ORGANIZATION OF AMERICAN STATES
Inter-American Telecommunication Commission

XII MEETING OF PERMANENT CONSULTATIVE COMMITTEE III: RADIOCOMMUNICATIONS
April 12 to 16, 1999
San José, Costa Rica

OEA/Ser.L/XVII.4.3
PCC.III/doc.1297/99rev.1 cor.1
20 April 1999
Original: Spanish

FINAL REPORT

EXECUTIVE SECRETARIAT OF CITEL, 1889 F ST. NW., WASHINGTON, D.C. 20006, USA
TEL: +1 202 458 3004 FAX: +1 202 458 6854 e-mail: citel@oas.org
Web page: http://citel.oas.org/citel.htm

TABLE OF CONTENTS

FINAL REPORT

XII MEETING OF THE PERMANENT CONSULTATIVE COMMITTEE III: RADIOCOMMUNICATIONS (PCC.III)

The XIIth Meeting of the Permanent Consultative Committee III: Radiocommunications was held in San Jose, Costa Rica, 12 to 16, April of 1999.

I. AGENDA[1]

1. Approval of the Agenda and Calendar.
2. Appointment of the Drafting Group for the Final Report.
3. Restructuring of the working methods of PCC.III.
4. Meeting and Report of Working Groups Chairpersons on the following topics:

    4.1 World Radiocommunication Conference.
    4.2 Satellite systems on the geostationary orbit.
    4.3 Networks and services that use very small aperture terminals (VSAT).
    4.4 Broadband Wireless Systems in Frequency bands above 20 GHz.
    4.5 Human Resources.
    4.6 Implementation of mobile satellite services above 1 GHz.
    4.7 Terrestrial Wireless Access.

5. Implementation of Global Maritime Distress and Safety System (GMDSS) including regional satellite mobile service systems in 1.5/1.6 GHz participating in these systems.
6. Report of the Executive Committee Meeting of CITEL.
7. Report on the ITU Plenipotentiary Conference (PP-98).
8. Implementation of cost recovery for Satellite Network Filings.
9. Follow up of ITU´s activities and identification of issues, related to the PCC.III mandate which could be undertaken jointly with the ITU.
10. Agenda, Venue and Date of the XIII Meeting of PCC.III.
11. Other related matters.
12. Approval of the Final Report of the XII Meeting.

II. MEETING AUTHORITIES

Chairman:	Mrs. Salma Jalife	(Mexico)
Vice Chairman:	Mr. Amadeo Castro Neto	(Brazil)
Acting Executive Secretary,	Mr. William Moran	(CITEL)

[1] Distributed as PCC.III/doc.1169/99

Chairman of the Group for the Drafting of the Final Report:	Haisel Barrantes	(Costa Rica).
	Luis Gerardo Arguedas	(Costa Rica)
Members:	Paul Rayment	(Canadá)
	Serge Bertuzzo	(Canadá)
	Carmelo Rivera	(Estados Unidos)
	Héctor Jiménez	(Estados Unidos)
	Jonathan Siverling	(Estados Unidos)
	Elizabeth Oliva	(México)
	Félix Gómez	(Colombia)
	Layla Macc Adan	(Venezuela)

III. RESOLUTIONS

PCC.III/RES. 80 (XII-99)[2]

SEMINAR ON "USE OF CELLULAR INFRASTRUCTURE INSTALLED TO OFFER FIXED WIRELESS SERVICES IN THE AMERICAS"

The XIIth Meeting of Permanent Consultative Committee III: Radiocommunications,

CONSIDERING:

(a) That Recommendation CCP.III/REC.38 (X-98) regarding "Regulatory modifications required for the increase in teledensity";

(b) That there are cellular systems deployed in almost all the Member States of CITEL, and

(c) That this cellular infrastructure can be used to increase teledensity with fixed applications, especially in rural areas or areas difficult to access using wire technology,

[2] Reference: PCC.III/doc.1190/99 rev.1.

RECOGNIZING:

That the interest on the part of governments in the region in learning how they can modify their regulations and how the change will affect the further development of telecommunications;

TAKING INTO ACCOUNT:

(a) That Resolution CCP.III/RES. 78 (XII-99) regarding a “Seminar on use of cellular infrastructure based on AMPS to offer fixed wireless access services in the Americas," to be held during the second meeting of CCP.III in 1999;

(b) That the current variety of technologies in use for cellular communications, and

(c) That the desirability of providing adequate information on the Seminar to interested parties,

RESOLVES:

1. To hold the **"SEMINAR ON USE OF CELLULAR INFRASTRUCTURE INSTALLED TO OFFER FIXED WIRELESS ACCESS SERVICES IN THE AMERICAS"** during the Thirteenth CCP.III Meeting.

2. To hold the Seminar in accordance with Resolution CCP.III/RES.44 (VI-96) entitled "Organization of CCP.III Seminars".

3. That proposals of topics to be discussed at the seminar cover the following:

   - History and development of AMPS
   - International experiences
   - Overview of regulatory changes

4. To designate Mrs. Yolanda Zaleta (Mexico) to coordinate the organization of the Seminar Tel.: (525) 682-5161; Fax: (525) 682-5161; E-Mail: yzaleta@sct.gob.mx

5. To request Member States and Associate Members interested in participating to contact the coordinator of the Seminar.

PCC.III/RES. 81 (XII-99)[3]

PROCEDURE FOR PCC.III REPRESENTATION IN THE WORKING GROUPS OF OTHER REGIONAL ORGANIZATIONS FOR THE PURPOSE OF SHARING THE PROGRESS OF COMMON PROPOSALS IN PREPARATION FOR THE ITU's WORLD RADIOCOMMUNICATIONS CONFERENCES (WRCs)

The XIIth Meeting of Permanent Consultative Committee III: Radiocommunications,

CONSIDERING:

(a) That the management of the radioelectric spectrum has become an increasingly important regulated function because radio frequencies continue to be a limited resource;

(b) That the new mobile and fixed, or low mobility technologies, such as local wireless access and the constellations of low and medium orbit satellites, are being increasingly applied as regional or regulated frequency assignments;

(c) That CITEL, through PCC.III, has done an excellent job at the regional level of preparing common proposals, to be presented at ITU's WRCs, for regulating the radioelectric spectrum;

(d) That WRC-97 adopted Resolution 72 addressing the need for the regional harmonization of common proposals, and

(e) That the ITU Plenipotentiary Conference (Minneapolis, 1998) adopted Resolution COM 5-1 which resolved to encourage both informal and formal collaboration in the interval between radio conferences;

ACKNOWLEDGING:

(a) That PCC.III has a working group for the preparation of CITEL's common proposals to the ITU's WRCs;

(b) That the sharing of experiences with regional proposals for the allocation of frequency bands to radiocommunications services has intensified during recent years among various regional organizations; and

[3] Reference: PCC.III/doc.1233/99.

