The Radiocommunication Assembly (RA-12) and the World Radio Conference (WRC-12), Geneva, 2012: Progress(?)

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Abstract

The Radiocommunication Assembly (RA-12) and World Radio Conference (WRC-12) of the ITU were held in Geneva in January/February 2012. This paper reviews the preparation for both, and various measures that were agreed including 'bringing into use'.

1 Basics

The operation of satellites requires radio links that are to a satisfactory extent free of interference. Article 5 of the ITU Radio Regulations (RR) sets out the Table of Allocations for radio services, while RR Articles 30, 30A and 30B deal with the processes involved to secure international protection for space assignments properly made by relevant licensing states.
We are now two decades into the operation of the reconstructed International Telecommunication Union and, broadly, things seem to be working well.[1] The

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1 The basic ITU structure was revised at Geneva, 1992, and Kyoto, 1994, including the division of the basic documents into a Constitution (CS) and a Convention (CV). The work of the Union was entrusted to three new Sectors, Radiocommunication (ITU-R), Standardisation (ITU-T) and Development (ITU-D). For the ITU see F. Lyall, *International Communications: The International Telecommunication Union and the Universal Postal Union* (Farnham, UK: Ashgate, 2011) 17-211; F. Lyall and P.B. Larsen, *Space Law: A Treatise* (Farnham, UK: Ashgate, 2011) 199-245. See also I. Baumann and H. Dodel, 'The ITU Filing of Satellite Systems', in L.J. Smith and I. Baumann eds., *Contracting for Space* (Farnham, UK: Ashgate, 2011) 367-381 for a fuller narration of the pre-WRC-12 ITU procedures.

Radiocommunication Assembly (RA-12) and the World Radio Conference of 2012 (WRC-12) fitted the new four-year work cycle that was adopted in the 1992-4 ITU reforms. Both the Assembly[2] and the Conference[3] made decisions of importance, and deferred some other matters for further consideration. [4] The Conference amended the Radio Regulations, which, it must be stressed, form an international treaty having the same status as the ITU Constitution and the ITU Convention themselves.[5] The principles of the Law of Treaties, and in particular *pacta sunt servanda*, therefore apply. 'Every treaty in force is binding upon the parties to it and must be performed by them in good faith'.[6] Both 'performance' and that performance is 'in good faith' are essential. The Recommendations and Resolutions of the Radiocommunication Assembly are no less important, however, for they mould the future work programme of the Radiocommunication Sector, and how it goes about it.

2 Preparation

RA-12 ran 15-20 January 2012, and WRC-12 took the next four weeks. Over 3000 participants including more than 100 observers from ITU private sector members and some international organizations were there.[7] One hundred and sixty-five of the 193 ITU member states were present. One hundred and fifty three delegations signed the Final Acts.

Both the Assembly and the Conference required considerable preparation and the background organisation is notable. Processes have developed since the ITU reconstruction of the 1990s. Decision-making has been facilitated. Before either gathering convened significant time and effort had been spent in preliminaries arranged by the Radiocommunication Bureau. For the Assembly the ITU-R Bureau produced a 119-page book of all relevant RA resolutions

2 *Resolutions, Radiocommunication Assembly (RA-12), Geneva, 16-20 January 2012* (Geneva: ITU, 2012).

3 *Final Acts WRC-12: World Radiocommunication Conference (Geneva, 2012)* (Geneva: ITU, 2012).

4 In 1961 by decision of the then ITU CCIR Coordinated Universal Time (UTC) was replaced by Greenwich Mean Time. The current question of the 'leap second' was considered at WRC-12, but decision has been postponed pending further study. See Res. COM6/20 (WRC-12) 'Future of the Coordinated Universal Time Rime-Scale'.

5 ITU CS Art. 4 (29-32); CV Art. 6 (37-8). In ITU citation practice 'CS' denotes the ITU Constitution and 'CV' the ITU Convention.

6 Art. 26, Convention on the Law of Treaties, Vienna, 1969 (in force 1980), 1155 UNTS 331.

7 The ITU has over 700 Sector members of various kinds ranging from international companies to university departments.

and recommendations.[8] For WRC-12 itself Conference Preparatory Meetings (CPM) produced a 680 page Report that tabulated relevant data for each and every item of the WRC-12 agenda together with setting out options with their advantages and demerits.[9] That helped to crystallise points of agreement and to identify those of conflict. Behind the CPM lay regional meetings, which consolidated proposals on many issues of common interest.
Again, the thinking of the relevant officials was available to the conference. Although it is not for the ITU-R Sector itself or for its officials to propose, separate reports by the Director of ITU-R and by the Radio Regulations Board were available.[10] Lastly, both RA-12 and WRC-12 were aided by a large number of 'common proposals' made by groups of ITU members. In short, RA-12 and WRC-12 were aided by good preparation.

