved, as a result of the ongoing negotiations between BTC AD and alternative enterprises and upon the active CRC involvement. Annexes to the interconnection agreements were signed, arranging the access of end-users to non-geographic numbers, as well as decreasing the prices for calls to such numbers.

The cost sharing in the construction of physical connectivity between companies was introduced by Regulation No. 1 on the procedures for access and/or interconnection, adopted by CRC. The Regulation established the principle of technological neutrality, as companies may operate through interconnection and signalling protocols other than SS7. The obligation of the operators for transfer and termination of traffic, regardless of its origin, was introduced too.

The Rules for the provision of the carrier-selection service, adopted and published in 2008 (SG. 98/14.11.2008), expand the scope of the carrier-selection service by providing an opportunity for making of local calls and calls to non-geographic numbers. In accordance

with these regulations and in the prescribed period therein, BTC AD should submit for approval by the CRC a draft on Reference Interconnection Offer (RIO) where all the requirements laid down therein shall be included. Therefore, one of the main priorities in the work of the Commission for 2009 will be the approval of RIO and resolving existing problems in the interconnection.

5. Bitstream access

The negotiation process on proposal of BTC AD for provision of specific (bitstream) access continued in 2008, and as a result of that, by the end of 2008, contracts between BTC AD and the following alternative operators were concluded: VESTITEL BG AD, EUROLINK AD, NEXCOM BULGARIA EAD, NET 1 EOOD, NET IS SAT OOD, ORBITEL EAD, and SPECTRUM NET AD. Thus, the total number of contracts for provision of specific access is seven.

Despite the interest shown by the alternative operators for the provision of broadband services via bitstream access, only one company had subscribers to that service and their number was relatively small. This is due to impeding price and non-price terms offered by BTC AG in the contracts associated with insufficient margin between wholesale and retail prices, too long periods for service activation, etc. In this regards, the CRC received a letter from ORBITEL EAD with request to take specific measures against BTC AD in order to prevent the endangerment of the competition. As a result of negotiations and meetings with operators and the participation of the CRC, part of the price conditions was improved.

In respect of these competitive problems, a major priority of CRC, in 2009, will be the carrying out of a detailed analysis on the situation, relating to the provision of a specific (bitstream) access in terms of impeding conditions and taking appropriate action. A market analysis on broadband access should be prepared, in 2009 as well, where the tabled problematic issues will be discussed and certain specific obligations accordingly set.

6. Electronic document and electronic signature

After consideration and approval of documents received in the CRC, was registered the fifth Certification Service Provider (CSP) - SEP BULGARIA AD.

The CSP SPECTRUM AD was subject to an overall inspection. The notes and recommendations for removal of the imperfections noticed in its activity for providing certification services have been adopted by the CSP and subsequently, the CRC was notified of the measures taken.

The CSP INFONOTARY EAD was subject to second inspection aimed at verifying the elimination of the irregularities found during its overall inspection in 2007. The results of the inspection were satisfactory.

Due to expiration of the basic certificate for universal electronic signature of the CRC, the following activities were implemented:

- the feasibility of establishing a new certification hierarchic structure for the CRC needs was researched;
- new Policy for the management of certificates for universal electronic signature of the CRC is drafted and adopted;
- details of certificates to be issued by the CRC are drawn up and approved;
- after a meeting between experts from the CRC and representatives of the Ministry of State Administration and Administrative Reform, a principle agreement on the use of the Control Technical Centre infrastructure of the e-Government has been reached with the aim of generating and storing the basic certificate for universal electronic signature of the CRC;

Many positions on issues related to electronic document and electronic signature have been prepared.

7. Communications control

One of the main priorities of the CRC, in 2008, continued to be the validation of the control activity as a regulatory mechanism for ensuring non-discrimination of operators, as particular attention was paid to the control functions for compliance with the imperatives of the LEC, the Postal Services Act (PSA)³ and the Law on Electronic Document and Electronic Signature (LEDES). These functions were performed by the CRC bodies in the capital city and by the five regional bodies in Plovdiv, Bourgas, Varna, Veliko Tarnovo, and Vratsa.

7.1. Monitoring and control of the radio frequency spectrum for civil needs

In 2008, the control of the radio frequency spectrum (RFS) for civil needs continued servicing the core function of ensuring the non-discrimination of rightful users of RFS and guaranteeing a certain quality of the electronic communication services to the end-users. A special role was given to the monitoring as one of the mechanisms for radio frequency spectrum management, for utilization of additional frequency bands in relation to the introduction of new technologies in electronic communications, and for creation of conditions for the digitalization of the terrestrial television broadcasting. RFS monitoring is entirely subject to the objectives set in the CRC Strategy with particular emphasis on the preventive monitoring for control of the basic parameters of the transmitting stations.