(c) That there has been an increase in the number of invitations extended by regional organizations to PCC.III representatives, asking them to participate in their radiocommunications working meetings to present the progress of CITEL's common proposals.

TAKING INTO ACCOUNT:

(a) That CITEL's Regulations provide in Article 93, section 10: *"The Statute and Regulations of CITEL allow each of the PCCs to change and adapt their work methods to most efficiently meet the needs of its members.";*

(b) That there is a need to create a procedure for PCC.III representatives to officially attend the meetings of working groups of other regional organizations so as to disseminate the progress of CITEL's common proposals and also to learn of the progress of other regions' common proposals in order to inform and up-date the other PCC.III members and associate members, and

(c) That this sharing of proposals will enrich the work done in the Working Group in its preparation of common proposals for WRCs which, in turn, will allow CITEL to strengthen its regional strategy to one of international scope; therefore,

RESOLVES:

To adopt the procedure outlined in detail in the attachment to this Resolution.

INSTRUCTS THE EXECUTIVE SECRETARIAT:

1. To distribute this resolution and its attachment to the CITEL Member Countries and the associate members of PCC.III.

2. To send a communication to the Chairman and Secretariat of other regional organizations to inform them of these procedures and to provide them with the schedule of CITEL PCC.III meetings.

3. To extend an invitation to other regional organizations to participate in the PCC.III meetings in order to facilitate the exchange of regional views and positions.

4. To send this resolution to the other Permanent Consultative Committees for their consideration.

ATTACHMENT

PROCEDURE FOR PCC.III REPRESENTATION IN THE WORKING GROUPS OF OTHER REGIONAL ORGANIZATIONS FOR THE PURPOSE OF SHARING THE PROGRESS OF COMMON PROPOSALS IN PREPARATION FOR THE ITU's WORLD RADIOCOMMUNICATION CONFERENCES

RECEIVING THE INVITATION

1. The Chairperson of PCC.III shall forward to the Executive Secretariat of CITEL any formal invitation received from regional organizations to attend meetings of their radiocommunications working groups.

INFORMING MEMBER COUNTRIES AND ASSOCIATE MEMBERS OF THE INVITATION

2. Within five (5) days from receipt of the invitation, the Executive Secretariat shall send a communication, signed by the PCC.III Chairperson, to the PCC.III member countries and associate member contacts (whose contributions are up-to-date), informing them of the invitation and the place, date and agenda of the meeting. In his communication, the PCC.III Chairperson shall request the contacts send him by a given date the name(s) of anyone who may be interested in attending the meeting.

3. Within five (5) days from receipt of the notices from the PCC.III Member Countries and associate members, the Executive Secretariat shall send a communication signed by the PCC.III Chairperson to the regional organization that extended the invitation with the name(s) of the person(s) who shall be attending the meeting on behalf of PCC.III. A copy of that communication shall be sent to the PCC.III representative attendees.

WHO SHOULD PARTICIPATE

4. It is understood that the PCC.III representative who attends the meeting shall do so on behalf of CITEL.

5. Representation must always include at least one representative of a Member State.

6. If, for any reason whatsoever, the only notices received from persons interested in attending the meeting are from PCC.III associate members, they may attend the meeting but not as PCC.III or CITEL representatives.

7. If there is no representative to attend the invitational meeting, the Executive Secretariat shall inform the regional organization in writing that no CITEL representative will be attending.

8. PCC.III may be represented by :

    a) Chairperson of PCC.III
    b) ViceChairman of PCC.III
    c) Chairman of the Working Group for the preparation for WRCs
    d) ViceChairman of the Working Group for the preparation for WRCs
    e) Chairpersons, rapporteurs and delegates identified by CITEL Member States in consultation with the Chairperson of PCC.III and Chairman of the Working Group for the preparation of WRCs

9. In order not to create an imbalance in the meetings of the working groups of other regional organizations, the Chairperson of PCC.III shall carefully consider the number of representatives attending, taking into account the topics to be covered and the organization and structure of the work being undertaken in the PCC.III Working Group for the preparation for WRCs..

REPRESENTATIVE[S]'S OBLIGATIONS

10. Taking into account the topics to be considered by the meeting of the regional organization that is inviting PCC.III as well as the organization and structure of the work being undertaken in the Working Group for WRCs, PCC.III Chairperson consulting the Chairman of the Working Group for the preparation for WRCs, will determine which member of the CITEL delegation, as identified in 8 above, may act as a spokesperson and present a report on the progress of CITEL's common proposals.

11. The representative(s) shall also report to the following PCC.III meeting on the activities that occurred during the regional meeting. Furthermore, the report(s) shall be one of the documents to the PCC.III meeting and posted on the CITEL website.

PCC.III/RES. 82 (XII-99)[4]

ESTABLISHMENT OF AN AD-HOC GROUP TO EXAMINE PROCEDURES FOR SUBMITTING JOINT PROPOSALS TO THE ITU-R

The XIIth Meeting of CITEL´s Permanent Consultative Committee III: Radiocommunication

[4] Reference: PCC.III/doc.1283/99.

HAVING EXAMINED:

The proposal by Uruguay (PCC III doc. 1232/99) to adopt a new procedure for presenting joint proposals to ITU-R, as a replacement for the current procedure established in PCC.III/Res.65/98 (X-98);

CONSIDERING:

That the purpose of the Uruguay proposal is to improve PCC III´s working methods that merit in-depth examination along with the proposals that CITEL members may decide to submit concerning this issue;

RESOLVES:

1. To create an Ad-Hoc Group open to all CITEL members in order to examine procedures for presenting joint proposals PCC.III/Res.65/98 (X-98), under the operant Terms of Reference appearing in the Annex.

