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Communications Services: Policy and regulatory Framework
Radio Spectrum Policy

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RADIO SPECTRUM COMMITTEE

Working Document

Subject : Results of the Questionnaire on the Status of Radio Spectrum Harmonisation for the Emergency Services in the European Union

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1. INTRODUCTION

The Commission wanted to verify the degree of spectrum harmonisation achieved until now for the radiocommunication requirements of emergency services in the Community. While not currently minded to issue any mandate to CEPT in this area of activity, the Commission will to use this information to consider with representative user groups whether some specific current and future operational requirements for the emergency services are supported by the present status of spectrum harmonisation.

The preliminary results from the questionnaire on spectrum harmonisation for emergency communications in the European Union were presented and discussed in the 8th Radio Spectrum Committee (RSC) meeting on June 2nd, 2004. A number of additional responses, updates and comments for the questionnaire were provided by administrations during and after the RSC meeting. As agreed at the meeting, the document is herewith made public after the final date to provide the comments has elapsed.

2. QUESTIONS TO THE ADMINISTRATIONS

The questions in the amended questionnaire (document RSCOM04-15), launched on 23 March 2004, were as follows:

1. Please describe the extent of your administration's implementation of ERC DEC (96)01 (Provide, where applicable, detailed conditions of implementation in addition to the entries in the implementation record table on the ERO website)

2. Which Emergency Services applications are currently operating in the 380-385 MHz band? What about in the 390-395 MHz band? Which standards are they based on? What about geographical coverage?

3. Have the operational parameters in ERC REC T/R 02-02 been adhered to?

4. How are emergency services provided with the necessary frequencies? If licensed, what is the expiry date for the licence?

5. Which other services are operational in the two core bands? Are there any sharing conditions with digital land mobile systems for Emergency Services? What are they?

6. Which other frequencies have you designated for the Emergency Services, in particular in the 400-470 MHz range?

7. Do you have any future plans for the 380-385 MHz and 390-395 MHz bands?

8. Do your emergency services have any plans to implement "broadband" applications (above 1 M bit/s)? If so, which technologies are they considering?

See the summary of the answers to this questionnaire in the Annexes.

3. ANALYSIS OF THE RESULTS

In general, the Decision ERC DEC (96)01 "*on the harmonised frequency band to be designated for the introduction of the Digital Land Mobile System for the Emergency Services*" of March 1996, has been implemented (Question 1, see Annex A) in most countries, with some exceptions concerning countries which had already expressed their inability to support the ERC Decision at the time of adoption.

Based on the responses to the questionnaire and the discussions during the RSC meeting #8, there are some conclusions that can be drawn:

- a degree of harmonisation of the spectrum used for ES communications has been achieved across the EU via the implementation of ERC DEC 96(01);

- for most countries, concrete measures to provide emergency services in the allocated frequencies are still in the process of being planned or in an early phase of implementation. The difference in standards and technologies used still exists, and the question remaining open is whether the interoperability should be network based, which some administrators prefer, or terminal based. Some interoperability testing and trials have been implemented between the member states.

- in most cases, there are no other services than emergency ones in the designated frequency bands, except for military usage with possibilities to co-exist and/or share the frequencies with the emergency services.

- some administrations would like to harmonise the full 380-400 MHz range in Europe for ES, while others would like to better define the difference between ES communications on the basis of bandwidth (narrow-, wide- or broadband), as well as what is covered by emergency services by definition.

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The tables presenting the responses for this PPDR questionnaire from the administrations are structured as follows:

Annex A: Summary of answers provided by the Member States on the PPDR questionnaire to questions 1 and 3.

Annex B: Summary of answers provided by the Member States on the PPDR questionnaire to questions 2, 4, 5, 6, 7 and 8.

