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July 14, 2004

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**VIA HAND DELIVERY**

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 Twelfth Street, S.W., Room TW-B204  
Washington, D.C. 20554

RECEIVED

JUL 14 2004

Federal Communications Commission  
Office of Secretary

**Re: Oral Ex Parte Presentation in IB Docket No. 02-10**

Dear Ms. Dortch:

This letter provides notice that, on July 12, 2004, Dr. Robert Hanson, Vice President/Regulatory Affairs of Maritime Telecommunications Network, Inc. ("MTN"), and the undersigned met with the members of the staff of the Commission's International Bureau copied below to discuss matters pertaining to the above-referenced rulemaking proceeding. The participants discussed MTN's positions set out in its Comments and Reply Comments in the referenced proceeding and emphasized the need for the final rules to allow earth stations on vessels ("ESVs") to operate in C-band with appropriate coordination with the Fixed Service. Dr. Hanson provided an overview of recent developments by European regulatory bodies in implementing the ESV rules and regulations adopted at the 2003 World Radiocommunication Conference. By way of attachments to this letter, MTN provides the IB staff members copies of ESV-related documents under development in Europe.

Pursuant to Section 1.1206(b) of the Commission's Rules, 47 C.F.R. § 1.1206(b), the original and one copy of this letter are submitted for inclusion in the file of the above-referenced proceeding.

Please direct any questions you may have to the undersigned.

Respectfully yours,

Raul R. Rodriguez  
Attorney for Maritime Telecommunications Network, Inc.

RRR/rjc  
Attachment

cc (by e-mail): Lisa Cacciatore      Howard Griboff  
                         Gardner Foster            Bill Howden  
                         Claudia Fox                    Paul Locke  
                         Jennifer Gorny

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**Date issued:** 2417.06.2004

**Source:** RA5 + RA6 chairman

**Subject:** Draft ECC Decision on the use of Ku-band ESVs

## **ELECTRONIC COMMUNICATIONS COMMITTEE**

**DRAFT  
ECC Decision  
of DD MMM 2004  
on the use of Earth Stations on board Vessels operating  
in Fixed Satellite Service networks in the frequency  
band 14 – 14.50, 10.7-11.7 and 12.5-12.75 GHz  
(ECC/DEC/(04)QQ)**

## **EXPLANATORY MEMORANDUM**

**(Needs to be aligned with the body of the Decision)**

### **1 BACKGROUND**

For many years, satellite communications for ships was limited to services provided by systems operating in the 1.5/1.6 GHz band. In the last decade however, operators have installed terminals on ships which operate in the fixed satellite service bands at 4/6 GHz, and at 11/14 GHz. These terminals are based on the design of conventional VSAT networks, but make use of highly accurate stabilised platforms to maintain the necessary antenna tracking with the GSO space station, even while the vessel is in motion. Within the ITU, such terminals are known as Earth Stations on Vessels (ESVs).

ESVs are often the only solution for users who require high communications bandwidth which cannot be met by the other maritime systems and can be the most cost effective solution for users who require a modest bandwidth but "always on" capability.

Example applications are:

- Large data transfer requirements for scientific research ships
- Passenger telephone service for ferries and cruisers
- Extension of the corporate LAN to the ship's bridge

The 4/6 GHz FSS satellites provide "global" beam coverage and are therefore used by ESVs on vessels on long-distance ocean crossing routes. For other users, the area of operation can be limited to smaller regions (e.g. within the North Sea or Mediterranean) and hence use can be made of the "regional" beams typical of 11/14 GHz FSS networks.

A number of ITU-R Recommendations have been developed:

- S.1587 - Provisional technical characteristics of earth stations on board vessels operating in the frequency bands 5 925-6 425 MHz and 14-14.5 GHz which are allocated to the fixed-satellite service
- SF.1585 - Example approach for determination of the composite area within which interference to fixed service stations from earth stations on board vessels when operating in motion near a coastline would need to be evaluated.
- SF.1648 - Use of frequencies by earth stations on board vessels transmitting in certain bands allocated to the fixed-satellite service.
- SF.1649 - Guidance for determination of interference from earth stations on vessels (ESVs) to stations in the fixed service when the ESV is within the minimum distance.
- SF.1650 - The minimum distance from the coastline beyond which in-motion earth stations located on board vessels would not cause unacceptable interference to the fixed service in the bands 5 925-6 425 MHz and 14-14.5 GHz.