The more important activities of monitoring and control of RFS in 2008 were as follows:

- **Control for compliance with the rules for the use of radio frequencies and radiofrequency bands** for civil needs; implementation of the policy for radiofrequency spectrum management and utilization of the assigned radio frequency resource, as well as compliance of the terms and conditions of the licences issued - in the territory of all fixed (attended and unattended) monitoring stations started the implementation of planned daily monitoring, in accordance with the developed uniform definitions for 20-3000 MHz band;

- **Monitoring for evaluation of the actual radio frequency spectrum occupation** and estimation of the available capacity for new frequency assignments - In relation to the CEM spectrum assignments, besides the daily monitoring in the territories of the regional stations, observations and measurements were performed in the territory of 23 settlements as well; measurements for assessment of the free capacity in band 900 MHz and 1800 MHz in the territory of the regional cities were carried out; in relation to the upcoming digitalization of the television broadcasting, 113 television channels in 15 locations all over the country were examined;

- **Monitoring for evaluation of the electromagnetic environment:**

- Monitoring and measurement for the evaluation of **cross-border harmful interference in the radio frequency ranges for terrestrial broadcasting of radio and television signals** – 433 protocols for measurements carried out in the territory of 69 settlements were summarized and analyzed. They determined the intensity of the electromagnetic fields and the direction of the broadcasting, registered in the 87,5-108 MHz UHF-band for broadcasting of radio signals, as well as in III, IV and V UHF-bands for broadcasting of television signals (174-230 MHz and 470-862 MHz); for the purposes of the spectrum management in borderline areas, in most of the regions were made two measurements per settlement, while in the Black Sea Coast region - 3;

³ Promulgated, SG. 64/ 4.08.2000 vested as from 1.08.2000

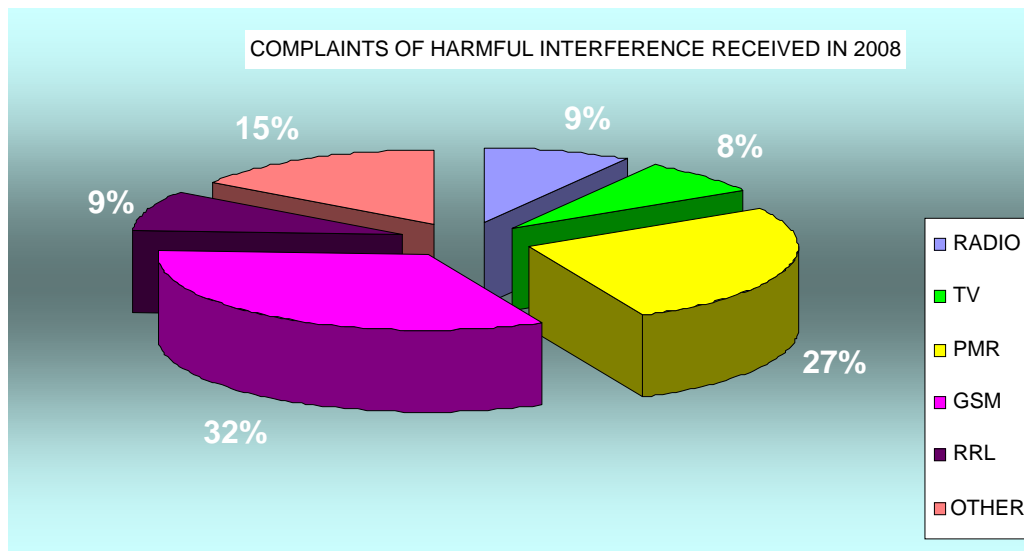
- Monitoring for evaluation of the **electromagnetic compatibility of radio-broadcasting stations in the 87.5–108.0 MHz band and the radio-navigation and communication equipment of the aeronautical services**, using frequency range 109–137 MHz. 9 civil radio-broadcasting sites in the cities of Bourgas, Vidin, V. Tarnovo, Dobrich, Kyustendil, Razlog, Sofia, and Yambol were studied, according to the *Methodology for measurement of AI intermodulation products*; in Bourgas and Varna, due to the available airport complexes, additional studies were made, together with representatives of the Air Traffic Service Authority and SANS - Directorate Protection of the means for communication.

- **Monitoring and control for compatibility of the established broadcasting stations for analogue terrestrial broadcasting of radio and television signals with the approved technical characteristics** – the implementation of CRC Decision for the approved technical characteristics was controlled; in respect to the preventive control, companies received results of the planned monitoring and measurements online through the so-called "e-mail campaign", which started in 2006 - data from 8 244 measurements were provided, which led to the improvement of the parameters of broadcasted radio and television signals and to the reduction of the generated secondary intermodulation broadcasting, including that within the air radio services 107-118 MHz; As a further development of the "e-mail campaign" and a stronger measure were used the provisions of Art. 313, paragraph 1, item 9 of the LEC as for the ascertained deviations of the technical parameters were given instructions with a fixed period (1 month) for implementation;

The purposes of the carried out planned control of the compliance with the technical and operating characteristics of the signals from the broadcasting devices are creating conditions for normal operation of the legitimate operators, providing electronic communications; ensuring electromagnetic compatibility and certain quality of the provided electronic communications services to end-users, as well as preventing the occurrence of radio-interference.

- **Monitoring and control towards protection of public and consumer interest**, in the aspect to the quality control of provided services:

- Monitoring towards received **complaints and warnings** of legitimate users of RFS, citizens, organisations and departments – over the year, 158 cases of interference were examined, as the percentage of bands used for building of mobile networks under the GSM standard and of PMR mobile networks was the largest; necessary measures have been taken for localization and elimination of the interfering sources; as a problem remains the disruptive impact of the radio equipments of the Ministry of Defense on the PMR mobile networks in 160 MHz band;
- Monitoring for inspection of **the coverage and quality of services provided in the mobile networks under the GSM standard** – Measurements were carried out alongside 12 routes from the main national road network, and in 156 settlements for all the three operators providing mobile network services under the GSM standard; 725 measurement protocols were drawn up.