2. To designate a delegate from Uruguay as Chairman of the Ad-Hoc Group.

3. To establish that any new or revised procedure resulting from this examination will not apply to the joint proposals presented at the ITU World Radiocommunication Conference (WRC-2000).

4. To request the Ad-Hoc Group shall submit the results of the examination mandated by this Resolution at the XVth PCC III Meeting.

ANNEX

TERMS OF REFERENCE

1. Examine the current procedure for joint proposals to determine the advisability of or need for its revision, taking into account when conducting this examination the Uruguay proposal (PCC III/Doc. 1232/99), background information from the previous examination made during the XIIth PCC III Meeting and any proposals CITEL members may submit.

2. During this examination, consider the advisability of maintaining a similar procedure that could be utilized by the different CITEL bodies.

3. Prepare draft text for amendments to CITEL Statutes and/or Regulations, should this be required for a new procedure resulting from the examination.

4. That the Ad-Hoc Group use Electronic Fora to develop the study mandated.

PCC.III/RES. 83 (XII-99)[5]

AGENDA, VENUE AND DATE OF THE PCC.III THIRTEENTH MEETING

The XIIth meeting of the Permanent Consultative Committee III: Radiocommunications,

RESOLVES:

1. To hold the XIII meeting of PCC.III at ....., September 6-10, 1999.

2. To approve the draft for the agenda for XIII PCC.III Meeting attached to the following resolution:

ANNEX

1. Approval of the Agenda and Calendar.
2. Appointment of the Drafting Group for the Final Report.
3. Restructuring of the working methods of PCC.III.
4. Meeting and Report of Working Groups Chairpersons on the following topics:

    4.1 World Radiocommunication Conference.
    4.2 Satellite systems on the geostationary orbit.
    4.3 Networks and services that use very small aperture terminals (VSAT).
    4.4 Broadband Wireless Systems in Frequency bands above 20 GHz.
    4.5 Human Resources.
    4.6 Implementation of mobile satellite services above 1 GHz.
    4.7 Terrestrial Wireless Access.
    4.8 Exam of the procedures for submitting Joint proposals to ITU.
    4.9 Consideration of the proposal to unify the working groups related to satellite systems.
5. Report of the Steering Committee of CITEL.
6. Implementation of cost recovery for Satellite Network Filings.
7. Agenda, Venue and Date of the XIV Meeting of PCC.III.
8. Other related matters.
9. Approval of the Final Report of the XIII Meeting.

[5] Reference: PCC.III/doc.1265/99.

PCC.III/RES. 84 (XII-99)[6]

PROPOSAL TO CREATE A DATABASE FOR EARTH STATIONS IN THE AMERICAS

The XIIth meeting of the Permanent Consultative Committee III: Radiocommunications,

CONSIDERING:

(a) That in recent years the Member States of CITEL have expanded the utilization of systems using VSAT-type terminals, and the development of systems using VSAT-type terminals is an integral part of various development programs in the countries of the region;

(b) That VSAT systems increasingly support important services in the Americas such as: distance learning, telemedicine, private networks, and internet connection;

(c) That efficient deployment of VSAT systems requires wide distribution of information concerning the licensing criteria of the Member States;

(d) That VSAT users and license applicants generally, spend significant time, expense, and human resource determining each Member States licensing requirements and maintaining the information current, and

(e) That availability of the information through a CITEL administered web-site could provide the opportunity for public benefits through wide publication of the various requirements of each Member administration,

RECOGNIZING:

(a) That this electronic format is intended as a resource and information tool and that it would not supplant the jurisdictional authority and licensing sovereignty of the individual CITEL Member States;

(b) That the web-site would make available VSAT licensing procedures of CITEL Member States and would not establish the licensing criteria for particular satellites to operate in a Member State.; and

(c) Recognizing also that, the studies undertaken to establish procedures to facilitate the grant of VSAT licenses and their deployment throughout the region is directed to the VSAT networks established through the space segment provided by operations whose satellite networks are being operated in conformity with all specific and general procedures established in the ITU Radio Regulations.

[6] Reference: PCC.III/doc.1290/99

RESOLVES:

1. To establish a web site so that the Member States, according to their laws and regulations, include their criteria, licensing procedures and authorizations for VSAT stations, so that they may be known.

2. To provide by the site the licensing and operational requirements, any license application form that may be required, filing procedures, and contact information for licensing personnel within each Member State.

3. To designate as coordinator Ms. Olga Madruga from the delegation of United States of America.

INSTRUCTS THE EXECUTIVE SECRETARY:

1. To undertake the preparation and execution of the site;

2. To invite the Member States to provide the licensing criteria, application forms, filing requirements, and contact information which shall be made available to the public on the web-site.

3. To invite the Member States to provide any additional information such as the availability of other sites or actions taken on applications that may facilitate VSAT licensing processes throughout the Americas.

4. To report the operational status of the web-site to the next scheduled session of the PCC III and provide information and instruction to the Member States on access to the new resource tool.

PCC.III/RES. 85 (XII-99)[7]

ESTABLISHMENT OF AN AD-HOC GROUP TO UNIFY THE WORKING GROUPS RELATED TO SATELLITE SYSTEMS

The XIIth Meeting of the Permanent Consultative Committee III: Radiocommunications,

CONSIDERING:

That the Venezuelan proposal (PCC.III/doc.1252/99) with the purpose of unifying the working group on networks and services that use small aperture terminals; working

[7] Reference: PCC.III/doc.1291/99.

group relative to implementation of mobile satellite services above 1 GHZ and Ad-Hoc Group for the identification of alternative frequency bands to be used by geostationary satellites,

CONSIDERING:

That the referred proposal has as its goal to improve the work methods of the PCC.III, that deserve to be examined in deepness along with the proposals that the Members of CITEL may decide to present in this sense,

RESOLVES:

1. To create an Ad-Hoc Group to examine the proposal contained in document (PCC.III/1252/99), open to all the Members of CITEL, under the terms of reference contained in the Annex.

