INTERNATIONAL TELECOMMUNICATION UNION

Radiocommunication Bureau
(Direct Fax N°. +41 22 730 57 85)

Administrative Circular
CA/91

5 December 2000

To Administrations of Member States of the ITU and Radiocommunication Sector Members

Subject: **Request for submission of network parameters that use allocations under the purview of Radiocommunication Study Group 8 in the band 14-14.5 GHz**

1 Introduction

The agenda for WRC-03, recently adopted by the ITU Council, includes item 1.11 "to consider possible extension of the allocation to the mobile-satellite service (Earth-to-space) on a secondary basis in the band 14-14.5 GHz to permit operation of the aeronautical mobile-satellite service as stipulated in Resolution **216 (Rev.WRC-2000)**".

Resolution **216 (WRC-2000)** invites ITU-R "to complete, in time for WRC-03, the technical and operational studies on the feasibility of sharing of the band 14-14.5 GHz between the (primary) services … and the aeronautical mobile-satellite service, with the latter service on a secondary basis".

Following WRC-2000, the CPM02-1 meeting designated WP 8D as the lead group for accomplishing these studies, with the assistance and contributions of other ITU-R groups (see Administrative Circular CA/81 of 20 July 2000).

The band 14-14.5 GHz is allocated on a primary basis to the FSS (Earth-to-space), radiolocation, radionavigation, fixed and mobile (except aeronautical mobile) services, and also on a secondary basis to a number of other services, including the MSS (E-s) (except aeronautical MSS) and radionavigation satellite service.

2 Purpose of this circular letter

In order for WP 8D to carry out the studies required by Resolution **216 (WRC-2000)**, it needs to identify the parameters of the system networks with which the proposed AMSS networks must share the band 14-14.5 GHz. The other ITU-R Study Groups and Working Parties identified as contributors in the CPM02-1 report are expected to provide to WP 8D such information for networks under their purview. This circular letter invites the submission of information concerning networks under the cognisance of Study Group 8, i.e. radiolocation, radionavigation, mobile (except aeronautical mobile), radionavigation-satellite and mobile-satellite (E-s) (except aeronautical mobile-satellite).

Place des Nations
CH-1211 Geneva 20
Switzerland

Telephone +41 22 730 51 11
Telefax Gr3: +41 22 733 72 56
Gr4: +41 22 730 65 00

Telex 421 000 uit ch
Telegram ITU GENEVE

Internet: itumail@itu.int
X.400 S=itumail; P=itu A=400net; C=ch

In addition, administrations planning to implement AMSS networks in the 14-14.5 GHz band are urged to provide information on the characteristics of their planned systems, especially including installed airborne antenna performance, as soon as possible.

At its October 2000 meeting, WP 8D noted that there are few, if any, established methodologies to assist in sharing studies involving the above-cited services in the 14-14.5 GHz band. Administrations planning to respond to the above request regarding the provisions of parameters for services in the band would further assist in identifying documented methodologies that may be useful for sharing studies involving their services with the proposed AMSS, or alternatively, submit input documents to the next meeting of WP 8D (Geneva, 21 May-1 June 2001) describing proposed methodologies that could assist the requisite sharing studies.

3 Procedure for submitting network information

Submission of network information should be made in accordance with the forms in Attachments 1, 2, 3, 4 and 5 or a suitable alternative method. In each case, a contact person should be identified to whom further inquiries or requests for clarification can be addressed. The information should be sent to the Special Rapporteur who has been appointed to collect, aggregate and prepare a report on the material:

Melvin Barmat
Jansky/Barmat Telecommunications
1120 - 19th Street
Washington, D.C. 20036
United States of America

Phone: +1 202 467 6400
Fax: +1 202 296 6892
E-mail: mel@jansky-barmat.com

In order to accomplish the difficult schedule imposed on WP 8D, it is urgently requested that this network information be provided to the Special Rapporteur no later than 31 January 2001. It is also requested that administrations that plan to provide information in response to this request, please indicate their intentions by informing the Special Rapporteur no later than 15 January 2000. It should be noted that the attachments to this circular letter, when posted on the ITU web page, are in an Excel spreadsheet format. When the submitted information is collected and collated, it will be made available via http://www.itu.int/mss-rnss/.

Robert W. Jones
Director, Radiocommunication Bureau

Attachments: 6

Distribution:
- Administrations of Member States of the ITU
- Radiocommunication Sector Members
- Chairmen and Vice-Chairmen of Radiocommunication Study Groups and Special Committee on Regulatory/Procedural Matters
- Chairman and Vice-Chairmen of the Radiocommunication Advisory Group
- Chairman and Vice-Chairmen of the Conference Preparatory Meeting
- Members of the Radio Regulations Board
- Secretary-General of the ITU, Director of the Telecommunication Standardization Bureau, Director of the Telecommunication Development Bureau

Attachment 1

RADIOLOCATION / RADIONAVIGATION (If Radar)
14-14.5 GHz Band

System/Operational Information:		
	Nomenclature or type number of radar:	
	Function/Purpose of radar:	
	Approx. number licensed by administration:	
	Approx. geographical location of use:	
	Approx. fraction of time each radar is in use:	
	Country of equipment production:	