Source: CRC

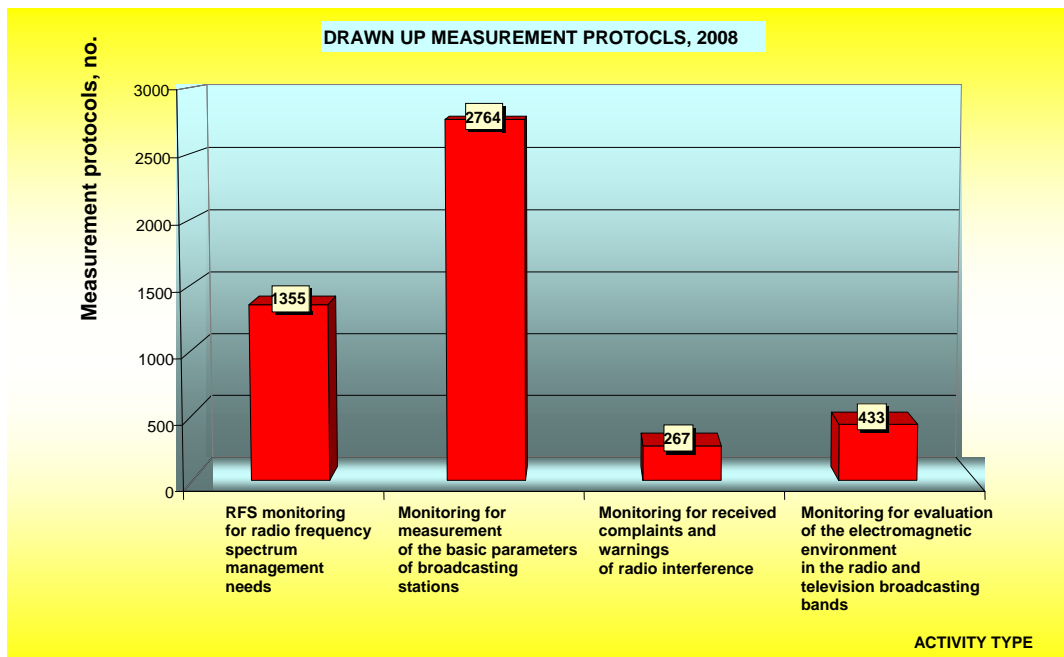
Figure 81

- Monitoring for localization of points for building of unattended fixed stations for RFS monitoring of the National RFS Monitoring System (NRFSMS) – measurements are related to the development of the NRFSMS, as there were measurements carried out for specifying or selecting new points in relation to difficulties occurred in acquiring of property and/or usage rights;

In the monitoring and control of RFS, carried out in 2008, the CRC officers drew up total **4804 measurement protocols**:

- 1355 measurement protocols – monitoring of the radio frequency spectrum management needs and planned RFS monitoring;
- 2764 protocols on measurement of the main parameters of the broadcasting stations;
- 267 measurement protocols in relation to received complaints and warnings of interference;
- 433 measurement protocols – on evaluation of the electromagnetic environment, incl. cross-border interferences in the radio and television broadcasting bands.

To the operators providing analogue terrestrial radio and television broadcasting were sent 2748 e-mails including information on **6648 control measurements of basic parameters of radio broadcasting and 1596 control measurements – of television broadcasting stations.**



Source: CRC

Figure 82

7.2. Inspection activity

In connection with the General Directorate Communications Control functions, related to the control of electronic communications provision, pursuant to the LEC, in the provision of postal services, pursuant to the Postal Services Act (PSA), and in compliance with the requirements of LEDES, in 2008 were carried out the following activities:

- **350 inspections of electronic communications networks for terrestrial analogue radio and television broadcasting were carried out** towards compliance with the provisions of the issued decisions, of the Technical requirements for the operation of electronic communications networks of radiocommunication service and the equipments connected to them, as well as the compliance of the broadcasting stations with the parameters approved by the CRC. The positive tendency of complying with all requirements, laid down in the secondary legislation of the LEC, persists. The preventive control introduced with the implementation of Article 313, Paragraph 1, Item 9 of the LEC, has produced excellent results. More than 90 percent of the given prescripts for standardization of the frequency deviation have been fulfilled. The remaining 10 percent include mainly the transmitters of BNR, built and maintained by BTC AD, which are obsolescent. 14 inspections of radio broadcasting stations were carried out by prosecution. 13 administrative offence acts were drawn up for offences found during the inspections in that kind of networks.

- **Inspections of cable electronic communications networks for broadcasting of radio and television programs** – 246 inspections have been carried out. In connection to the Memorandum of cooperation for protection of copyright and related rights between Ministry of Culture, CEM and CRC, the Ministry of Culture were provided statements of facts on the inspections carried out upon complaints concerning the Law on copyright and related rights. Upon a letter received by the CEM, inspections of 63 cable networks for broadcasting of radio and television programs were carried out. By stated offences of the LEC 6 administrative offence acts were drawn up.