3 Experts

Separately, for emphasis, I note that underlying the preparatory work was the continued involvement of experts. The ITU was one of the first to bring experts right into international decision-making, an evolution now commonly copied by other organisations. Indeed, experts were involved in the creation of the Eastern and the Western Telegraph Unions, before the ITU itself was created.[11] The overwhelming impression left by successive Radio Conferences and Radiocommunication Assemblies is one of increasing technical complexity. January 2012 was no different. To be effective technically oriented international organisations need basic work done by experts in the technology involved. Behind the eventual agreement lie acres of discussion and negotiation between experts. Those lacking a good technical understanding (including myself) should be careful in what we suggest or ciriticse. We need the experts, referred to in the ITU Convention Annex on 'Definition of Terms' (CV 1001) as persons of 'technical competence'. Their advice rather than commercial or political considerations should determine decisions on technical matters.

4 Terms and Their Meaning

RA-12 and WRC-12 show some useful development as to the general question of the definition and meaning of terms. Terms can have different meanings in different systems. This is not always realised by discussants who may assume

8 *2012 World Radiocommunication Conference: Agenda and References (Resolutions and Recommendations)* (Geneva: ITU, 2010).
9 *CPM Report on technical, operational and regulatory/procedural matters to be considered by the 2012 World Radiocommunication conference*, (Geneva: ITU, 2011), (The Second Session of the Conference Preparatory Meeting for WRC-12).
10 ITU-R Director Report, Annex 7 to WRC-12 Doc. 4; RRB Report, WRC-12 Doc. 11.
11 Lyall, *supra* n. 1, 8-11.

that what they mean by a term is identical with the understanding of that term by others. ITU-R has been faced by disputes or debates that turn on divergent 'meanings' of RR terms. It is therefore good to note that Res. ITU-R 34-3 sets out guidelines for the preparation of terms and definitions, ITU-R 35-3 deals with the organisation of vocabulary work and ITU-R 36-3 with its coordination.[12] I hope that this will help clarity of discussion and of agreement as to what rules mean.
That said, see below as to the matter of 'due diligence' (sec. 7) and 'bringing into use' (sec. 8.3).

5 Allocations, RR 5: General

Briefly, for the detail is considerable, WRC-12 made many changes to RR 5, the Table of Allocations, improving the availability of spectrum space for many services including for mobile services and remote sensing. However, changes to RR 5 now also include a large number of additional allocations, alternative allocations, footnote exceptions and a few 'different category of service' entries. Some of these relate to terrestrial services, but there is also a swathe to do with space. There may be a danger that the utility of RR 5 is impaired if there are many exceptions to the generality of allotments to standard services. A remedy for consideration in the future may be to use broader rather than unduly narrow categories of service.
Under this heading also, I note that, while taking some further steps as to international mobile telecommunications (IMT), WRC-12 has deferred for further consideration the sharing of frequencies between terrestrial IMT and some space frequencies.[13]

6 Data

The ITU system depends on the availability of accurate data. Attention was given by both the WRC and the RA to the quality of information available to the ITU-R Bureau in its carrying out of its duties. It is interesting that the RRB Report to the WRC thought that what constituted 'reliable information' did not need further definition.[14] However, it is important that the actual use of an assignment

12 RA-12 Resolutions, *supra* n. 2.
13 See 'Use of the frequency band 694-790 MHz by the mobile, except aeronautical mobile, service in Region 1 and related studies' WRC Res. COM5/10 (WRC-12); and 'Additional frequency bands identified for IMT', WRC Res. 223 (Rev. WRC-12); 'Frequency bands for the terrestrial component of International Mobile Telecommunications below 1 GHz', WRC Res. 224 (Rev. WRC-12); and 'Use of additional frequency bands for the satellite component of IMT', WRC Res. 225 (Rev. WRC-12).
14 RRB Report, *supra* n. 10, 4.1.1.

duly recorded in the Master International Frequency Register (MIFR) should correspond with the record. But ITU-R lacks the ability to monitor what is actually going on. Therefore it is very interesting that RA Res. ITU-R 23-2 now encourages both the extension of national monitoring of space systems emission levels, and cooperation between ITU members in this effort.[15] In addition, the Resolution urges states having advanced monitoring systems to train officials from other administrations and a number have agreed so to do.[16]
Another step towards the procurement of accurate data has been taken through a modification to RR 13.6.b). This will allow ITU-R take the initiative and inquire as to what is going on. Previously it had to rely on others to raise questions. ITU-R will now be able to ask a notifying administration whether an assignment has been brought into use, or is no longer in use, or is operating but not in terms of its MIFR registered characteristics. But what constitutes a 'response' to such an inquiry? Will it suffice simply to respond 'we are looking into this'? And, failing any response, will the ultimate sanction of removal from the MIFR with the approval of the RRB work?