Table 1: Summary of answers provided by Member States on Radio Spectrum harmonisation for the Emergency Services (ES) in the EU

Questions 1 and 3:

Member State	Q1: Has your administration implemented ERC DEC (96)01?	Notes related to Q1	Q3: Have the operational parameters in ERC REC T/R 02-02 been adhered to?
Austria	Yes	TETRA planned	Yes
Belgium	Yes	a nationwide TETRA network (ES paging using ERMES)	Yes
Cyprus	Yes	DLMS authorisation planned	Yes
Czech Republic	No / spectrum wise: Yes	the ES are using TETRAPOL (standard not adopted by ETSI)	Yes
Denmark	Yes	Copenhagen Metro and Fire brigade have their own TETRA network	Yes
Estonia	Yes	core bands have been designated for TETRA	Yes
Finland	Yes	TETRA operational	Yes
France	No / spectrum wise: Yes	the ES operate in two separate bands, using TETRAPOL	Yes
Germany	Yes	Regional TETRA trials so far	Yes – will be in the conditions
Greece	Yes	TETRA will be operational by August with partial coverage	Yes
Hungary	Yes	core bands to be tendered during 2004	Yes
Ireland	Yes	TETRA pilot system in operation	Yes
Italy	Yes	except for the Ambulances which use a different band	Yes – they will be considered
Latvia	?		?
Liechtenstein	No / spectrum wise: Yes	nationwide ES using TETRAPOL	Yea
Lithuania	Yes	DLMS planned, sharing the bands with military needs	Yes – one of DLMS conditions
Luxemburg	Yes	digital ES applications to be introduced are being studied	Yes
Malta	Yes	TETRA operational	Yes
The Netherlands	Yes	nationwide TETRA	Yes
Norway	Yes	no final decision about building an emergency network	N/A (no final decision)
Poland	Yes	Current analogue network going digital (TETRA) and will include other ES	Yes
Portugal	Yes	TETRA planned	Yes
Slovak Republic	Yes	currently operating ES are using also TETRAPOL	Yes
Slovenia	Yes	no licences yet; core bands defined as state use	Yes
Spain	Yes	Separate ES licences; TETRA and TETRAPOL standards used	Yes
Sweden	Yes	TETRA decision made on 1.4.2004	Yes
The UK	Yes	TETRA operational nationwide, one system but several separate users	Yes

Table 2: Answers to Questions 2, 4, 5, 6, 7 and 8:

Member State	Q2: Which Emergency Service (ES) applications are currently operating in 380-385 and 390-395 MHz core bands? Which standards are they based on? What about geographical coverage?	Q4: How are the ES provided with the frequencies? If licensed, what is the expiry date?	Q5: Which other services are operational in the two core bands? Are there any sharing conditions with DLMS for ES? What are they?	Q6: Which other frequencies have you designated for ES; in particular in the 380-470MHz range?	Q7: Are there any future plans for the core bands? Q8: Do your ES have any plans to implement BB (broadband) applications?
Austria	Currently no services. TETRA planned for ES purposes.	N/A: no licences given yet	No other services operational	No other freqs for ES, except for Paging for ES in 162.475 MHz	TETRA planned for core bands. No plans for BB.
Belgium	Police (local & federal), Fire brigades, Civil protection, Ambulance. Nationwide coverage is being implemented.	Licence given to ASTRID, a government-subsidised company. No expiry date.	The core bands still remain as NATO bands, being shared with military, e.g. air-ground-air links	No ES between 400-470 MHz; most ES moving to ASTRID have NWs in 146-174 MHz (VHF)	No other plans for core bands, nor for BB. TETRA roll-out is first priority now.
Cyprus	Currently no services. Authorisation of DLMS for ES is planned.	Annual renewal of analogue ES authorisation	Some government-operated systems authorised, sharing tbd	410-430 and 450-470 MHz; ES using analogue technology	DLMS for ES planned; BB will be examined as well.
Czech Republic	Police, Fire brigades, Health care, units of MoD using TETRAPOL. Nationwide.	Licences valid 5 years at a time for base stations; General Licence for terminals valid for 10 years	No other services operational	169MHz for isolated actions by Fire brigades, 410-415 and 420-425MHz for some local ES services in Prague	No other plans for core bands. No BB foreseen.
Denmark	Nationwide commercial TETRA network (NW); some ES (Copenhagen Metro & Fire brigade) use these bands for their own TETRA network	Nationwide licence is valid till 2016 (15 yrs); the COP Fire brigade radio NW licence is valid for 5 years	Only DLMS fulfilling the needs of emergency users are allowed to use the core bands. No specific sharing conditions.	No specific frequency range for ES; a simplex system for emergency users around 423 MHz	No other plans for core bands. No BB foreseen.
Estonia	Some Finnish TETRA base stations in use; tender for nationwide ES NW underway, to be used also by customs, border guards etc.	Licences will be granted with duration of 10 years	No other services operational	Existing NWs in 160 MHz and 410-470 MHz bands; will be closed when new system is ready	No other plans for core bands. No BB foreseen.
Finland	Police, Frontier Guard, Customs, Health care, Defence, Emergency & Rescue services. Nationwide TETRA NW called Virve (www.virve.com/english/index.html)	Service licence valid till end of 2019, radio licence issued in 6-year periods	No other services operational	Expansion bands in 385-386/395-396 MHz. Some channels in 146-174 MHz and 406-470 MHz bands, to be replaced by Virve.	No other plans. Remark: The whole 380-400MHz band should be harmonised for ES in Europe.