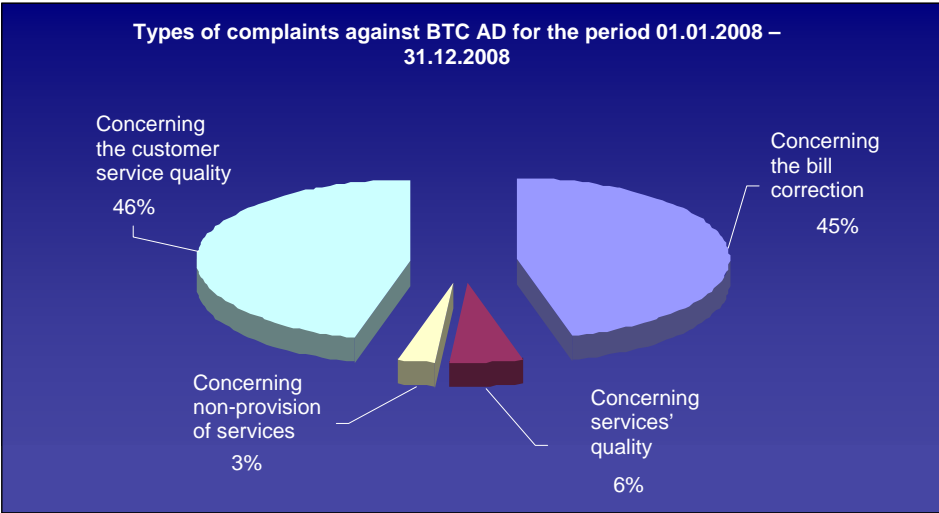
- **Inspections of professional/private mobile radio networks (PMR)** – in relation to the efficient use of the scarce resource – radio frequency spectrum, 339 inspections for compliance with the requirements of the individual licences or the permissions for

building, maintaining and utilization of PMR mobile networks have been carried out. Upon stated inefficient usage of the scarce resource-radio frequency spectrum, CRC proceeded to the withdrawal of licences and releasing of frequency radio channels. The offences in this type of networks continued, i.e. non-compliance with the parameters, set out in the individual licenses, and harmful interference caused by defective radio equipment. Upon stated offences were drawn up 31 administrative offence acts.

- **128 inspections of operators, providing public electronic communications through cable networks for data transfer without use of scarce resource have been carried out.** In 2008, during the inspections in this type of networks, in particular LAN, the Commission continued notifying the Directorate for National Construction Supervision (DNCS) of established breaches of the Regional Planning Act, sending the drawn up statements of facts to the competent body. 61 administrative offence acts have been drawn up, mainly related to the non-submission of information to the CRC.

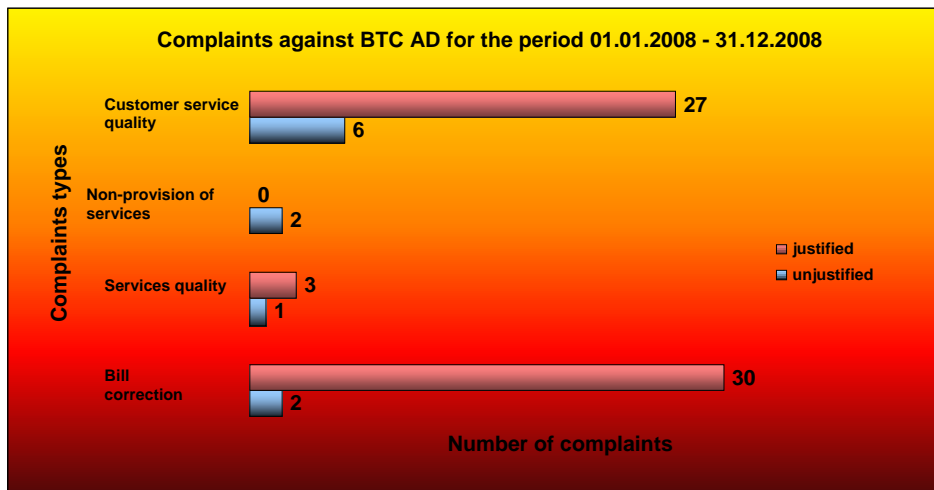
- **Inspections of fixed networks for provision of public telephone services –** 30 inspections have been carried out and 6 administrative offence acts have been drawn up; during the planned inspections, the service quality is controlled – the factor of voice evaluation and the one-way delay have been measured, as a provision of fixed telephone service with very high quality has been found.

- **Inspections for provision of universal service –** performing their duties to control compliance with the requirements for provision of universal service, as well as to consider complaints of end-users, in 2008, CRC officers carried out 93 inspections of BTC AD and 3 administrative offence acts have been drawn up. 70 complaints have been received against the incumbent operator, as the percentage of the justified amounted 16 percent. In 2008, a decreasing tendency in the complaints received against BTC AD was observed. Highest percentage of the complaints concerned the bill correction, followed by the customer service quality complaints and service provision denial.