2. To designate Ms. Layla Macc Adan from Venezuela as the Chairperson of the Ad-Hoc Group.

3. To request the Ad Hoc Group to present to the Thirteenth Meeting of the PCC.III, the result of the evaluation that through this Resolutions is being assigned to it.

ANNEX

TERMS OF REFERENCE

1. To examine and evaluate the proposal of unifying two or more work groups and to propose the necessary texts.

2. That the Ad Hoc Group use the Electronic Forum to develop the study that is being assigned.

CCP.III/RES. 86 (XII-99)[8]

CONCERNING PROCEDURES FOR THE ORGANIZATION OF SEMINARS

The XIIth Meeting of the Permanent Consultative Committee III: Radiocommunications,

CONSIDERING:

(a) That the usefulness of seminars has received wide recognition within CITEL as an effective mechanism to focus the attention on important current topics and raise the level of understanding on them;
(b) That a number of successful seminars have been held within PCC.III, and
(c) That Members and Associate Members of CITEL should receive copies of seminar documents prior to the beginning of seminars;

RECOGNIZING:

That the usefulness and impact of seminars would be enhanced if there were agreed guidelines for the organization of seminars.

RESOLVES:

1. That the selection of topics for PCC.III seminars shall occur as early as possible at the preceding meeting of PCC.III and the details be covered by a resolution.
2. That for each seminar an organizer, or co-organizers be nominated if a specific individual cannot be identified at the preceding meeting of PCC.III, at least there should be an administration or associate member nominated to take the responsibility).
3. That it is the responsibility of the organizer to:
    a. Coordinate the preparations for the various presentations at the seminar (including speakers, topics, length, order, style, question/answer period, etc.);
    b. Chair the seminar or, in consultation with the Chairman of PCC.III, nominate someone else to chair the seminar;
    c. Keep the CITEL Secretariat, the Chairman of PCC.III, and the Chairmen of the relevant PCC.III Working Groups, informed on the progress of the organization of the seminar;
    d. Inform the presenters of the following guidelines for the presentation of documents related to a seminar:
        1. Documents should be provided to the Secretariat in English and Spanish at least 45 days prior to the seminar;

[8] Reference: PCC.III/doc.1194/99.

2. Documents provided to the CITEL Secretariat must have text or graphics suitable for reproduction by black and white photocopy or offset printing in A4 or letter (216 mm x 279 mm) size;
3. Late documents brought to the seminar for distribution should be provided in both English and Spanish, and in quantities of copies determined with the advice of the Executive Secretariat.

4. That the agenda/plan for the seminar must be distributed by the CITEL Secretariat to members together with the agenda for the meeting of PCC.III.

NOTE: This Resolution supersedes resolutions CCP.III/RES.5 (11-95) and CCP.III/RES. 44 (VI-96).

IV RECOMMENDATIONS

PCC.III/REC.42 (XII-99)[9]

RADIO FREQUENCY CHANNEL ARRANGEMENTS FOR DIGITAL POINT-TO-POINT RADIO SYSTEMS OPERATING IN THE 360 – 390 MHz RANGE

The XIIth Meeting of the Permanent Consultative Committee III: Radiocommunications,

CONSIDERING:

(a) That the segment 360-390 MHz is within the band 335-400 MHz and that in it analog radiocommunications systems to serve rural areas, have been established for many years in several countries of the Hemisphere, and that these same bands can be used today by replacing those systems with digital technologies with modulation techniques 16 and above that enable the use of the radio spectrum in these bands to be maximized;

(b) That the systems in these bands can be utilized with interconnection speeds of 0.7, 1.5, 2, 6.2 and 8 MB/s in conformity with the respective recommendations, such as G.703 of ITU-T;

[9] Reference: PCC.III/doc.1171/99 rev.2.

(c) That it is sometimes desirable to be able to connect these low capacity digital radiocommunication systems with international communications on medium or high capacity systems or with international switching exchanges that are also digital;

(d) That new commercial developments in rural areas entail radiocommunication system quality requirements for interconnection with Integrated Services Digital Networks (ISDN);

(e) That in mountainous countries, or countries with radio ranges in rural areas above 40 Km, the use of bands in the vicinity of 400 MHz may be more advantageous from the technical and propagation points of view, thus avoiding costly installations required in higher bands due to tower and other infrastructure requirements;

(f) That it may be of great benefit to many countries of the Hemisphere and the world to replace analog radiocommunication systems with digital systems, taking advantage of the spectrum compression advantages that allow for digital modulation and the types of small antennas that may be used in these bands, and

(g) That point-to-point systems may provide interconnection solutions to small populations in very remote rural areas,

RECOGNIZING:

That some countries in the region reserve this band for military mobile, fixed and mobile satellite services use.

RECOMMENDS:

1. That Member States planning to replace analog radiocommunications systems which operate in the band 360 –390 MHz with digital systems in remote rural areas, continue to consider the use of this band for the same purpose.

2. To promote the efficient use of radio spectrum in the band 360-390 MHz through equipment using a high spectrum efficiency modulation of at least 16 modulation states.

3. To use of a maximum of 16 two-way radio channels with a separation between carriers of 0.5 MHz where:

fo is the central frequency of the 375.25 MHz band,

fn *is* the central frequency of a radio channel in the lower half of the band,

fn' *is* the central frequency of a radio channel in the upper half of the band,

SD (duplexer separation between transmitter and receiver) = 20 MHz.

Where the frequencies of individual channels are given by the following ratios:

lower half of the band: $fn = fo - 14.5 + 0.5\,n$ MHz

upper half of the band: $fn' = fo + 5.5 + 0.5\,n$ MHz

where n = 1, 2, 3.....or 16

PCC.III/REC.43 (XII-99)[10]

USE AND SHARING OF 1610-1626.5 MHZ FREQUENCY BANDS FOR THE SMS/NOSG

The XIIth Meeting of Permanent Consultative Committee III: Radiocommunications,

CONSIDERING:

(a) That the Member States of CITEL have in recent years been receiving requests for permits, concessions, or licenses to provide SMS/NOSG on the 1610-1626.5 MHz frequency band;

(b) That regulations in effect should not be an obstacle for the development of SMS/NOSG networks;

(c) That use of the equipment employed in SMS/NOSG networks with the different types of access technology requires technical parameters to minimize the risks of harmful interference and to optimize the use of the radio spectrum;

(d) That WRC-95 allocated the 1610-1626.5 MHz frequency band as follows:

1) On a primary basis, the 1610-1613.8 MHz band is allocated to mobile satellite services (earth-space), radio astronomy, radio navigation for aviation, and radiodetermination by satellite;

2) On a primary basis, the 1613.8-1626.5 MHz band is allocated to mobile satellite services (earth-space), radio navigation systems for aviation, and radiodetermination satellite services, and on a secondary basis, to mobile satellite services (space-earth);

[10] Reference: PCC.III/doc.1186/99 rev.1.