7 Due Diligence

As indicated above, satellites are useless without interference-free radio links. The international system through which interference is minimised depends for its implementation on the processes of the states that license and then supervise satellite activities. Article 44 of the ITU Constitution (CS 195-6) speaks of the rational, efficient and economic use of frequencies and orbits, so that all have equitable access to those assets (CS Art. 44.1 and 2 (195-6)). The problem is how to achieve the best use of the radio spectrum and associated orbits. The physics of radio by cannot be altered international agreement. They form a corset within which states must operate if there are to be satisfactory outcomes. The Table of Allocations and entry on the Master International Frequency Register are the means through which this is achieved. But these must be adhered to and their requirements enforced by states licensing space activities. 'Due diligence' must be done. What this implies is enshrined in WRC Resolution 49, first adopted at WRC-97 and revised thereafter including by WRC-12.
The operation of 'due diligence' has underlying questions. Are all ITU members sufficiently technically competent to perform proper due diligence? Do all ITU members perform due diligence in the interest of the 'principles embodied in the constitution', or are some rather more concerned with the commercial interests of their nationals? And, conflating these two areas of doubt, what about states that seek to attract business through offering to commercial

15 Cf. The ITU-R *Handbook on Spectrum Monitoring* (Geneva: ITU).
16 RA-12, Res. ITU-R 23-2, para 6. Note 1 to the paragraph indicates that Germany, Australia, Canada, China, France, Germany, Israel, Italy, Japan, Portugal, South Korea, the UK and the US have offered so to act.

entities not-too-demanding notification and supervising services.[17] In the past I have drawn attention to the danger of the space equivalent of the 'flag of convenience'.[18] I wonder also about the effect of leasing in relation to the supervision of licensed national entities.
Substantively 'due diligence' is affected – I would venture to say badly affected – by the increasing entrepreneurial use of space. Spectrum bands and orbital positions, particularly those in the geostationary orbit, are commercially valuable. That has led to the ITU rules being abused. We have had the problem of the 'phantom' or 'paper satellite'.[19] That has been mitigated, if not solved, by the requirements as to actual build and launch contracts.

8 Use

8.1. Three problems shelter under this heading. The RR require that an assigned location is activated within seven years from its first notification to ITU-R. What happens if circumstances means that that cannot happen? Second, what is the effect of the use of a notified location being suspended? Third, what is required for the activation of a location within a satellite system?

8.2. As to the first, it could be that technical problems supervene, rendering it impossible to bring a notified system into use within the normal period. Now a new RR 6.31bis allows a three year extension to the seven-year period if a launch failure has destroyed the satellite involved or a satellite intended to replace an existing satellite which was to be redeployed, or if the satellite fails to reach its assigned position.

8.3. Second, there is the question of suspension of operation. As with the case of the filed launch problem (8.2 above), a similar three year period is allowed for the bringing back into use of certain registrations when operation of the satellite involved has been suspended.[20]

8.4. Last, an assignment on the geostationary orbit has to be brought 'into use'. What does that mean? In the past some considered that several notified location assignments could be deemed compliant with the normal seven year limit for activation simply by a satellite being stationed there and 'switched on', as

17 F. Lyall, 'Small States, Entrepreneurial States and Space' (2006) 49 *Proc. IISL* 382–90; F. Lyall, *International Communications*, *supra* n. 1, 204-5.
18 F. Lyall, 'Expanding Global Communications Services', Sess. III, *Proceedings of the Workshop on Space Law in the Twenty-first Century*, UNISPACE III Technical Forum, 63–80 at 69–71. Cf. F. Lyall and P.B. Larsen, *Space Law: A Treatise* (Farnham: Ashgate, 2009), 94-5.
19 H. Wong, 'The "Paper Satellite" Chase: The ITU Prepares for its Final Exam in Resolution 18' (1998) *J. Air L. and Comm.* 849–79; F. Lyall, 'Paralysis by Phantom: Problems of the ITU Filing Procedures' (1997) 39 *Proc IISL* 187–93.
20 Cf. RR App. 30A: 5.2.10, 5.2.11.

it were, for a limited period.[21] Once the location had been 'used' the satellite could then be moved to other locations, in order to activate them. The relevant assignments would then be fully protected by their entries on the Master International Frequency Register, and warehoused or stockpiled for the future. System operators were thus acquiring valuable assets, a number of locations, only one of which was in actual use – rather contrary to the 'rational, efficient and economic' use of orbits called for by CS Art. 44.2 (196). That could not go on. A firmer concept of use/operation seemed sensible, and WRC-12 has now fixed on ninety days operation.[22] Last year I suggested that use or operation for six months appropriate, because that would have been a significant period, which might reduce the temptation to abuse the concept.[23] Whether the new ninety-day rule will help remains to be seen, but I must note that the view of the Radio Regulations Board was that a set of rigid criteria for 'bringing into use' might add to difficulties rather than diminish them.[24] Would the use required have to be continuous or would periodic use qualify? Need all transponders on a satellite be employed? What about the repositioning of beams within the period, and so on? The RRB would have preferred to deal with cases on a single instance basis.