Source: CRC

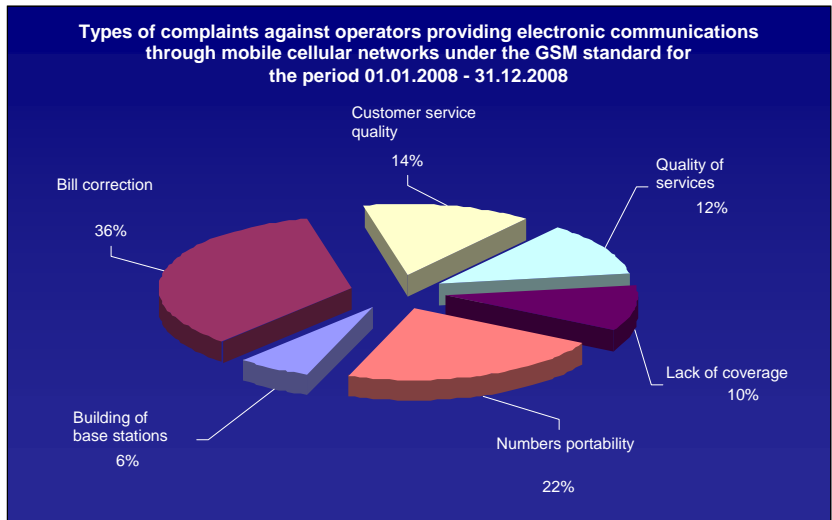
Figure 83



Source: CRC

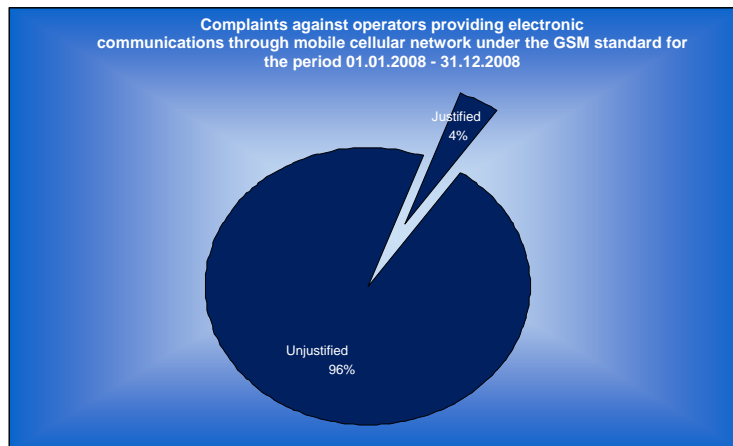
Figure 84

- Inspections of terrestrial mobile networks under the GSM standard** – in 2008, 115 inspections of the three operators providing mobile services: MOBILTEL EAD, COSMO BULGARIA MOBILE EAD and BTC AD, have been carried out. The introduction of new services, new technology platforms and procedure launched for number portability in mobile networks, increased the number of incoming complaints. In 2008, the CRC has received a total of 49 complaints, as the percentage of the justified complaints is relatively low - 4 percent. The complaints concerned, in first place, the billing correction, the number portability and the lack of coverage. One act for violation of license conditions has been drawn up to one of the mobile operators. In relation to the number portability, 11 inspections have been carried out throughout the country, where it was found that the complaints are unfounded. In 2008, complaints against the deployment of mobile broadcasting equipment of operators near residential buildings continued, to which citizens are particularly sensitive because of the poor awareness and fears of the harmful effects of the electromagnetic fields. During the inspections CRC continued to monitor closely the compliance with the Bulgarian administrative procedure for commissioning the base stations, installed in settlements, in terms of availability of relevant documents, issued by the Ministry of Health, the laboratory to the National Centre for Public Health Protection, and the construction and commissioning licences of DNCS.



Source: CRC

Figure 85



Source: CRC

Figure 86



Source: CRC

Figure 87

Control of compliance with the requirements of LEDES

According to the approved audits schedule of CSP, registered under the Law on Electronic Document and Electronic Signature (LEDES), and in accordance with the Methodology for CSP control, established by the CRC, inspections of SPECTRUM AD and INFONOTARY EAD were carried out, regarding the compliance with the LEDES, the secondary legislation for its implementation and the recommendations given by the CRC.

7.3. Development and technical support of the National RFS Monitoring System (NRFSMS) and measurement control systems

Activities are implemented in the following key aspects:

- analysis of the available and the necessary technological hardware and software control equipment;
- technical support and deployment of measurement devices for the constructed NRFSMS;
- technical support of the specialized technological equipment (fixed, mobile and transportable monitoring stations, portable measurement devices, LAN and WAN networks of NRFSMS) - configuration, settings, administration;
- methodological assistance in carrying out of operative tasks in measurements related to the control of the RFS and the communications inspection;
- activities on building of NRFSMS for civil needs in Bulgaria;

NRFSMS is built on a regional basis, aimed at creating integrated monitoring system covering the entire country. The regional principle is generally determined by the need for effective monitoring in the VHF/UHF bands that are used most intensively for modern networks, and which operating range is limited by the requirement for line of direct visibility. To ensure control throughout the country, coverage of sufficient number of fixed and/or mobile monitoring stations is needed. In order to improve the system, taking into account the diverse topography of the country, for effective monitoring will be constructed mainly unattended fixed stations.

According to the framework agreement on *Equipment supply for 8 (eight) unattended fixed stations for radio monitoring from 20 MHz to 3.0 GHz in the period 2007 – 2010, measurement devices for 4 unattended remote-controlled fixed stations for radio monitoring have been supplied.* The supplied equipment will be used for radio monitoring in 4 (four) new regions, which will extend the abilities of the CRC for effective control of the radio frequency spectrum to 3.0 GHz. The unattended fixed stations will be used for measurement of the electromagnetic field and the occupation time of the radio channels, localization and identification of illegal radio emitters, as recommended by ITU-R.

At the end of 2008, a new remote-controlled station Blagoevgrad was commissioned. The station is controlled remotely by the Central Control Station - Sofia and/or by other fixed/mobile stations.

In 2008 were set the points and another 5 new unattended remote controlled stations were in process of building.

Portable measurement devices in range up to 26.5 GHz were supplied, which were used in the regional offices of CRC in Plovdiv. With that supply, each of the regional offices of CRC has the technical capability to control the RFS up to 26.5 GHz.

At the end of 2008, for the implementation of the control functions of the CRC, the following measurement systems were used:

- 8 Fixed Stations for Radio monitoring (4 attended and 4 unattended), connected to the network of the National Monitoring System;
- 9 Mobile Stations (8 for monitoring up to 3.0 GHz and 1 for measurements of GSM networks/digital television DVB-T);
- 2 Portable stations for frequency band 1 GHz - 26.5 GHz;
- 20 Portable measurement devices for RFS control.