(d) That the International Telecommunications Union, through its Radiocommunications Regulations and Radiocommunications Research Committees, established the resolutions and recommendations to develop and ensure the adequate operation of SMS/NOSG networks;

RECOMMENDS TO CITEL MEMBER STATES:

1. To consider allocating the frequencies and frequency bands associated with MSS/NGSO, that are in compliance with the notification procedures established in Regulation S9.11A formerly Resolution 46 (Rev.WRC-95), and related provisions of ITU Radio Regulations.

2. To take into account appropriate protection of other services also allocated in this band on a co/primary basis.

3. To design the equipment used by the MSS/NGSO networks with the various types of access technology to comply with the appropriate ITU Regulation related to out of band emissions, to avoid interference harmful to other MSS/NGSO networks that operate in the 1610-1626.5 MHz frequency band.

PCC.III/REC.44 (XII-99)[11]

SHARING OF SATELLITE SYSTEMS

The XIIth Meeting of Permanent Executive Committee III – Radiocommunications,

CONSIDERING:

(a) That the heavy use of the geostationary satellite orbit has made it necessary to adopt technical designs to ensure the effective operation of the different satellite systems;

(b) That new satellite systems have been introduced in the Americas for the benefit of the countries of the region;

(c) That technical coordination of satellite systems with minimum orbital separation and the same coverage area is becoming increasingly difficult;

(d) That technology has led to the use of better antennas and equipment so that satellite systems can operate with minimal harmful interference, and

[11] Reference: PCC.III/doc.1288/99 cor.1.

(e) That various CITEL member countries have adopted different criteria to optimize the orbital arc,

RECOMMENDS THE MEMBER STATES OF CITEL:

1. To consider harmonization of the technical parameters needed to improve the operational sharing among satellite systems.

2. To foster the development of adequate technical parameters to optimize use of the orbital arc and the operation of present and future satellite systems.

PCC.III/REC.45 (XII-99)[12]

LOW POWER RADIO DEVICES OPERATING IN VARIOUS FREQUENCY RANGES

The XIIth Meeting of Permanent Executive Committee III – Radiocommunications,

CONSIDERING:

(a) That a number of CITEL administrations have made provision for the operation of low power devices in the frequency bands 902 – 928 MHz, 2400 – 2483.5 MHz, 5150-5250 MHz, 5250-5350 MHz and 5725-5825 MHz;

(b) That low power radio devices in these frequency ranges have many possible applications including local area networks, connecting computers to high speed data networks, and community networks;

(c) That education and health institute, business, as well as individuals could benefit from the introduction of low power radio devices in these ranges;

(d) That the development of cost effective low power radio devices can be enhanced by establishing common frequency bands;

(e) That there is sufficient spectrum in these bands to support narrow-band and wide-band devices;

(f) That a number of studies have been conducted by administrations and reviewed by the ITU-R that address the technical criteria for co-existence of low power devices and other radio services using these bands; and

[12] Reference: PCC.III/doc.1284/99.

(g) That within the ITU Radio Regulations spectrum is generally allocated to broad radio services such as fixed and mobile and not for specific systems or devices.

RECOGNIZING:

(a) That it would not be appropriate to identify frequency bands in the Radio Regulations for low power radio devices;

(b) That a number of Questions are being studied within the ITU-R to facilitate the operation of low power radio devices;

(c) That low power radio devices are license-exempt devices in some CITEL administrations;

(d) That regional and global harmonization on the use of spectrum for low power radio devices is an important element to the successful implementation of new technologies in the 5 GHz bands, and other frequency bands;

(e) That low power radio devices in the 5 GHz frequency range operating at less than the maximum 1 watt effective isotropic radiated power for a 100 MHz bandwidth (as per PCC.III/Rec.33/IX-97) are generally limited to short range applications, such as indoor wireless LANS; and

(f) That technical studies are required to further identify low power radio applications and their respective technical parameters that are compatible with existing radio services in the 5150-5250 MHz, 5250-5350 MHz and 5725-5825 MHz frequency bands,

FURTHER RECOGNIZING

(a) That the ITU Radio Regulations do not have any fixed or mobile service allocations in Region 2 for the bands 5150-5250 MHz, 5250-5350 MHz and 5725-5825 MHz, and

(b) That the ITU Radio Regulations, S4.4, allows administrations to assign frequencies to stations in derogation of the Table of Frequency Allocations on the express condition that such a station shall not cause harmful interference to, and shall not claim protection from harmful interference caused by, a station operating in accordance with the provisions of the Radio Regulations.

RECOMMENDS:

1. That CITEL administrations consider adopting provisions to permit the operation of low power radio devices in the frequency bands 902-928 MHz, 2400-2483.5 MHz, 5150-5250 MHz, 5250-5350 MHz and 5725-5825 MHz.

2. That CITEL administrations consider the adoption of common technical parameters that would harmonize the development of low power radio devices and facilities in the 5150-5250 MHz, 5250-5350 MHz and 5725-5825 MHz frequency bands.

3. That CITEL administrations work towards the development of a common set of technical parameters that take into account the operation of radio services allocated in the 5150-5250 MHz, 5250-5350 MHz and 5725-5825 MHz frequency bands.

4. That the technical parameters in Annex 1 can be used as reference for technical certification of low power radio devices and facilities in the 5 GHz frequency range.