Annex B

Member State	Q2: Which Emergency Service (ES) applications are currently operating in 380-385 and 390-395 MHz core bands? Which standards are they based on? Geographical coverage?	Q4: How are the ES provided with the frequencies? If licensed, what is the expiry date?	Q5: Which other services are operational in the two core bands? Are there any sharing conditions with DLMS for ES? What are they?	Q6: Which other frequencies have you designated for ES; in particular in the 380-470MHz range?	Q7: Are there any future plans for the core bands? Q8: Do your ES have any plans to implement BB (broadband) applications??
France	National Police and Gendarmerie in separate bands, using TETRAPOL. Nationwide coverage (cities and main roads)	ES operated by Police, Gendarmerie and Fire not licensed; other ES use PMR freq licensed by ART	No other services	410-430 MHz highly used by PMR (digital) and Defence applications	No plans; BB under study. Interested in a European-level differentiation between NB, BB and WB networks.
Germany	Regional trial networks based on TETRA are operating in the core bands.	Individual frequency assignments will be made for the future nationwide ES network; expiry dates are to be decided	Frequency bands 383-384.8 / 393-394.8 MHz are used for defence purposes; these uses will be shifted out when the ES NW is starting	Several separate frequency bands in the following ranges: 34-40 MHz, 74-78 MHz, 84-88 MHz, 165-174 MHz and 443-450 MHz	No other plans for core bands. No BB applications foreseen.
Greece	All ES (Police, Fire, Medical, Coast Guard etc.) will use a TETRA network by 8/2004, covering the Olympic Games sites in the beginning	No expiry date defined	No other services	408-410 and 418-420 MHz	No other plans. BB not foreseen in the near future.
Hungary	Currently no services	Licences can be granted for ES; validity maximum of 10 years	No other services	Not specifically for ES	Core band licences will be tendered during 2004
Ireland	A pilot system, under a test licence, is in operation in the Dublin area using TETRA technology. Various ES and state services including police, fire, customs etc are undertaking trials on the system.	Options for licensing of a future operational system could range from straight forward issuing of spectrum rights of use to police service, to holding a licence competition.	Metro light rail network (LUAS) in Dublin	Various blocks in the 450-470 MHz bands. Currently used by analogue networks.	Consideration may be given to rollout of a nationwide network for emergency services and public utilities. No plans for BB so far.
Italy	Currently no civil ES services. Nationwide TETRA planned for ES within the core bands managed by Ministry of Defence	Frequencies are granted for different applications on an assignment-basis	Currently used for analogue applications in the Land Mobile Service (LMS)	In the VHF and UHF bands a number of channels are reserved nationwide for civil protection purposes	Nationwide TETRA for ES planned in these core bands. No plans for BB so far.