Picture 1 – Blagoevgrad station



Picture 2 – Blagoevgrad station

8. Administrative-penal activity of CRC

In 2008, 110 penal provisions (PP) and 29 resolutions on termination of the administrative-penal proceedings were drafted.

Regarding the collection of fines imposed by penal provisions and penalty payments for administrative offenses, it should be noted that to the operators who had failed to pay voluntarily the amounts due invitations on voluntary compliance were sent, giving them the opportunity to pay the amounts within 7-day period. Given that the specified amounts haven't been paid, the files on the effective penal provisions have been sent timely to the State Receivables Collection Agency for compulsory collection. In 2008, 21 files on effective penal provisions have been sent for their compulsory execution.

In 2008, the CRC has reviewed and taken action on more than 400 complaints of citizens related to problems and irregularities in the receiving of electronic communications services.

9. Procedure representation

Before the Supreme Administrative Court

In 2008, CRC legal experts got involved in the preparation and procedure representation of 60 cases before the Administrative Court (SAC).

Before district and administrative courts

In 2008, the Chairman of the CRC was called to participate as a party to the appeal against penal provisions issued by him in 408 hearings. The number of cases brought before lower courts amounted to more than 100. This is approximately the number of cases before the administrative courts (as the second instance) as well.

Due to the suits conducted against penal provisions issued by the CRC Chairman, the same had to appear before the various Regional and Administrative Courts all over the country twice per hearing on the average.

Respective appeals have been brought in the court of cassation against rulings whereby the court of first instance abrogate penal provisions.

10. International activity

Through its activities on planning, organizing, coordinating and participating in initiatives of the international and European organizations and their working units in the field of electronic communications and postal services, CRC contributes to strengthening the role of the Bulgarian regulator in the decisions making process and the protection of the national position and interests, as well as to promote the prestige of the Republic of Bulgaria as a factor and reliable partner on international, European and regional level.

The CRC participated in the activities of the governmental and the specialized organizations in the field of communications on international and European level, and communicates with the EC for the effective implementation of the European regulatory framework.

In this relation, throughout 2008, CRC experts continued their participation in the working groups and project teams of IRG: Project Team "Significant market power" (SMP PT), Project Team "Mobile voice call termination and SMS benchmark" (MTR/SMS Benchmark PT), Project Team "International roaming regulation" (International roaming regulation PT), Working Group "End Users" (End Users WG), Project Team "Prices for fixed call termination" (FTR PT), Project Team "Prices for mobile call termination" (MTR PT), Project Team "Regulatory Accounting" (Regulatory Accounting PT).

Projects related to the efficient implementation of the European regulatory framework

On 14 January 2008 was launched and on 30 May successfully finished a short-term contract for institutional partnership BG2005/IB/TE01/UE/TwL - "Assistance in the transition from analogue to digital terrestrial television" with total budget of around 100 thousand Euros (including national co-financing). Institutional partner was the State Secretariat for Telecommunications and Information Society to the Ministry of Industry, Tourism and Trade of Spain. The aim of the project was the development of effective regulatory mechanisms related to the transition from analogue to digital broadcasting, in accordance with the European *acquis communautaire*, which in turn fosters the deployment of a competitive market environment in the field of digital terrestrial television networks and services.

Within the contract, a number of activities assisting the CRC experts to implement the best European practices in the transition from analogue to digital terrestrial television in a regulatory and technical aspect were carried out.

Analysis was made, taking into account the current state of terrestrial television broadcasting in Bulgaria, the registered frequency assignments for digital terrestrial television in the Geneva Plan of 2006, and the draft Plan for introducing digital terrestrial television broadcasting in Republic of Bulgaria. The main purpose of this analysis was the determination of adequate approaches on the digital terrestrial television frequency planning, plan update, as well as development of work plan related to the introduction of digital interactive television and mobile DVB-H technology in the transition from analogue to digital television in Bulgaria.

The identification of priority activities that should be undertaken by the regulator during the transition, in accordance with the European *acquis communautaire*, was provided within the contract as well.

In August 2008 was launched the BG2006/IB/TE01/UE/TwL Contract - "Effective development of electronic communications markets" with a total budget 180 thousand Euros (including national co-financing). The Commission on the telecommunications market in Spain was the institutional partner of the project. The contract included the review of the legislation and practices related to market analysis and regulation; the identification of priority markets; the markets definition; the significant market power evaluation; the imposition of measures; the particular market analyses, etc. During the project implementation, 11 visits of Spanish experts to Bulgaria were held, while three of them, besides by CMT experts, were attended also by guest experts of the national regulatory authorities of Malta (MCA), Hungary (NHH) and Belgium (BIPT). As part of the twinning project, two visits of CRC delegations to Spain are planned as well.

In strategic plan, concerning key technical challenges and implementing the respective activities, the contract facilitates the exchange of best practices and provides a level of coordination in the analysis of relevant electronic communications markets.

Efforts were made for development of the project assignments under Operational Programme Administrative Capacity, Priority axis "Good Governance", managed by the Ministry of State Administration and Administrative Reform, as follows:

- Improving the work of CRC and increasing the transparency of its regulatory actions, introducing and applying separate accounting and cost-oriented prices of mobile and postal services in accordance with the requirements of the Law on Electronic Communications and the Postal Services Act.
- Developing and implementing integrated information system for supporting the activities in the market regulation, for meeting the requirements of the Law on Electronic Communications and Postal Services Act.

