

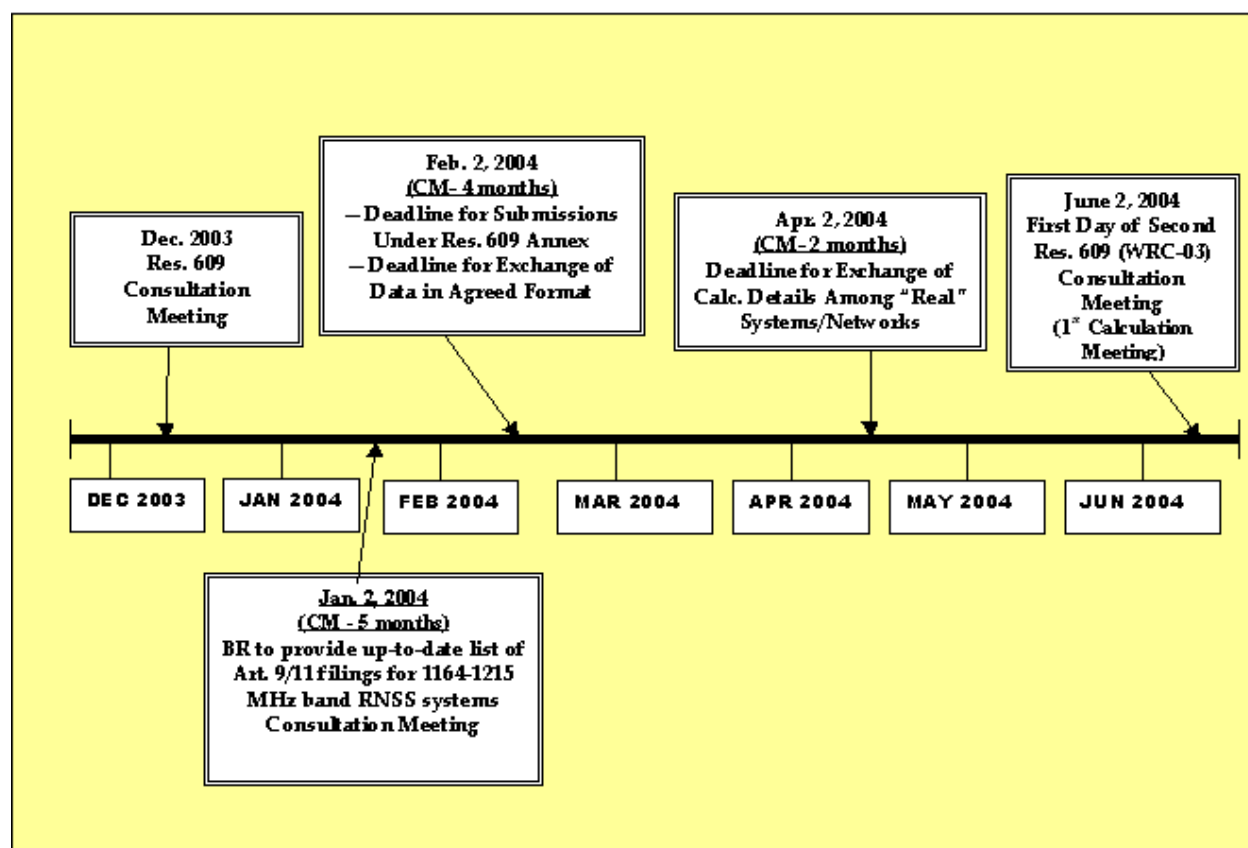
**Resolution 609 (WRC-03) Consultation Meeting
8-9 December 2003**

**Record of Decisions Taken at the
First Resolution 609 (WRC-03) Consultation Meeting**

(8-9 December 2003)

The first Resolution 609 (WRC-03) Consultation Meeting was convened, pursuant to the requirements of Resolution 609 (WRC-03), at the facilities of the International Telecommunication Union from 8-9 December 2003. A list of participants is available on the Resolution 609 Forum page on the ITU web site. Approximately 50 delegates from government and industry, along with representatives of the Radiocommunication Bureau, attended the meeting. The following actions were taken:

1. The Meeting agreed to Terms of Reference that will provide direction and structure for the operation of future Resolution 609 (WRC-03) Consultation Meetings. A copy of the Terms of Reference has been posted to the Resolution 609 Forum that is maintained and is to be maintained on the ITU web site (<http://www.itu.int/ITU-R/space/res609/index.html>). A timeline containing the deadlines in advance of the next consultation meeting follows:



