

RESOLUTION 653 (WRC-12)

Future of the Coordinated Universal Time time-scale

The World Radiocommunication Conference (Geneva, 2012),

considering

- a) that the procedures for maintaining the Coordinated Universal Time (UTC) time-scale are described by Recommendation ITU-R TF.460-6;
- b) that UTC is the legal basis for time-keeping for most countries in the world, and *de facto* is the time-scale used in most others;
- c) that Recommendation ITU-R TF.460-6 states that all standard-frequency and time signal emissions should conform as closely as possible to UTC;
- d) that Recommendation ITU-R TF.460-6 describes the procedure for the occasional insertion of leap seconds into UTC to ensure that it does not differ by more than 0.9 seconds from the time determined by the rotation of the Earth (UT1);
- e) that the occasional insertion of leap seconds into UTC may create difficulties for systems and applications that depend on accurate timing,

recognizing

- a) that some organizations involved with space activities, global navigation satellite systems, metrology, telecommunications, network synchronization and electric power distribution have requested a continuous time-scale;
- b) that for local time-of-day and for other specialized systems, there is a need for a time-scale reckoned with respect to the rotation of the Earth, such as the mean solar time at the prime meridian, formerly known as GMT;
- c) that a change in the reference time-scale may have operational and therefore economic consequences,

noting

- a) that No. **1.14** defines UTC as a time-scale based on the second (SI), as defined in Recommendation ITU-R TF.460-6;
- b) that modification of the definition of UTC may have consequential changes to Nos. **1.14**, **2.5**, **2.6** and some other provisions,

resolves to invite WRC-15

to consider the feasibility of achieving a continuous reference time-scale, whether by the modification of UTC or some other method, and take appropriate action, taking into account ITU-R studies,

invites ITU-R

- 1 to conduct the necessary studies on the feasibility of achieving a continuous reference time-scale for dissemination by radiocommunication systems;
- 2 to study issues related to the possible implementation of a continuous reference time-scale (including technical and operational factors);

invites administrations

to participate in the studies by submitting contributions to ITU-R,

instructs the Director of the Radiocommunication Bureau

to bring this Resolution to the attention of ITU-T,

instructs the Secretary-General

to bring this Resolution to the attention of relevant organizations such as the International Maritime Organization (IMO), the International Civil Aviation Organization (ICAO), the General Conference of Weights and Measures (CGPM), the Consultative Committee for Time and Frequency (CCTF), the Bureau International des Poids et Mesures (BIPM), the International Earth Rotation and Reference Systems Service (IERS), the International Union of Geodesy and Geophysics (IUGG), the International Union of Radio Science (URSI), the International Organization for Standardization (ISO), the World Meteorological Organization (WMO) and the International Astronomical Union (IAU).