All possible tools and means of increasing the administrative capacity of CRC experts were used, incl. those of the European office for technical assistance and exchange – TAIEX. In the period 17-21 November, a practical program on the mobile markets measures in the Maltese regulator was held.

Bilateral cooperation

In direction of the bilateral cooperation, a workshop was organized (29.02.2008) in the framework of the bilateral Memorandum of Cooperation with the Hungarian electronic communications regulator, focused on the application of the cost-oriented tariffs principles; the price control and price squeeze; the system of financial support for universal service; the regulation regarding price squeeze; the regulation of prices and costs; the method of cost regulation by "retail minus"; the separate accounting and accounting methods; the regulation of retail prices; the price regulation in the mobile termination, and others.

At the end of May 2008, a Memorandum of Understanding with the State Secretariat for Telecommunications and Information Society by the Ministry of Industry, Tourism and Trade of Spain was signed, aimed at long-term cooperation in the field of electronic communications. This Memorandum of Understanding aimed at closer cooperation between the two regulators in the field of electronic communications, taking into account the rapid development of the electronic communications sector.

The CRC consistently developed its relations with the countries of South-eastern Europe as well, as it seeks extending the regional cooperation under the pan-European policy.

The CRC participated in the 3rd Black Sea and Caspian Regulatory Conference, held from 21 to 23 May 2008, in Istanbul, Turkey. A special session dedicated to the World Information Society Day was held at the conference. Many meetings were held with senior representatives of regulators from Turkey, Moldova, Albania and others for the discussion of possibilities for expanding and deepening the cooperation.

The CRC participated in the 3rd Regional South-eastern Europe Broadband Conference, 24-26 June 2008, Belgrade, Serbia, with a presentation entitled: "WiMAX, WiFi - regulatory framework and experience in Bulgaria".

CRC representatives took part also in the fourth regional forum on telecommunication networks and systems security, organized by the Institute for Telecommunication and Information Research for South-eastern Europe, which was held from 5 to 8 November 2008, in Thessaloniki, Greece. The workshop included training in the practical aspects of the security, which is of particular importance in relation to the CRC obligations under the LEDES.

In the period 8 - 11.09.2008, a delegation of the National Commission for Communications Regulation of Ukraine visited Sofia. A draft agreement on bilateral cooperation was discussed upon this visit. CRC experts presented the Bulgarian regulatory experience in the field of market analysis, spectrum management, and implementation of the framework in general. The first contacts were established during the visit of CRC representatives to the exhibition and workshop of ITU on spectrum monitoring, conducted in July 2008, in Kiev, Ukraine.

On 4 November 2008, the second national forum on the status and development of the information and communication technologies in Bulgaria was held at the BAIT Expo. CRC presented the regulatory policy in the electronic communications sector and two presentations on the topic: The impact of number portability on competition and quality of mobile services in Bulgaria and the readiness for fixed numbers portability, and Status of competition on the relevant markets in Bulgaria and effectiveness of the imposed measures.

Communication with the EC

In the course of 2008, active bilateral correspondence with the EC was maintained. The EC was timely informed about regulatory action of CRC in priority areas such as market analysis, number portability, efficient spectrum management, transition to terrestrial digital television broadcasting, and others.

At the end of September 2008 (29-30 September), a mission of EC representatives related to the preparation of the 14th Report on implementation of the European regulatory framework was conducted. The regulator presented information on its functionality and independence, resources and skills/experience, effective use of authority, cooperation with the CPC and CEM, complaints mechanisms and transitional measures. Points of interest were the CRC regulations and administrative decisions, market analysis, authorization and licensing regime, spectrum management, administrative charges, mobile and fixed telephony, broadband, universal service, European number 112, number portability, interconnection, out-of-court settlement of disputes, radio and television broadcasting, and data protection.

With regard to the market analyses carried out, two pre-notification meetings with EC representatives on upcoming notifications of the markets (on 30 June 2008 in Sofia and on 23 October 2008 in Brussels) were held. At the meetings, priority drafts of the wholesale market analyses, namely 8, 9, 10, and 16, were presented and consulted.

Participation in the work of the European bodies

CRC is actively involved in the General Assembly of the Independent Regulators Group and in the plenary sessions of the European Regulators Group (I/ERG) (28-29 February/Stockholm, 29-30 May/Vilnius, 9-10 October/Dublin and 4-5 December/Budapest), in the work of the Contact network (7-8 February/Ljubljana, 8-9 May/Bucharest, 18-19 September/Caftat, 13-14 November/Brussels), as well as on project teams level by I/ERG.

The forums provided a platform for exchange of information and practices on matters related to regulatory activities in the field of electronic communications, forming positions on the challenges that national regulators are faced with, such as regulatory framework review, regulatory principles for next generation networks, convergence, coordination of measures and adequate monitoring, indicators, roaming, termination prices, Bill&Keep system, regulatory accounting (including prices for access and sharing of duct network), etc.

The CRC follows the information provided by the relevant project teams, as it participates actively in their work, when possible (project teams “review of regulatory framework”, “significant market power”, “international roaming”, “mobile termination”, “fixed termination”, “interconnection/next generation networks”, “convergence”, “end-users”, “regulatory accounting”, etc.)