At WRC-2003, provisions relating to ESVs were agreed in Resolution 902 (WRC-03) and Recommendation 37 (WRC-03). The Resolution defines distances from the low-water mark as officially recognized by the coastal State within which permission from potentially affected administrations must be obtained. Although the regulatory provisions are a positive step towards the recognition and operation of ESVs, they give little guidance as to how administrations should handle ESV operations within the minimum distances from the low-water mark as officially recognized by the coastal State, and do not specifically address the licensing of ESVs.

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## 2 REQUIREMENT FOR AN ECC DECISION

### **Geographic Restrictions**

Some portions of the bands used by ESVs are also allocated to terrestrial services. The minimum distances from the low-water mark as officially recognized by the coastal State which have been agreed within the ITU-R (300 km at 6 GHz and 125 km for 14 GHz) are based on the protection of fixed service systems. Under the Radio Regulations, transmissions from ESVs within these distances shall be subject to the prior agreement of the relevant administrations where the bands are allocated to the fixed or mobile services.

Most ESVs will, at times, wish to operate closer than the minimum distances from the low-water mark as officially recognized by the coastal State. The use of the 6 GHz band and parts of the 14 GHz band by the FS within Europe means that prior agreement could be required from several administrations, depending on the intended route of the ESV and frequency of operation. The ITU-R has developed Recommendations which could be used to perform the necessary interference analysis and determine acceptable/prohibited areas of operation. The mobile nature of the ESVs means that the process is more complex than traditional coordination between terrestrial services and permanent fixed earth stations. On the other hand, once an area of sea has been successfully cleared for ESV operation, it may be usable for any number of ESVs with similar technical characteristics.

It is unlikely that administrations will want to entertain requests for agreement from numerous ESVs or ESV service providers, and for each trip made by an individual ESV within the minimum distance of that administration. Hence it appears beneficial to all concerned to define the necessary geographic restrictions in a harmonised manner that can be applied generally by administrations and the ESV industry in Europe.

### **Licensing issues**

There may be a few cases where an ESV operates entirely within the territorial waters of a single administration, but in general, an ESV will travel between the ports of more than one country. Thus time will be spent within the territorial waters of several different administrations and within international waters. This situation could introduce a number of uncertainties and difficulties to the licensing process. A lack of harmonised rules and conditions applied by administrations would mean that it would be impractical for an ESV to be licensed for operation within all the territorial waters on its route. This may be contrasted with the situation for other radio equipment on a ship, which is generally licensed by a single administration, but the licence is recognised by other administrations.

Due to the international nature of ESV operations, a harmonised approach would benefit ESV users, service providers and administrations.

As a consequence of the geographical and licensing issues regarding the operation of ESVs, there is a need for an ECC Decision to allow for harmonised operation of ESV in the frequency bands 11/12/14 GHz. ESV operation in the 4/6 GHz bands is covered by a separate Decision.

**ECC Decision  
of DD MMM 2004**

**on the use of Earth Stations on board Vessels operating in Fixed Satellite Service networks in the  
frequency band 14 – 14.50, 10.7-11.7 and 12.5-12.75 GHz  
(ECC/DEC/(04)QQ)**

The European Conference of Postal and Telecommunications Administrations,

*considering*

- a) that the band 14 – 14.5 GHz is allocated to the Fixed Satellite service (FSS) (Earth-to-space) on a primary basis in the ITU Radio Regulations;
- b) that, by the provisions of No. 5.457B Earth stations on board Vessels (ESV) may communicate with space stations of the FSS in the band 14-14.5 GHz;
- c) that the band 14.3 – 14.5 GHz is allocated to the Fixed Service (FS) on a primary basis in the Radio Regulations;
- d) that the band 14.25 - 14.3 GHz is additionally allocated to the FS on a primary basis in a number of countries by the provisions of No. 5.508;
- e) that Resolution 902 (WRC-03) provides the provisions relating to ESV which operate in FSS networks in the band 14-14.5 GHz;
- f) that the Radio Astronomy Service (RAS) is allocated on a secondary basis in the band 14.47 – 14.5 GHz where ITU RR 5.149 applies;
- g) that ESVs operating in the band 14-14.5 GHz referred to in this ECC Decision comply with the relevant European Telecommunication Standards (EN 302 340) or equivalent technical specifications;
- h) that, for the purpose of resolving potential interference issues, some CEPT countries may require that ESVs operating in the band 14.25 – 14.5 GHz, either obtain authorisation for the use frequencies, or notify the administration with its contact information
- i) that ESV operations in the band 14-14.5GHz within the territorial sea and internal waters, or close (e.g. within 500m) to national off-shore installations and structures shall remain subject to regulations issued by national administrations;