Annex B

Member State	Q2: Which Emergency Service (ES) applications are currently operating in 380-385 and 390-395 MHz core bands? Which standards are they based on? What about geographical coverage?	Q4: How are the ES provided with the frequencies? If licensed, what is the expiry date?	Q5: Which other services are operational in the two core bands? Are there any sharing conditions with DLMS for ES? What are they?	Q6: Which other frequencies have you designated for ES; in particular in the 380-470MHz range?	Q7: Are there any future plans for the core bands? Q8: Do your ES have any plans to implement BB (broadband) applications??
Liechtenstein	Emergency Services on a national basis; based on TETRAPOL	One national ES network; no expiry date	No other services	No other frequencies for ES	No other plans for core bands. No BB foreseen.
Lithuania	Currently no services (EN 303 305 planned)	Rights to use frequencies for ES are normally granted for 10 years	Military usage; eventual ES providers will have to share the core bands	406-410 MHz, 410-413/420-423, 418.6-420/428.6-430 and 440-450 MHz are used by various ES	Part of the core bands is planned to be shared between ES and military. No BB plans.
Luxemburg	Currently no services	No licences for ES so far, only frequency fees are applicable	No other services	The current ES operations are in the 150 MHz band	A study has been undertaken concerning introduction of new digital ES applications (incl. BB) in the core bands
Malta	Currently, the Civil Protection Department. Nationwide TETRA.	Radiocommunication licences are renewed annually	Fixed (point-to-point) services	Some frequencies in the band 406-420 MHz are used by the health care authorities	No other plans for core bands. No BB foreseen.
The Netherlands	All major ES in the NL participate in the national system, called C2000	The recent licence issued to C2000 is valid till 2019	No other services	Some frequencies in bands 410-430MHz, 440-450MHz and 450-470MHz have been designated	No other plans for core bands. No BB being considered.
Norway	Military usage currently	ES operating in separate networks in other bands	Military services operate on both of the core bands	ES currently have licences on 410-430/450-470 MHz bands	Waiting for government decision. No BB plans
Poland	Currently a nationwide analogue network used by police; a TETRA network is being introduced to replace it. Other ES applications will be using the same standard.	ES Licences are to be valid until 31.10.2010	Military usage still in 382.6-385 / 392.6-395 MHz	Designated for ES: 148-149.5, 172.025-174 and 450-451.9/460-461.9 MHz bands; some channels from 160.8375-161.45 MHz	No other plans for core bands. No BB plans.

Annex B

Member State	Q2: Which ES applications are currently operating in 380-385 and 390-395 MHz core bands? Which standards are they based on? What about geographical coverage?	Q4: How are the ES provided with the frequencies? If licensed, what is the expiry date?	Q5: Which other services are operational in the two core bands? Are there any sharing conditions with DLMS for ES? What are they?	Q6: Which other frequencies have you designated for ES; in particular in the 380-470MHz range?	Q7: Are there any future plans for the core bands? Q8: Do your ES have any plans to implement BB (broadband) applications?
Portugal	Some Police and Ambulance services locally. A nationwide ES system (SIRESP) based on TETRA is planned	Radio licences for ES valid for 5 years, or until integration in the SIRESP	No other services	Until SIRESP implementation, some ES operating in bands 410-430 and 440-470 MHz	TETRA planned for core bands. No plans yet for BB
Slovak Republic	TETRAPOL, Air-Ground-Air of DFMS for ES and DMO of DLMS for ES at the national level	No service licences applied	No other services	No additional frequencies have been designated for ES	No other plans for core bands. No BB foreseen
Slovenia	TETRA NW using the core bands is now applied only for Police radio; security, defence and protection are to be included	No licence granted by the NRA yet, ES system being under development	No other services than Police radio operational yet	Channels designated for ES in 168.55-169.075/173.05-173.575, 406-410 and 440-470 MHz bands	No other than ES planned for the core bands, no BB plans
Spain	Police, Fire Brigades and Ambulance operating nationwide using TETRA and TETRAPOL	All ES have their own licences, which expire within 5 yrs, extendable for another 5 yrs	Also point-2-point and military mobile communications exist, interference avoidance based on geographic/frequency separation	ES use LMS frequencies in 146-174 and 406-470 MHz bands; extension to 385-390 / 395-400 MHz bands is being studied	No other plans for core bands. No BB foreseen
Sweden	Analogue Police Radio, which is being phased out. PTS has decided on 1.4.04 to license a national ES network (TETRA) for Police, Rescue services, Customs, Coast guard and Armed forces	Currently licensed bands are in 78-80, 147-148, 380-382.5/410-412.5, 422, 423/430 and 449 MHz, expiring in 2004…2012	2 x 1 MHz still being used by military systems	No other bands designated, but some frequencies in 410-420 MHz are used for police systems	No other plans for core bands. No BB foreseen.
The UK	Various ES applications, voice and limited data, using TETRA in England, Scotland and Wales; Fire and Ambulance not involved, as they are autonomous	Licence durations typically 20 years, depending on the nature of the system.	London Underground (TETRA, sharing core bands for technical interoperability reasons)	No other bands designated, but some ES use spectrum in 450-470 MHz, being migrated onto the outsourced 380-400 MHz bands	Expansion of existing and planned ES is allowed, with aim to maintain a controlled interference environment. No firm BB plans