2. The Meeting decided that the second Resolution 609 (WRC-03) Consultation Meeting will be convened in Ottawa, Canada, for a period of three working days, tentatively from 2-4 June 2004.
3. The Meeting decided that it would not perform an epfd calculation at the first Resolution 609 (WRC-03) Consultation Meeting, but that it would perform such a calculation at the second Consultation Meeting.
4. The Meeting agreed that for the case of a non-GSO RNSS system using elliptical orbits, the simulation and analytical methodologies contained in the Preliminary Draft Revised Recommendation ITU-R M.1642 (Doc. 8D/TEMP/12(rev.1)) will be used by participants for calculating the aggregate epfd produced by all the space stations within such an RNSS system in the band 1164-1215 MHz, and that characteristics for systems such as the Japanese RNSS system should be provided to the consultation meetings in the format of Attachment 1. The meeting noted that further modifications may be needed to identify the parameters generally applicable to non-GSO systems using elliptical orbits.
5. The Meeting agreed that RNSS system characteristics should be provided to the Consultation Meeting in the format defined by Attachment 1. The meeting agreed that each administration should also provide a new Section I-7 (see Attachment 1) containing the result of the aggregate epfd calculation for each RNSS individual system, available in MS Excel format (see Attachment 2 at Template, Sheet 1) using 5 degree steps in latitude and longitude. It was agreed that if the aggregate calculation of all RNSS systems is within 2dB of the epfd limit (-121.5 dBW/m²/MHz), the results for each RNSS system should be provided in 1 degree steps (see Attachment 2 at Template, Sheet 2). For non-GSO systems, administrations should also provide the time step resolution and the number of time steps simulated. The system spectral adjustment factors (SAF) provided under section I-6 should be in MS Excel format (see Attachment 2 at Template, Sheet 3).
6. The Meeting agreed to defer to a future Consultation Meeting any decision on the format of the output of the maximum aggregate epfd calculations for all systems that is to be sent to the BR. The BR would be consulted in any such decision.
7. The Meeting decided to treat the technical contributions from France (on behalf of the Galileo Administrations (GLS-2)) and Russian Federation as information documents. The Meeting decided to note the contribution from the People's Republic of China.
8. The Meeting agreed that all notifying RNSS administrations that wish to be taken into account in the epfd calculation at the second Resolution 609 (WRC-03) Consultation Meeting are expected, four months before the meeting, to provide to the Resolution 609 Forum page within the ITU web site a commitment letter to satisfy the explicit requirements of Criterion No. 2 or Criterion No. 3 of the Annex to Resolution 609 (WRC-03).
9. The Meeting agreed that for the purposes of §§11(b) and 11(c) of the Terms of Reference, the obligation to provide information to all administrations on the list to be provided by the BR under §11(a) would be satisfied by the posting of that information onto the Resolution 609 Forum page within the ITU web site.

10. The Meeting decided that Stephen Baruch would be convener and Dominic Hayes would be vice convener.

List of Attachments

Attachment 1 (Word document) – input format for RNSS system characteristics.

Attachment 2 (Excel spreadsheet):

- Sheet 1. Template for new section I-7 of Attachment 1, latitude/longitude format for individual system epfd calculation results (5° steps).
- Sheet 2. Template for new section I-7 of Attachment 1, longitude/latitude (note orientation change) format for individual system epfd calculation results (1° steps).
- Sheet 3. Template for section I-6 of Attachment 1, spectral adjustment factors (SAF) relative to the worst 1MHz.

ATTACHMENT 1

List of RNSS system characteristics to be provided to the Consultation Meeting per Item 11 c) of the Terms of Reference

I RNSS systems characteristics

I-1 RNSS ITU publication reference

RNSS network name	Network ID	ITU Publication reference	IFIC
		AR11/A/...	
		API/A/...	
		AR11/C/...	
		CR/C/...	

I-2 Non-GSO satellite system constellation parameters

N : number of space stations of the non-GSO system

K : number of orbital planes

h : satellite altitude above the Earth (at apogee^{*1}) (km)

h_p : satellite altitude above the Earth at perigee^{*1} (km)

I : inclination angle of the orbital plane above the Equator (degrees).

ω : argument of perigee of the non-GSO system^{*1}

^{1*}Note: Applicable for non-GSO system with elliptical orbit.

Satellite index I	RAAN Ω_{i0} (degrees)	Argument of latitude u_{i0} (degrees)
1
2
...
N

I-3 GSO satellite system longitude

LonGSO _{i} : longitude of each of the GSO satellites (degrees).

I-4 Maximum non-GSO space station pfd versus the elevation angle at the Earth's surface (worst 1 MHz)

Elevation angle (each 1°)	Pfd (dB(W/(m ² /MHz)))
-4	pfd (-4°)
-3	pfd (-3°)
...	...
...	...
90	pfd (90°)

I-5 Maximum GSO or non-GSO with elliptical orbit space station pfd versus latitude and longitude at the Earth's surface (worst 1 MHz)

Longitude (each 1°)	0	1	...	360
Latitude (each 1°)	Maximum pfd dB(W/m ²) in worst 1 MHz			
-90	pfd (0, -90)	...	...	...
-89	...	...	...	...
...
...
90	...	...	...	pfd (360, 90)

I-6 GSO/non-GSO satellite system spectrum

The level of spectrum emission in each 1 MHz relative to the spectrum value at the worst 1 MHz of the whole band (1 164-1 215 MHz) is provided below as the Spectral Adjustment Factor (SAF) in dB.

Normalised Signal Power Spectrum

Center Frequency (MHz)	SAF (dB)	Center Frequency (MHz)	SAF (dB)	Center Frequency (MHz)	SAF (dB)	Center Frequency (MHz)	SAF (dB)
1164		1177		1190		1203	
1165		1178		1191		1204	
1166		1179		1192		1205	
1167		1180		1193		1206	
1168		1181		1194		1207	
1169		1182		1195		1208	
1170		1183		1196		1209	
1171		1184		1197		1210	
1172		1185		1198		1211	
1173		1186		1199		1212	
1174		1187		1200		1213	
1175		1188		1201		1214	
1176		1189		1202		1215	

I-7 Results of the aggregate epfd calculation for an individual system in the worst 1 MHz of the 1 164-1 215 MHz band

Longitude (each 5°) ¹	0	5°	...	360
Latitude (each 5°) ¹	Maximum epfd dB(W/m ²) in worst 1 MHz			
-90	epfd (0, -90)	...	...	...
-85	...	...	...	...
...
...
90	...	...	...	epfd (360, 90)

Additional simulation data for non-GSO systems only:

Time step (sec)	
Number of time steps	

¹ See Record of 8-9 December 2003 Consultation Meeting.

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ATTACHMENT 2



Microsoft Excel
Worksheet