DECIDES

- 1) to designate the frequency bands 14.0-14.5 GHz (Earth-to-space), 10.7-11.7 and 12.5-12.75 GHz (space-to-Earth), that the frequency bands 14 – 14.5 GHz (Earth-to-space), 10.7-11.7 GHz and 12.5-12.75 GHz (space-to-Earth) are designated, inter alia, for the use of ESV operating in the FSS ;
- 2) that those ESVs referred to in Decides 1 shall comply with Resolution 902 (WRC-03) ;
- 3) that this Decision applies only to ESV equipment covered by the Decides above with the following characteristics:
  - complying with the relevant European Telecommunication Standards (EN 302 340) or equivalent technical specifications
  - an antenna sizes not smaller than 0.6 m

- operating under the control of a [network operation center]
  - [either:
    - licenced or exempted from individual licensing by the country in which the vessel is registered and operating in accordance to this Decision,
    - or operating under a satellite network where the ESV network operator has notified the Office that those ESVs operating within their system comply with all the requirements of this decision]
- 4) that administrations shall allow free circulation and use of ESVs, subject to the provisions of this Decision;
- 5.) that with regard to ESV operations within the band 14.25 – 14.50 GHz ,administrations shall inform the ERO, as specified in the Annex, about any limitations, such as
- the areas where a prior agreement is needed
  - the areas where ESV operation is not permitted
- 6) that administrations shall not require ESV network operators to obtain additional authorisations for the operation of its network within CEPT administrations;
- 7) that administrations should notify to the ERO their requirements related to considering i) above, if any;
- 8) that this Decision shall enter into force on xx/xx/xx;
- 9) that CEPT Administrations shall communicate the national measures implementing this Decision to the ECC Chairman and the ERO when the Decision is nationally implemented.”

*Note:*

*Please check the ERO web site ([www.ero.dk](http://www.ero.dk)) under “Documentation / Implementation” for the up to date position on the implementation of this and other ECC Decisions.*

Annex.

With regard to the band 14.25-14.5 GHz, it is necessary to consider the potential for ESV operations within the 125 km distance from the low-water mark as officially recognized by the coastal State. For those administrations that have fixed or mobile systems in this band there is a range of options available which depend on the type and extent of terrestrial systems in operation:

- They may consider the risk of ESV interference to be sufficiently small such that ESVs can operate without geographic constraints;
- They may consider it appropriate to apply a single distance from the low-water mark as officially recognized by the coastal State, but with a distance smaller than 125 km. The distance could be different for different segments of the band;
- They may be prepared to coordinate ESVs for operation within the minimum distance. This could, for example, be limited to specific ports or for a limited range of frequencies. The ITU-R Recommendations SF.1585 and SF.1649 provide guidance in this regard;
- They may treat the 125 km distance from the low-water mark as officially recognized by the coastal State as an exclusion zone and prohibit ESV operation within this zone in the band 14.25-14.5 GHz.
- This information may be frequency specific.

The administration should provide the information which describes the permitted/excluded areas to the ERO. The ERO will publish the information on its web site. The data should be submitted in the standard format, as described on the ERO web site.

**Date issued: 24.06.2004**

**Source: RA5 chairman**

**Subject: Draft ECC Decision on the use of C-band ESVs**

## **ELECTRONIC COMMUNICATIONS COMMITTEE**

**DRAFT  
ECC Decision  
of DD MMM 2004  
on the use of Earth Stations on board Vessels operating  
in Fixed Satellite Service networks in the frequency  
band 5 925 – 6 425~~14 – 14.50, 10.7 – 11.7~~ and 3 700 – 4  
200 MHz~~12.5 – 12.75~~ GHz  
(ECC/DEC/(04)CCQQ)**

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Due to the international nature of ESV operations, a harmonised approach would benefit ESV users, service providers and administrations.

As a consequence of the geographical and licensing issues regarding the operation of ESVs, there is a need for an ECC Decision to allow for harmonised operation of ESV in the frequency bands ~~4/6/11/12/14~~ GHz. ESV operation in the 11/12/14 GHz bands is covered by a separate Decision.

