

AERONAUTICAL MOBILE COMMUNICATIONS PANEL (AMCP)

EIGHTH MEETING

Montreal, 4 to 13 February 2003

AGENDA ITEM 6

The attached constitutes the report on Agenda Item 6 and should be inserted at the appropriate place in the yellow report folder.

Agenda Item 6: ICAO position for ITU WRC-2003**6.1 INTRODUCTION**

6.1.1 The meeting received an oral report of Working Group F activities. Working Group F had been given the task to develop material relevant to the protection of aeronautical electromagnetic spectrum.

6.1.2 Since AMCP/7, WG-F held five meetings:

- a) 21 to 30 August 2000, Montreal, Canada;
- b) 27 March to 4 April 2001, Lima, Peru;
- c) 19 to 27 November 2001, Bangkok, Thailand;
- d) 18 to 30 April 2002, Nairobi, Kenya; and
- e) 11 to 17 December 2002, Mexico City, Mexico.

The Rapporteur of Working Group F was Mr. Steve Mitchell from the United Kingdom.

6.2 BACKGROUND

6.2.1 The International Telecommunication Union (ITU) will convene a World Radiocommunication Conference (WRC-2003) in June 2003. Following the decision (ANC 147-11 and 13) to refer ANC Task No. CNS-7002 to the Aeronautical Mobile Communications Panel (AMCP), Working Group F of the panel was created to undertake the activities necessary to develop material relevant to the protection of aeronautical electromagnetic spectrum from interference and incursion by non-aeronautical interests, including the ICAO position for ITU WRCs. In order to increase support to the ICAO position, meetings of Working Group F are typically held in conjunction with regional WRC preparatory meetings in ICAO Regional Offices. The meeting noted that this approach had proved very effective in achieving the desired aim.

6.2.2 The draft ICAO position for WRC-2003 was developed at the third meeting of AMCP Working Group F held in Berlin, Germany from 21 to 30 August 2000. It was subsequently coordinated with the Global Navigation Satellite System (GNSS) Panel and the AMCP members by correspondence. The Air Navigation Commission (155-7) reviewed it on 16 November 2000. At the request of the ANC it was submitted to States and selected international organizations for comments under cover of State letter E 3/5-00/101 dated 8 December 2000.

6.2.3 The replies from States and international organizations were reviewed by the Commission (157-9) on 7 June 2001. The Commission noted the broad support for the ICAO position and agreed to the changes proposed by the Secretariat, as amended by the review.

6.2.4 The ICAO position was approved by the ICAO Council on 22 June 2001 and circulated to States in State letter E 3/5-01/79, dated 10 August 2001. As mentioned in the State letter, new developments resulting from studies under way in ICAO and ITU may require that additional material, complementing the ICAO position, be submitted to the conference.

6.3 PROPOSED CHANGES TO ICAO POSITION FOR ITU WRC-2003

6.3.1 The ninth meeting of AMCP Working Group F (WG-F/9, Mexico City, 11 to 17 December 2002) reviewed the results of ICAO and ITU studies conducted in preparation to WRC-2003 and developed a number of proposals for additional material to complement the ICAO position to reflect the results of the studies.

6.3.2 The meeting reviewed the proposals submitted to the panel by Working Group F, presented in the form of amendments to the ICAO position on WRC-2003 Agenda Items 1.4, 1.11, 1.15, 1.28 and 7.2.

6.3.3 The main points addressed by the proposals are:

- a) results of ICAO studies on estimated spectrum requirements for future expansion of the microwave landing system (MLS) and other aeronautical radionavigation system in the 5 091 - 5 150 MHz band (WRC-2003 Agenda Item 1.4 refers);
- b) results of ICAO and ITU technical studies on the protection of distance measuring equipment (DME) and radar systems from interference from radionavigation satellite systems operating in the band 1 164 - 1 300 MHz (WRC-2003 Agenda Item 1.15 refers);
- c) a possible approach for initial introduction of ground-based augmentation systems (GBAS) and VDL Mode 4 in the 108 - 117.975 MHz band (WRC-2003 Agenda Item 1.28 refers);
- d) proposed deletion from the draft WRC-2007 agenda of an item with potential negative impact on radar systems operating in the band 2 700 - 2 900 MHz (WRC-2003 Agenda Item 7.2 refers); and
- e) editorial changes from the 2001 Edition of the ITU Radio Regulations (for example, removal of the prefix "S" from all references to Articles of the Radio Regulations, changes in numbering of some footnotes to Article 5, etc).

6.3.4 In connection with point b) above, the meeting also noted information on the Russian Federation Telecommunication Administration preliminary position on WRC-2000 Resolution 606.

6.3.5 After reviewing the proposed amendments to the ICAO position, the meeting agreed to the proposals without any changes. The meeting therefore developed the following recommendation:

**Recommendation 6/1 — Updates to the ICAO position for
ITU WRC-2003**

That the ICAO position for ITU WRC-2003, as contained in State letter E 3/5-01/79, be updated to include the changes shown in Appendix A to this agenda item.

6.3.6 The meeting was informed that the material would be reviewed by the Air Navigation Commission for submission to Council for approval. The material approved by the Council would then be included in the ICAO submission to the ITU WRC-2003.

**6.4 ANCILLARY TERRESTRIAL COMPONENT FOR
CERTAIN MOBILE SATELLITE SERVICE (MSS) SYSTEM
PROVIDERS IN AMSS SARPS BAND**

6.4.1 The meeting reviewed information on the proposed operation of a new generation multi-beam MSS system, operating in the bands 1 525 - 1 559 and 1 626.5 - 1 660.5 MHz band (Appendix B to the report on this agenda item refers). This system will have an ancillary terrestrial component using a cellular type network of repeater stations to augment the coverage of the satellite spot beam. The terrestrial augmentation component will transmit in the 1 525 - 1 559 MHz band, which includes the receiver frequencies specified in Annex 10 for AMS(R)S aircraft terminals and is adjacent to the aeronautical radionavigation band 1 559 - 1 610 MHz used for GNSS.

6.4.2 Additional information was presented highlighting the fact that the operation of such systems had been permitted by the US Federal Communication Commission under certain conditions, and was being reviewed in Canada. In particular, the meeting's attention was brought to a study commissioned by the Canadian radio regulatory authority in order to ascertain the feasibility of hybrid MSS/terrestrial operation (the study is available at <http://strategis.ic.gc.ca/SSG/sf08002e.html>). It was observed that the technical material contained in the study required validation from the technical parameters used to perform the analysis of potential interference into GNSS and AMS(R)S receivers.

6.4.3 The meeting observed that it was not in a position to assess the potential impact of the proposed systems on AMSS and GNSS operation, since no aviation-supported study of the proposed systems had been developed. In particular, it was recognized that, to the best of the panel's knowledge, there was no guarantee that the future introduction of the proposed system in North America (expected to take place in a few years) would not affect negatively aviation safety. Furthermore, commercial success of the proposed systems in North America might result in the extension of the service to other regions.

6.4.4 The meeting therefore concluded that there was an urgent need for ICAO studies to be conducted on the impact of the introduction into the 1 525 - 1 559 MHz band of an ancillary terrestrial component to satellite systems operating in the band. It was noted that the scope of the studies was within the terms of reference of AMCP WG-F, and should be conducted in close coordination with the Spectrum Subgroup of GNSSP.