5. That other annexes be developed to cover other frequency bands, as appropriate.

ANNEX 1
TECHNICAL PARAMETERS FOR THE 5150-5250 MHZ, 5250-5350 MHZ AND 5725-5825 MHZ FREQUENCY BANDS

Table 1 : Maximum Permissible Levels

Col. 1	2	3	4	5
Band MHz	**Max. Power Spectral Density, dBm / MHz**	**Maximum Transmitter Output Power, dBm**	**Indoor/outdoor**	**Maximum EIRP**
5150-5250 Note 1	4	4 + 10 log (B) , maximum 17 dBm per carrier	Only indoor use	10 dBm/MHz; max. 23 dBm per carrier.
5250-5350 Note 2	11	11 + 10 log (B) , maximum 24 dBm per carrier	Outdoor or indoor	17 dBm/MHz; max. 30 dBm per carrier
5725-5825 Note 3	17	17 + 10 log (B), maximum 30 dBm per carrier	Outdoor or indoor	23 dBm/MHz; max. 36 dBm per carrier
5725-5825 Note 4	17	17 + 10log(B), maximum 30 dBm per carrier	Outdoor or indoor	40 dBm/MHz; max. 53 dBm per carrier

Notes:

(1) The parameters in this row (5150-5250 MHz) are for devices for low EIRP indoor usage; the transmitters shall be equipped with integral antennas. This category of indoor devices can also extend the band to cover 5150-5350 MHz and 5725-5825 MHz.

(2) The parameters in this row (5250-5350 MHz) are for low gain antenna systems, and are for indoor as well as outdoor usage.

(3) The parameters in this row (5725-5825 MHz) are for low gain antenna systems, including point-to-multipoint, and are for either indoor or outdoor, at up to 36 dBm EIRP.

(4) The parameters in this row (5725-5825 MHz) are for point-to-point high gain antenna systems, at up to 53 dBm EIRP. Point-to-multipoint or co-located transmitters transmitting the same information are not permitted for this category.

B is the -26 dB bandwidth of the emission, i.e. where the spectral density is -26 dB relative to the maximum inband spectral density, measured with a resolution bandwidth of approximately 1.0% of the emission bandwidth.

The device's measured level must not exceed any of the limits in each row. The "per carrier" term also means "per transmitter" if multicarrier modulation such as OFDM (orthogonal frequency division multiplex) is used. Systems using bandwidths less than 1 MHz shall adjust their levels accordingly. On the other hand, systems employing bandwidths in excess of 20 MHz are not permitted to exceed the col. (5) EIRP limit per carrier.

The device shall automatically discontinue transmission in case of absence of information to transmit or operational failure. A description on how this is met shall accompany the application for equipment certification. Note that this is not intended to prohibit transmission of control or signaling information or the use of repetitive codes where required by the technology.

PCC.III/REC.46 (XII-99)[13]

LOW POWER RADIO DEVICES GENERAL OPERATING CONDITIONS

The XIIth Meeting of Permanent Executive Committee III – Radiocommunications,

CONSIDERING:

(a) That a number of CITEL administrations have made provisions for low power radio devices to operate within their national boundaries;

(b) That a number of Questions are being studied within the ITU-R relating to the operation of low power radio devices;

(c) That low power radio devices are license–exempt devices in some CITEL administrations, and

(d) That PCC.III/REC.33(IX-97), “Technical and Procedural Framework for Low Power PCS in the use of 1910-1930 MHz Band” recommended a technical and procedural framework that CITEL Member States could adopt to ensure coexistence among systems operating in the same band and in the same geographic area,

[13] Reference: PCC.III/doc.1285/99.

RECOGNIZING:

(a) That Administrations may authorize low power radio devices to operate in frequency bands which are allocated to other radio services and to industrial, scientific and medical (ISM) applications.

(b) That the ITU Radio Regulations S1.169 defines harmful interference as:

> Interference which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service operating in accordance with these Regulations (CS).

(c) That the ITU Radio Regulations, S4.4 allows administrations to assign frequencies to stations in derogation of the Table of Frequency Allocations on the express condition that such a station shall not cause harmful interference to, and shall not claim protection from harmful interference caused by, a station operating in accordance with the provisions of the Radio Regulations.

FURTHER RECOGNIZING:

That even if a low power radio device is constructed in accordance with good engineering design and manufacturing – practice within the technical requirements specified by the Administration, it may not prevent harmful interference under all circumstances.

RECOMMENDS:

1. That Administrations might, consistent with their national laws and regulations, consider establishing Low Power Radio Devices as license-exempt systems or exempt from any other authorization, or authorized in a general manner.

2. That the general operating conditions for a low power radio device should include:

    a. that no harmful interference is caused to, and shall not claim protection from interference caused by a station operating in accordance with provisions of the Radio Regulations.

    b. that of each Member States, according to their laws and regulations, shall study the treatment to be given to the operators of low power radio devices, in the case these devices might cause harmful interference to other service stations operating according to the provisions under the ITU Radio Regulations.

3. That CITEL Member States wanting to adopt operating conditions for low power radio devices might consider adopting a technical and procedural framework that is developed for use in a particular frequency band.

PCC.III/REC.47 (XII-99)[14]

FREQUENCY BAND PLAN FOR FWA SYSTEMS IN THE RANGE 3400-3700 MHz

The XIIth Meeting of Permanent Executive Committee III – Radiocommunications,

CONSIDERING:

(a) That fixed wireless access (FWA) systems in the range 3 400 – 3 700 MHz can provide enhanced telephony and data services (equivalent or better to wireline service quality);

(b) That in a number of countries the 3 700 – 4 200 MHz band is heavily used by point-to-point fixed systems and fixed-satellite systems;

(c) That FWA has substantial potential to enhance the availability of telecommunication services in both urban and rural areas;

(d) That in all three Regions the range 3 400 – 3 700 MHz is allocated on a primary basis to the fixed service;

(e) That in Regions 2 and 3 the range 3 400 – 3 600 MHz is allocated on a primary basis to the radiolocation service as per footnote S5.433;

(f) That several Administrations have introduced FWA systems in bands within the range 3 400 - 3 700 MHz;

(g) That a flexible band plan rather than use of conventional point-to-point channel plans can accommodate a number of FWA equipment types and system characteristics, whilst remaining consistent with good spectrum management principles, including provision for inter-systems/services operation and overall spectrum efficiency;

(h) That the use of spectrum blocks of 25 MHz has evolved as an industry-recognised structure for the band which allows sufficient capacity and flexibility for deployment of multiple systems within a desired service area;

(i) That a 25 MHz sub-banding arrangement also accommodates block duplex spacings in combinations of both 50 MHz and 100 MHz and that use of such 25 MHz blocks facilitates common uplink/downlink designations for efficient deployment of FWA systems in adjacent blocks;

[14] Reference: PCC.III/doc.1286/99.

