

Doc.IWG-6/

May 31, 2002

Paul Rinaldo, prinaldo@arrl.org

Walt Ireland, wireland@arrl.org

Informal Working Group 6

DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE

WRC-2003 Agenda Item 1.23: *to consider realignment of the allocations to the amateur, amateur-satellite and broadcasting services around 7 MHz on a worldwide basis, taking into account Recommendation 718 (WARC-92);*

ISSUE: The need for a worldwide exclusive spectrum allocation for the amateur and amateur-satellite services in the three ITU Regions.

BACKGROUND:

Studies in response to Recommendation 718 (WARC-92) have been ongoing in ITU-R for a number of years.

The purpose of carrying out a realignment of the bands around 7 MHz is to remedy the long-standing difficulties experienced by the amateur service and the limitations placed on the broadcasting service as a result of the changes made to the frequency bands around 7 MHz at the Atlantic City WARC in 1947.

Historically until the 1938 Cairo Conference the band 7 000-7 300 kHz was allocated exclusively to the amateur service. Conditions in Europe and Asia lead to the reduction to 7 000-7 150 kHz in ITU Regions 1 and 3. A final reduction to 7 000–7 100 kHz took place at WARC-59. The Region 2 allocation remained unchanged at 7 000-7 300 kHz amateur exclusive.

For the amateur service, the usefulness of the allocations around 7 MHz for worldwide links is limited because only 100 kHz of spectrum between 7 000 and 7 100 kHz is common to Region 2 and Regions 1 and 3. The 7 100-7 300 kHz band is allocated exclusively to the broadcasting service in Regions 1 and 3, and exclusively to the amateur service in Region 2. Given the large disparity in signal levels between the two services, broadcasting transmissions cause interference to the sensitive receivers used in the amateur service during periods of good propagation between Regions 1 and 2. The degree of interference experienced in Region 2 varies with time-of-day, season, solar activity and distance from broadcasting stations in other regions.

Prior to WARC-92, CCIR JIWP 10-6-8-9 carried out extensive studies of HF sharing including the bands around 7 MHz. Its October 1990 report, *"Compatibility considerations arising from the allocation of spectrum to HF broadcasting"* formed Section 5 of the CCIR Report to WARC-92. The information is still valid and was reproduced in the Report of the Director to WRC-2000 in response to Resolution **29 (WRC-97)** (Attachment 1 to Document CMR-2000/5). The study concludes, inter alia, that:

the sharing of frequency bands by the amateur and broadcasting services is undesirable and should be avoided, because of system incompatibility between broadcasting and amateur services

Analysis of the results of studies

The following factors were identified during the studies as conditioning the search for a viable solution:

- 1) the fixed, land mobile and amateur allocations around 7 MHz support many important national and international applications, including those with a humanitarian and disaster relief dimension, which are particularly suited to the propagation characteristics of these bands;
- 2) any solution requiring sharing of spectrum between amateur and broadcasting services is not desirable, since experience has shown that this is unacceptable in the long run;
- 3) the entire 300 kHz is required in Region 2 for the amateur service;
- 4) some movement in frequency of the allocation to the amateur services around 7 MHz may be acceptable;
- 5) a reduction of the amount of contiguous spectrum allocated to the broadcasting service in the 7 MHz band is unacceptable to broadcasters because of existing and anticipated congestion, but there is flexibility with regard to the actual location of this band;
- 6) attention should be given to the spectrum requirements of the land mobile service below 7 MHz;
- 7) spectrum allocated to the maritime mobile, aeronautical mobile (OR), and aeronautical mobile (R) services should not be considered for reallocation;
- 8) the band 6 765-7 000 kHz has been identified as essential for supporting fixed service operations of all types and it is not feasible to relocate certain types of operations to higher bands because of propagation considerations;
- 9) sharing between the amateur service and the fixed and mobile services may be possible;
- 10) the realignment should involve the minimum necessary shift in allocation blocks in order to limit the economic impact on users.

PROPOSALS:

USA/1.23/1 Stage 1 to be implemented on or before 1 April 2007

kHz
6 765-7 450

Allocation to services			
	Region 1	Region 2	Region 3
MOD	6 765-7 000	FIXED Land Mobile <u>MOBILE except aeronautical mobile (R)</u>	
NOC	7 000-7 100	AMATEUR AMATEUR-SATELLITE	
SUP	7 100-7 300 BROADCASTING	7 100-7 300 AMATEUR	7 100-7 300 BROADCASTING
MOD	7 100-7 3 <u>2</u> 00	<u>AMATEUR</u>	
MOD	7 4 <u>2</u> 00-7 300 BROADCASTING	7 4 <u>2</u> 00-7 300 AMATEUR	7 4 <u>2</u> 00-7 300 BROADCASTING
MOD	7 300-7 3 <u>4</u> 50	BROADCASTING	
MOD	7 3 <u>4</u> 50-8 100	FIXED Land Mobile	

USA/1.23/2 Stage 1 to be implemented on or before 1 April 2007

MOD 5.142 The use of the band 7 ~~4~~200-7 300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3.

USA/1.23/3 Stage 2 to be implemented on or before 1 April 2010

kHz
6 765-7 550

Allocation to services			
	Region 1	Region 2	Region 3
MOD	6 765-7 000	FIXED Land Mobile <u>MOBILE except aeronautical mobile (R)</u>	
NOC	7 000-7 100	AMATEUR AMATEUR SATELLITE	
SUP	7 100-7 300 BROADCASTING	7 100-7 300 AMATEUR	7 100-7 300 BROADCASTING
MOD	7 100-7 300	<u>AMATEUR</u>	
MOD	7 300-7 350*	BROADCASTING	
MOD	7 350-8 100	FIXED Land Mobile	

USA/1.23/4 Stage 2 to be implemented on or before 1 April 2010

SUP 5.142

Reasons:

Achieves global harmonization of the allocations consistent with the factors identified as conditioning the search for a viable solution. In particular, essential fixed service operations between 6 765 and 7 000 kHz are not affected, and additional flexibility is afforded to complementary mobile operations in this band.

In order to reduce the impact of the changes to the broadcasting, fixed and land mobile services, this modification would be introduced over several years in two stages, as follows:

Stage 1

6 765-7 000 kHz	Fixed and mobile (except aeronautical mobile (R)) co-primary
7 000-7 100 kHz	Amateur and amateur-satellite co-primary (NOC)
7 100-7 200 kHz	Amateur primary
7 200-7 300 kHz	Broadcasting primary Regions 1 and 3, amateur primary Region 2 (NOC)
7 300-7 450 kHz	Broadcasting primary

Stage 2

6 765-7 000 kHz	Fixed and mobile (except aeronautical mobile (R)) co-primary (NOC with respect to Stage 1)
7 000-7 100 kHz	Amateur and amateur-satellite co-primary (NOC)
7 100-7 300 kHz	Amateur primary
7 300-7 550 kHz	Broadcasting primary