Technical Information:					
			Units		
	Total occupied band:		GHz	GHz to	GHz
	Tx tuning range of center frequency:		GHz	GHz to	GHz
	Tx bandwidth (-3dB):		MHz		
	Peak tx power to antenna:		watts		
	Feed loss:		dB		
	Antenna gain:		dB		
	Antenna beamwidths (to -3dB):				
		Horizontal:	dB		
		Vertical:	dB		
	Polarization (check one):		Linear l	Circular l	
	If on land or sea, max. antenna elev. angle:		degrees		
	Sidelobe attenuation:				
		>10 deg:	dB		
		<10 deg:	dB		
	Receiver 3dB bandwidth: RF:		MHz		
	IF:		MHz		
	Receiver Noise Figure:		dB		
	Desired signal sensitivity:		dBm		
	Pulse duration:		microsec.		
	PRF:		Hz		
	Duty cycle:		%		

Date Prepared:			
Administration:		Contact Person:	
Address:		Address:	
Phone:		Phone:	
Fax:		Fax:	
e-mail:		e-mail:	

Additional Information:

Attachment 2

Mobile Service (except aeronautical mobile)

(Provide information only on 14GHz part of network)

System/ Operational Information							
Name of network:							
Geographical coverage of network:							
Services provided (check those that apply):							
	voice-analog:		video-analog:				
	voice-digital:		video-digital:				
	data:						
Mobile terminals are(check one that applies):			vehicle mounted:			handheld:	
Acess method (check the one applicable):							
	FDMA:		TDMA:		CDMA:		
Modulation method:							

Technical Information							
	Units	Base Station		Mobile or Outstation		Repeater (if any)	
Frequency band used by network:	GHz	to		to		to	
Occupied BW used by network:	MHz						
Occupied BW per carrier:	MHz						
Channel spacing:	MHz						
Number of units in network:							
Channel loading:	erlangs						
If Tx is digital, data rate:	Kbps						
If Tx is FM,improvement coef.:	dB						
Tx antenna gain-horizontal:	dB						
at zenith:	dB						
Tx antenna type:							
Polarization type(C or L):							
Tx power to antenna feed:	watts						
Feeder loss:	dB						
Receive antenna type:							
Receive antenna gain-horizontal:	dB						
at zenith:	dB						
Min. receiver sensitivity:	dBm						
Receiver NF:	dB						
Min. C/N @ edge of coverage:	dB						
Allowable C/I:	dB						
Allowed interference:	dBm						

Date Prepared:			
Administration:		Contact Person:	
Address:		Address:	
Phone:		Phone:	
Fax:		Fax:	
e-mail:		e-mail:	

Additional Information:

Attachment 3

Radionavigation (not Radar)

(Provide information only on 14GHz band)

System/Operational Information					
System name:					
ITU-R designation, if any:					
Brief description of system and its use:					
Approx. geographic area of use:					
Approx number of licensed transmitters:					
receivers:					
Country of equipment production:					
Transmitters are (check box below):	Fixed	Mobile Land	At Sea	Airborne	
Receivers are (check box below):	Fixed	Mobile Land	At Sea	Airborne	

Technical Information			
Frequency band used by network:	GHz	GHz to	GHz
Occupied band used by network:	GHz	GHz to	GHz
Occupied BW per carrier:	KHz		
Channel spacing:	KHz		
Transmit e.i.r.p.:	dBW		
Tx antenna gain:	dB		
Tx antenna dimensions:	meters		
If terrestrial receivers, antenna gain (max):	dB		
horizontal:	dB		
at zenith:	dB		
If airborne receivers, antenna gain (max):	dB		
horizontal:	dB		
towards Earth:	dB		
Polarization (Circular or Linear):	C or L		
Receiver NF:	dB		
Min. receiver sensitivity:	dBm		
Min.C/N+I at edge of service area:	dB		
Allowable C/I:	dB		
Allowed interference:	dBm		

Date Prepared:			
Administration:		Contact Person:	
Address:		Address:	
Phone:		Phone:	
Fax:		Fax:	
e-mail:		e-mail:	

Additional Information:

Attachment 4

RADIONAVIGATION-SATELLITE

Provide information only on use of 14-14.5 GHz Band

System:	Common Name:		ITU Designation:	
	AP4 or API Identification:		AP Publication Date:	
			ITU Status(N,C,or A):	

Technical Information:			Space Station	Other Terminals
	Location of Transmitter (check one):			
	Frequency Band Occupied:	GHz	to	to
	Carrier Bandwidth:	MHz		
	Transmit EIRP/Carrier:	dBW		
	Tx antenna gain:	dB		
	Location of Receivers (check one):			
	Receive Antenna Gain:	dB		
	Received Signal Level:	dBW		
	Receiver Noise Temp:	deg K		

Operational Information:			Space Station	Other Terminals	
	Number of Operational Stations:				
	Number of Planned Stations:				
	Other terminals are (check below):	Fixed	Maritime	Mobile Land	Airborne

	Below or on a separate sheet list differences between technical characteristics
	of the operational network and that described in ITU documents.