(j) That in order to promote a fair competitive environment while at the same time providing adequate bandwidth to support future growth of services, several administrations have already adopted the use of frequency blocks of 25 MHz;

(k) That time division duplexing (TDD) systems could also be accommodated, provided that appropriate co-existence criteria can be met;

(l) That in some countries there may be cases where FWA systems need to co-exist with point-to-point systems in the same fixed service allocation;

(m) That a standardised block width offers benefits through economies of scale and simplified inter-system and inter-operator frequency planning in the same deployment area;

(n) That the fixed satellite service (space-to-earth) is also allocated primary status in this range, and in some countries appropriate measures may be needed in the planning and deployment of FWA systems and satellite earth stations, including judicious choice of frequencies, and

(o) That in some countries there may be cases where FWA systems may need to take technical and operational measures to co-exist with radiolocation services in this band,

RECOMMENDS:

1. That those Administrations planning to implement FWA systems in the 3 400 - 3 700 MHz band, or parts of this band, consider a sub-band plan based on 25 MHz blocks.

2. That those Administrations that wish to implement smaller blocks, may sub-divide the 25 MHz blocks according to national and regional requirements.

PCC.III/REC.48 (XII-99)[15]

SPECTRUM PRINCIPLES FOR THE SATELLITE

COMPONENT OF IMT-2000, IN RELATION TO WRC-2000

The XIIth Meeting of Permanent Executive Committee III – Radiocommunications,

CONSIDERING:

(a) That WRC-2000 agenda item 1.6.1 calls for the assessment of the spectrum needs for IMT-2000;
(b) That CITEL PCC.III adopted PCC.III/RES. 71(XII-99) concerning IMT-2000 terrestrial component spectrum principles;
(c) That the CITEL PCC.III Draft Report for WRC-2000 (PCC.III.doc.1148.98 rev.1 corr. 2) contains the terrestrial component spectrum principles in Chapter 1;

[15] Reference: PCC.III/doc.1272/99 rev.1

(d) That issues concerning the satellite component of IMT-2000 are also included in the consideration of WRC-2000 agenda item 1.6.1, and
(e) That the draft CPM-99 report will address both the terrestrial and satellite components of IMT-2000 and that this Report will be subject to review and approval of participating administrations;

RECOGNIZING:

That CITEL member administrations have been active participants in the CPM-related activities in ITU-R Task Group 8/1;

RECOMMENDS:

That CITEL Member States adopt the spectrum principles for the satellite component of IMT-2000 contained in the Annex to this Resolution.

URGES:

CITEL Member States to contribute and participate in the 1999 Conference Preparatory Meeting to take place in Geneva from 15 to 26 November 1999, bearing in mind these spectrum principles.

ANNEX

PRINCIPLES FOR UTILIZATION OF SATELLITE COMPONENT IMT-2000 SPECTRUM AS THE BASIS FOR CITEL PCC.III STUDIES ON WRC-2000 AGENDA ITEM 1.6.1

CITEL PCC.III, having examined spectrum issues regarding satellite IMT-2000 implementation in region 2, and at the same time taking into account the situation in other geographic areas of the world, has developed the following spectrum utilization principles for the satellite component of IMT-2000:

1 Only with a combination of terrestrial and satellite networks can IMT-2000 services be provided on a truly global basis. Therefore, to insure the global nature of IMT-2000, sufficient spectrum needs to be made available for the satellite component.

Rationale: It is not expected to be economically feasible to deploy terrestrial IMT-2000 equipment in all areas of all landmasses of the world, regardless of whether or not terrestrial spectrum is available on a global basis. However, the satellite

component can provide IMT-2000 applications in such areas where the cost of terrestrial IMT-2000 deployment is considered to be prohibitive.

Just as there are areas of the world where terrestrial systems will provide the brunt of IMT-2000 services, there are areas where the situation will be reversed, that is, the satellite component will be the dominant provider of IMT-2000 services. WRC-2000 should insure that the provision of IMT-2000 is truly global in scope, and that it cannot be achieved without sufficient availability of spectrum for the satellite component.

2 To fully account for the spectrum needs of the IMT-2000 satellite component under WRC-2000 agenda item 1.6.1, the differences between MSS and MS systems in terms of spectrum utilization and system deployment must be considered.

Rationale: First it should be considered that the deployment of terrestrial mobile personal communications systems are much more mature than that of MSS systems providing GMPCS, or any type of personal communications. GMPCS systems have just started operation within the last six months, while systems operating in the mobile service providing personal communications have been in operation for well over ten years.

It is expected that at least some terrestrial IMT-2000 spectrum may be provided as the equipment of systems using current Mobile Service spectrum ages and has to be replaced. Likewise satellite system equipment ages and has to be ultimately replaced; however, the magnitude of equipment replacement for satellite systems is much more difficult and expensive to accomplish, and should be taken into account in the provision of satellite IMT-2000 spectrum.

3 According to market demand, it is desirable to consider additional worldwide IMT-2000 spectrum, that is common on a global basis, in response toWRC-2000 agenda item 1.6.1, while recognizing the needs of other radio services.

Rationale: The availability of worldwide spectrum for the IMT-2000 terrestrial component has been stated as important since IMT-2000 is a concept that is to be global in scope. However, availability of global spectrum for the satellite component is even more important. Deployment costs of MSS systems may become prohibitive if global spectrum is not available. This owes to the inherent differences between satellite and terrestrial systems – such as what is the equivalent of the base station for a mobile satellite system is located at an altitude of hundreds if not thousands of kilometers above the earth. Global spectrum is also important with respect to principle 1).

4 All existing frequency bands allocated to the Mobile Satellite Service for which first or second-generation mobile satellite systems are in operation should be considered for use by satellite IMT-2000.

Rationale: There are several reasons why this principle is important. First, even though it was a standing agenda item, it was next to impossible to secure any significant additional MSS allocations at the last two WRCs. Therefore the best opportunity to identify any additional spectrum for the IMT-2000 satellite component is from MSS spectrum already allocated.