9 Some Other Matters

Some of the language of the Radio Regulations has become more prescriptive – perhaps usefully. For example RR 11.42 deals with an assignment that is recorded in the Master International Frequency Register on the insistence of a notifying state despite an unfavourable finding by the Bureau. Now, if it is shown that the assignment is causing harmful interference the notifying administration is required immediately to eliminate that harmful interference. This would seem to be an improvement – provided that it is complied with. However, ominously (?) RR 11.42A provides for the case where efforts to resolve the situation by compromise have failed. Ultimately the matter can go to the RRB for it to consider. The RRB can require action, including cancellation of the notified but unfavourable assignment. But it is not clear what may happen after that. What if the administration concerned is intransigent?

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21 At one time it was argued that any use of a notified location including testing a satellite would suffice, though this was frowned on. An RRB decision of the 1990s involving Eutelsat and SES was to the effect that the simple testing of a satellite in a particular location did not meet the requirements of 'bringing into use'. See ITU website for wseffuse09014.pdf. I do not have a proper citation for this.

22 RR 11.44B added by WRC-12. See WRC-12 Final Acts, *supra* n. 3. I regret that the UK backtracked on its initial support for 90 days.

23 F. Lyall, *International Communications*, *supra* n. 1, 208.

24 RRB Report, *supra* n. 10, 4.1.2.

10 Two Worries

I have earlier raised the possibility of the intransigent administration. That could emerge in two ways.

First, both Iran and Bulgaria put in what amounts to appeals to the WRC-12. Iran complained against a decision of the Radio Regulations Board (RRB-58) in relation to its Zoreh I satellite.[25] According to news reports WRC-12 agreed to allow Iran access to its planned slot, although it had missed repeated deadlines for bringing the satellite into use and the RRB had decided that its notification should be cancelled.[26] Bulgaria was allowed to file an assignment that ordinarily would have been too close to an existing registered assignment. In both instances discussions with EUTELSAT were needed. Put shortly, any appeal to the WRC is a bad precedent.

Second, I am concerned to see para 3 of the Declaration Iran attached to the WRC-12 Final Acts.[27] This appears to reserve the right to jam if Iran disapproves of the content of signals entering its territory.[28] Thereafter the BBC reported attempts to jam the satellite feeds for its Persian service.[29] These occurrences are worrying for the international system of 'due process'. So far the ITU system has avoided questions of content, at least in formal terms. For myself, the ITU system must remain a technical system, operated in good faith, as the Vienna Convention requires. I hope we will not see the ITU system become crippled by administrations intransigent through nationalism, pride, or compliant with internal commercial pressures.

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25 Submission by the Administration of the Islamic Republic of Iran to WRC-12 regarding the RRB-58 decision on ZOHREH-1 satellite network at 34° E, WRC-12, Doc. 74. RRB Summary of Decisions, Doc. RRB11-3/13, item no. 6.

26 *Space News*, 24 February 2012.

27 WRC-12 Final Acts, Declarations and Reservations, Doc. 546, No. 56.

28 '. . . the delegation of the Islamic Republic of Iran recognizing the rights of Member States as stipulated in the ITU Constitution, reserves its right to take all appropriate measures, to protect its national interest against transmission of any signals directed toward the territory under its jurisdiction in a manner incompatible with its sovereign rights including transmissions which do not observe the principle of non-intervention in its internal affairs or transmission of signals which may appear dangerous to its security or its public order or to its decency or incompatible to its cultural patrimony.' Declaration No. 56, para 3. Cf. EUTELSAT IGO 2010 Statement on jamming by Iran: <http://forum.nasaspaceflight.com/index.php?topic=21076.0>.

29 See 14 March 2012: <http://m.bbc.co.uk/news/technology-17365416>; <www.bbc.co.uk/blogs/theeditors/2012/02/the_harassment_of_bbc_persian.html>; <www.telegraph.co.uk/news/worldnews/middleeast/iran/9142557/Iran-blamed-for-cyber-attack-on-BBC.html>; <www.independent.co.uk/news/media/tv-radio/bbcs-persian-service-falls-victim-to-sophisticated-cyberattack-says-mark-thompson-7565902.html> etc.