Date Prepared:			
Administration:		Contact Person:	
Address:		Address:	
Phone:		Phone:	
Fax:		Fax:	
e-mail:		e-mail:	

Additional Information:

Attachment 5

AERONAUTICAL MOBILE SATELLITE SERVICE
(Provide planning information only on 14-14.5 GHz Band)

System:	Common Name:				
	Name of FSS Satellite to be Used:		Transponder Numbers (if known):		
	Orbit Location of Satellite:		Transponder BW (MHz):		
Technical Information: (Provide only 14 GHz Information)					
	Occupied Band of System:	GHz	GHz to		GHz
	Aggregate e.I.r.p./FSS Transponder	dBW			
Aircraft Segment:					
	Airborne Terminal Information				
	Transmit Carrier Bandwidth:	GHz			
	Transmit Antenna Type :				
	Transmit Antenna Aperture:	cm	cm x		cm
	Transmit Antenna Maximum Scan Angle:	degrees			
	Transmit Antenna Beamwidth (-3 dB):	degrees			
	Transmit Ant. Gain(pointed @ zenith):	dB			
	(at max. scan angle):	dB			
	Transmit Antenna Polarization (check one):		Linear		Circular
	Transmit Cross-Polarization Levels:	dB			
	Carrier e.i.r.p.(min / avg / max at zenith):	dBW			
	(min / avg / max at max. scan angle):	dBW			
	Transmit Beam Pointing Errors (rms):	degrees			
	Transmit Out-of-band Emission Levels:	dBc			
	Transmit Antenna Sidelobe/Backlobe Masks:		Provide information on separate sheet.		
	Transmit Waveform:		Provide information on separate sheet.		
	Other:				
	G/T of FSS Satellite Antenna	dB/K			
	Required C/N+I at FSS Sat.Receiver	dBW			
	Carrier Info Data Rates (min/avg/max):	Kbps			
	Carrier Tx Data Rate (min/avg/max)	Kbps			
	Number of Carriers per Transponder				
	Maximum Allowable Aircraft Bank Angle:	degrees			
	Transmit e.i.r.p. Control Mechanism ?:	yes/no			
	Maximum Aggregate e.i.r.p. Density at Desired Orbit Location in the GSO	dBW/4 KHz			
	Operating Altitude (minimum):	meters			
	Operation On the Ground ?:	yes/no			
Operational Information:			Transponders		Airborne Terminals
	Number of Planned Stations:				

Date Prepared:			
Administration:		Contact Person:	
Address:		Address:	
Phone:		Phone:	
Fax:		Fax:	
e-mail:		e-mail:	

Additional Information

Attachment 6

MOBILE SATELLITE SERVICE (except aeronautical mobile satellite)
14-14.5 GHz Band

System:	Common Name:			
	Name of FSS Satellite:		Transponder No.(s):	
	Orbit Location of Satellite:		Transponder BW (MHz):	
Technical Information: (Provide only 14 GHz Information)				
	Occupied Band of System:	MHz	GHz to	GHz
	Aggregate Tx e.i.r.p./Transponder:	dBW		
Mobile Terminal Segment:				
	Terminal Information			
	Transmit Carrier Bandwidth:	GHz		
	Transmit Antenna Type :			
	Transmit Antenna Aperture:	cm	cm x	cm
	Transmit Antenna Maximum Scan Angle:	degrees		
	Transmit Antenna Beamwidth (-3 dB):	degrees		
	Transmit Antenna Gain :	dB		
	If Tx Ant. Fixed in Elev., Elevation Angle:	degrees		
	If Tx Ant. Not Fixed in Elev., Elev. Angle:	degrees		
	Transmit Antenna Polarization (check one):		Linear	Circular
	Transmit Cross-Polarization Levels:	dB		
	Carrier e.i.r.p.(min / avg / max):	dBW		
	Transmit Beam Pointing Errors (rms):	degrees		
	Transmit Out-of-band Emission Levels:	dBc		
	Transmit Antenna Sidelobe/Backlobe Masks:		Provide information on separate sheet.	
	Transmit Waveform:		Provide information on separate sheet.	
	Other:			
	G/T of FSS Satellite Antenna:	dB/K		
	Required C/N+I at FSS Sat. Receiver:	dB		
	Carrier Info Data Rate (min/avg/max):	bps		
	Carrier Transmit Data Rate(min/avg/max):			
	Maximum Allowable Vehicle Bank Angle:	degrees		
	Transmit e.i.r.p. Control Mechanism ?:	yes/no		
	Maximum Aggregate e.i.r.p. Density at Desired Orbit Location in the GSO	dBW/4 KHz		
Operational Information:			Transponders	Mobile Terminals
	Number of Operational Stations:			
	Number of Planned Stations:			

Date Prepared:			
Administration:		Contact Person:	
Address:		Address:	
Phone:		Phone:	
Fax:		Fax:	
e-mail:		e-mail:	

Additional Information