There is no doubt that the current MSS allocations are already very extensively utilized, but the time frame talked about with regards to WRC-2000 agenda item 1.6 is year 2005 and beyond. However, it is anticipated that future MSS systems, regardless of their compliance with IMT-2000 Recommendations, will employ design techniques that would render their systems much more spectrally efficient than what was feasible in the past. It is therefore assumed that the next generations of new MSS systems or the replacement of existing systems would not require as much spectrum as some of the current MSS systems, especially GSO systems.

5 Taking into account the other principles, the use of spectrum allocated to the MSS for satellite IMT-2000 systems should continue to be at the discretion of Administrations. The bands should not be identified with the words "initial" or "additional" in the Radio Regulations.

Rationale: CITEL PCC.III is of the opinion that the use of spectrum for IMT-2000 systems should continue to be an option for administrations, as is the case with the frequency bands already identified for IMT-2000, 1885-2025 / 2110-2200 MHz, by means of No. S5.388 of the ITU Radio Regulations. It is important to not distinguish amongst the IMT-2000 frequency bands in order to avoid the conferring of a type of "poor relation" status or preference to any bands that have been, or may be identified for satellite IMT-2000

.6 Some future satellite IMT-2000 applications may require very high data bit rates where the user is likely to be stationary. For such applications, it may be possible to utilize frequency bands above 3 GHz, if the results of ITU-R studies demonstrate that spectrum will be required for these applications.

Rationale: Expected demand for high data-bit rate applications is a not insignificant part of the terrestrial IMT-2000 spectrum requirement. It still remains a question for the satellite component as to what bit rates can be realistically provided by satellite IMT-2000, given the limited spectrum available and the physical limitations of satellite systems.

If a demand for high data bit rate services via satellite IMT-2000 would appear to become a reality, then frequencies above 3 GHz could be considered for such applications. With regards to WRC-2000 agenda item 1.6.1, priority in use of MSS spectrum below 3 GHz should be given to MSS systems that need to provide user mobility.

PCC.III/REC.49 (XII-99)[16]

FACILITATING THE TRANS-BORDER CIRCULATION OF GMPCS TERMINALS IN THE AMERICAS

The XIIth Meeting of Permanent Consultative Committee III: Radiocommunication,

CONSIDERING:

(a) That at the first World Telecommunication Policy Forum (Geneva, 1996) developed the Global Mobile Personal Communications by Satellite Memorandum of Understanding ("GMPCS-MoU");

(b) That Implementation Arrangements were then developed to facilitate type approval and the circulation of GMPCS terminals across national borders;

(c) That the World Telecommunication Development Conference (Valetta, 1998) adopted Recommendation 8 on "The Timely Implementation of GMPCS" to encourage implementation of the GMPCS-MoU and Arrangements;

(d) That Council adopted Resolution 1116 (1998) concerning the "Role of the ITU Secretary-General in the Implementation of the GMPCS-MoU Arrangements";

(e) That the Plenipotentiary Conference (Minneapolis, 1998) confirmed the Secretary-General's continuing role as the Depositary of the GMPCS Arrangements, and

(f) That the Secretary-General has invited Administrations to participate in the Arrangements;

CONSIDERING FURTHER:

(a) That, as of February 1999, there were 128 signatories to the MoU, including 62 administrations;

(b) That eleven CITEL Administrations have joined the GMPCS MoU;

(c) That, in accordance with the GMPCS-MoU Arrangements, the Secretary-General has begun issuing system specific implementation letters, and

(d) That the ITU GMPCS mark has been affixed to the terminals of at least one GMPCS service operator and that that operator is now providing service;

[16] Reference: PCC.III/doc.1273/99

RECALLING:

(a) That the Tenth Meeting of the Permanent Consultative Committee III: Radiocommunication in Natal adopted Recommendation 40 (X-98) on "The Timely Implementation of ITU GMPCS Arrangements", and

(b) That Recommendation 40 recommended that CITEL Administrations implement the GMPCS Arrangements, and, where necessary adopt national licensing procedures or regulations, to introduce GMPCS services and associated terminals as early as possible,

RECOGNIZING:

That the Administrations of CITEL will benefit from the early implementation of GMPCS services in all countries and from the unhindered trans-border circulation of GMPCS terminals,

RECOMMENDS:

1. That CITEL Members and Associate members should implement the GMPCS MoU-Arrangements and so notify the Secretary-General.

2. That CITEL Members should respond to the Secretary General's system specific implementation letters.

3. That CITEL Members should coordinate with their Customs Authorities to facilitate the circulation of GMPCS terminals through their borders.

4. That CITEL Members that have not signed the GMPCS MoU should consider the advisability of initiating procedures in their own countries permitting the free circulation of GMPCS terminals cross-border, and in such case, inform the ITU Secretary General of this circumstance.

5. That the CITEL Executive Secretariat develop and maintain a list describing Region 2 participation in the GMPCS MoU and Arrangements so that the continuing progress of GMPCS implementation in the Americas can be easily reviewed and analyzed.

INSTRUCTS THE EXECUTIVE SECRETARIAT:

To elaborate and maintain a list describing the participation of Region 2 in the Memorandum of Understanding and Provisions of the GMPCS, so that the on-gong process of deploying GMPCS in the Americas can be easily reviewed and analyzed.

VI. LIST OF THE BASIC DOCUMENTS RESULTING FROM THE TWELFTH MEETING OF PCC.III: RADIOCOMMUNICATIONS

Summary Minutes of the Opening Session and First Plenary Meeting	PCC.III/doc.1266/99 rev.2 cor.1
Summary Minutes of the Second Plenary Meeting	PCC.III/doc.1270/99 cor.2
Summary Minutes of the Third Plenary Meeting	PCC.III/doc.1293/99 cor.1
Summary Minutes of the Fourth Plenary Meeting	PCC.III/doc.1294/99 rev.1
List of Documents	PCC.III/doc.1167/99 rev.2
List of Participants	PCC.III/doc.1168/99 rev.2
Report for the WRC-2000	PCC.III/doc.1295/99 rev.2
Report of the Meeting	PCC.III/doc.1297/99 rev. 1