**ECC Decision  
of DD MMM 2004**

**on the use of Earth Stations on board Vessels operating in Fixed Satellite Service networks in the frequency band 5 925 – 6 425 MHz~~14 – 14.5 GHz, 10.7–11.7 and 3 700 – 4 200 MHz~~12.5–12.75 GHz (ECC/DEC/(04)QQCC)**

The European Conference of Postal and Telecommunications Administrations,

*considering*

- a) that the band 5 925 – 6 425 MHz~~14 – 14.5 GHz~~ is allocated to the Fixed Satellite service (FSS) (Earth-to-space) on a primary basis in the ITU Radio Regulations;
- b) that, by the provisions of No. 5.457B Earth stations on board Vessels (ESV) may communicate with space stations of the FSS in the band ~~14 – 14.5 GHz~~ 5 925 – 6 425 MHz;
- c) that the band ~~14.3 – 14.5 GHz~~ 5 925 – 6 425 MHz is allocated to the Fixed Service (FS) on a primary basis in the Radio Regulations;
- d) ~~that the band 14.25 – 14.3 GHz is additionally allocated to the FS on a primary basis in a number of countries by the provisions of No. 5.508;~~
- e) that Resolution 902 (WRC-03) provides the provisions relating to ESV which operate in FSS networks in the band ~~14 – 14.5 GHz~~ 5 925 – 6 425 MHz;
- f) ~~that the Radio Astronomy Service (RAS) is allocated on a secondary basis in the band 14.47 – 14.5 GHz where ITU-RR 5.149 applies;~~
- ~~g)~~d) that ESVs operating in the band ~~14 – 14.5 GHz~~ 5 925 – 6 425 MHz referred to in this ECC Decision comply with the relevant European Telecommunication Standards (EN 302 ~~340~~CCC) or equivalent technical specifications;
- ~~h)~~e) that, for the purpose of resolving potential interference issues, some CEPT countries may require that ESVs operating in the band ~~14.25 – 14.5 GHz~~ 5 925 – 6 425 MHz, either obtain authorisation for the use frequencies, or notify the administration with its contact information
- ~~h)~~f) that ESV operations in the band ~~14 – 14.5 GHz~~ 5 925 – 6 425 MHz within the territorial sea and internal waters, or close (e.g. within 500m) to national off-shore installations and structures shall remain subject to regulations issued by national administrations;

**DECIDES**

- 1) to designate the frequency bands ~~14.0–14.5 GHz~~ 5 925 – 6 425 MHz (Earth-to-space), ~~10.7–11.7 and 3 700 – 4 200 MHz~~ 12.5–12.75 GHz (space-to-Earth), inter alia, for the use of ESV operating in the FSS ;
- 2) that those ESVs referred to in Decides 1 shall comply with Resolution 902 (WRC-03) ;
- 3) that this Decision applies only to ESV equipment covered by the Decides above with the following characteristics:
  - complying with the relevant European Telecommunication Standards (EN 302 ~~CCC~~340) or equivalent technical specifications
  - ~~an antenna sizes not smaller than 0.6 m~~

- operating under the control of a [network operation center]
  - [either:
    - licenced or exempted from individual licensing by the country in which the vessel is registered and operating in accordance to this Decision,
    - or operating under a satellite network where the ESV network operator has notified the Office that those ESVs operating within their system comply with all the requirements of this decision]
- 4) that administrations shall allow free circulation and use of ESVs, subject to the provisions of this Decision;
- 5.) that with regard to ESV operations within the band ~~14.25—14.50 GHz~~ 5 925 – 6 425 MHz, administrations shall inform the ERO, as specified in the Annex, about any limitations, such as
- the areas where a prior agreement is needed
  - the areas where ESV operation is not permitted
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Annex.

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- They may consider the risk of ESV interference to be sufficiently small such that ESVs can operate without geographic constraints;
- They may consider it appropriate to apply a single distance from the low-water mark as officially recognized by the coastal State, but with a distance smaller than ~~125~~300 km. The distance could be different for different segments of the band;
- They may be prepared to coordinate ESVs for operation within the minimum distance. This could, for example, be limited to specific ports or for a limited range of frequencies. The ITU-R Recommendations [SF.1585 and SF.1649] provide guidance in this regard;
- They may treat the ~~300~~125 km distance from the low-water mark as officially recognized by the coastal State as an exclusion zone and prohibit ESV operation within this zone in the band ~~14.25 – 14.5 GHz~~5 925 – 6 425 MHz.
- This information may be frequency specific.

The administration should provide the information which describes the permitted/excluded areas to the ERO. The ERO will publish the information on its web site. The data should be submitted in the standard format, as described on the ERO web site.