The CRC participates as a full member at the meetings of the working committees to the European Commission:

- Communications Committee (COCOM),
- Radio Spectrum Committee (RSC),
- Radio Spectrum Policy Group (RSPG)

Participation of CRC in international events

CRC participated in the events organized by the governmental and specialized organizations in the field of communications at international and European level, provisionally classified according to their priority for the Commission:

- **International events of high priority:** activities of the EC working bodies at all levels, related to the analysis of the relevant markets, number portability, spectrum management, development and implementation of legal documents in the field of policy and regulation of electronic communications and postal services and application of information technologies towards implementation of the CRC commitments; summits and other high-level political initiatives organized by international organizations in the field of communications; congresses, annual sessions, assemblies and symposia of world and European international organizations - ITU, Universal Postal Union (UPU), ETSI; consultations on bilateral and regional level.

- **International events of mid-priority:** activities of the working bodies of other international organizations - CEPT, Electronic Communications Committee (ECC), European Committee for Postal Regulation (CERP), the European Radiocommunication Office (ERO), UPU, French-language network of telecoms regulators (FRATEL); events in the field of the regional cooperation of the Balkan countries - bilateral meetings with our neighbouring countries to solve problems with radio interference and cross-border interference, participation in regional initiatives such as the South-eastern Europe Telecommunications Academy (SETA) and the ITU-D project for regional centre of excellence for the Eastern European countries and CIS; participation in ITU training in relation to the development of cost allocation models; activities in the bilateral cooperation in relation to contracts on bilateral cooperation with regulatory authorities in Italy, Hungary and Moldova.

More significant events in 2008, in which CRC participated, are as follows:

- **24th UPU Congress**, 23.07. - 12.08.2008, Geneva, Switzerland, during which the Nairobi Postal Strategy was adopted. In the next four years (2009-2012) it will be leading for governments of 191 member countries of the union, postal operators and regional postal organizations. The main objectives of the strategy are: developing the interoperability of the global postal network, improving its quality and efficiency, promoting universal postal service adequate to the social one, economic and technological environment, creating conditions for sustainable development of the postal sector and its economy and boosting the growth of the postal services markets.

- **2008 Session of ITU Council**, 12-21.11.2008, Geneva, Switzerland, presided by Bulgaria by the SAITC Chairman. The main issues discussed were related to the common policy, strategy and planning of the ITU, the Internet related activities, information and communication technologies and climate change, the strategic, operative and financial plans of the Union. Bulgaria actively joined the ITU Global Cyber security Agenda - a top priority of the Union. The project "IMPACT" was announced, which develops and implements monitoring tools and actions against cyber attacks. Within the project, in Sofia, a cyber security regional centre will be created that will serve the countries of Southeast Europe. It will provide specialized training and workshops for ITU Member States in the region and will advise governments with a view of the latest trends, potential threats and technological developments in the cyber security. It is expected that with the financial support of the ITU and the experience of IMPACT professionals, the regional centre in Sofia will be fully operational in mid 2009. At the same time, taking the presidency of the ITU Council, the centre will represent further recognition of the active role of Bulgaria for integrating the efforts at international level for struggling against cyber threats.

- **The three Plenary meetings of the Electronic Communications Committee (ECC)** – 10-14 March 2008 in Dresden, Germany; 23-27 June 2008 in Christiansand, Norway, and 27-31 October 2008 in Cordoba, Spain;

Committee Decisions provide tools for regulation of the radio frequency spectrum for civil needs and for its harmonized use in the CEPT Member States.

The more important decisions in the ECC this year are related to:

- the standardized bandwidth within Europe for the so-called intelligent transport systems, i.e. standard equipment for installation in cars, soon for communications vehicle - road infrastructure and vehicle - vehicle available, through which information is transmitted on the road conditions, dangerous areas, congestion, as well as help for avoiding accidents;
- the available options for European harmonization of the so-called "digital dividend", i.e. utilization of the radio frequency spectrum that will be released as a result of the more economical use of the spectrum for radio and television broadcasting following the transition from analogue to digital broadcasting, which is to be made in our country by 2012;
- the harmonized frequency bands for digital radio applications for public protection and assistance in case of disasters;
- the technical conditions allowing harmonized use of GSM system on board vessels in territorial waters of certain state, without causing harmful interference to other operating radio systems (the decision is analogous to some extent to an earlier ECC decision, allowing under certain conditions the use of GSM devices on board aircraft during flight);
- the technical requirements for the so-called ultra-wideband devices operating in wide frequency band without causing harmful interference to the WiMAX-technology operators, for example, for which Bulgarian operators have received operating licences, and which enable, for example, broadband wireless Internet access as perhaps the only viable competitive alternative at the moment to the ADSL broadband access offered by BTC AD on the copper pair.

- **Both ETSI General Assemblies:** 26-28 March and 25-26 November 2008, where CRC participated as National Standardization Organization. CRC has a status of ETSI full member since its establishment 20 years ago and is entitled to participate and vote in all managing and expert bodies.

- **The annual meeting of Regulators network of FRATEL member states,** 15-17.10.2008, Tunisia

During the meeting, the CRC participated with two presentations: one on the main aspects of postal regulation through the experience of the Bulgarian regulator and as part of the liberalization process of the postal sector at European level, while the other - on the key aspects of spectrum management: the harmonization, technological neutrality, pricing, duties, and procedures for assigning and monitoring of the frequencies.

CRC representatives attended the International Forum „**ICT 4 All Forum – Tunis+3**” and specialized exhibition for information and communication technologies, which were held in Hammamet, Tunisia, in the period 27-29 November 2008. Within a special session that was held at high level the national strategies on the development of broadband and digital content were presented.