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| **World Radiocommunication Conference (WRC-23) Dubai, 20 November - 15 December 2023** | A close up of a sign  Description automatically generated |
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|  | **19 August 2023** |
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| Asia-Pacific Telecommunity Common Proposals | |
| Proposals for the work of the conference | |
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| Agenda item 9.1 | |

9 to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the ITU Convention;

9.1 on the activities of the ITU Radiocommunication Sector since WRC‑19:

**Background**

Resolution 655 (WRC-15), on the definition of time scale and dissemination of time signals via radiocommunication systems, invited ITU-R to prepare a report(s), in cooperation with organizations under the Metre Convention and other interested parties, of various aspects of the current and possible future reference time scales as well as content and structure of time signals to be disseminated by radiocommunication systems. This work, as originally called for in Resolution **655 (WRC-15)**, is complete. Meanwhile, in parallel with the work in ITU-R since WRC-15, the General Conference on Weights and Measures (CGPM) adopted the resolution for the definition of Coordinated Universal Time (UTC) and the resolution to decide to increase the maximum value for the difference (UT1 – UTC) by 2035. This value is serving as the trigger to activate the leap second adjustment. Increasing the maximum value from the current value of 0.9 seconds can avoid leap-second adjustments in UTC for at least a century. Moving forwards, the International Committee on Weights and Measures (CIPM) has been tasked to consult with ITU and other organizations to prepare proposals for the specific new maximum value and when to implement it (i.e. the duration of the transition period) for the agreement at the 28th CGPM (2026).

**Proposals**

APT Members propose modifications to this Resolution to reflect the completion of the work and the development in CGPM since WRC-15 and to invite ITU-R to cooperate further with BIPM, CIPM, and CGPM and to initiate studies on a consequentially required revision of Recommendation ITU-R TF.460-6.

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RESOLUTION 655 (Rev. WRC-23)

Definition of time scale and dissemination of time signals via radiocommunication systems

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that the ITU Radiocommunication Sector (ITU‑R) is responsible for defining the standard frequency and time signal service and the standard frequency and time signal-satellite service for the dissemination of time signals via radiocommunication;

*b)* that the International Bureau of Weights and Measures (BIPM) is responsible for establishing and maintaining the second of the International System of Units (SI) and its dissemination through the reference time scale;

*c)* that the definition of reference time scale and dissemination of time signals via radiocommunication systems are important for applications and equipment that require a time traceable to the reference time,

considering further

*a)* that ITU‑R is an organization member of the Consultative Committee for Time and Frequency (CCTF) and participates in the General Conference on Weights and Measures (CGPM) as an observer;

*b)* that BIPM is a Sector Member of ITU‑R and participates in the relevant activities of ITU‑R,

noting

*a)* that the international reference time scale is the legal basis for time-keeping for many countries, and *de facto* is the time scale used in the majority of countries;

*b)* that disseminated time signals are used not only in telecommunications but also in many industries and practically all areas of human activities;

*c)* that time signals are disseminated by both wired communications covered by Recommendations of the ITU Telecommunication Standardization Sector (ITU-T) and by systems of different radiocommunication services (space and terrestrial), including the standard frequency and time signal service for which ITU‑R is responsible,

recognizing

*a)* that No. **26.1** states that: “Attention should be given to the extension of this service to those areas of the world not adequately served”;

*b)* that No. **26.6** states that: “In selecting the technical characteristics of standard frequency and time signal transmissions, administrations shall be guided by the relevant ITU‑R Recommendations”;

*c)* that the definition of the international reference time scale UTC was adopted in Resolution 2 of the 26th CGPM in 2018, as a time scale produced by the BIPM with the same rate as International Atomic Time (TAI), but differing from TAI only by an integer number of seconds;

*d)* that the 27th CGPM in 2022 decided in Resolution 4 that the maximum value for the difference (UT1 – UTC) will be increased in, or before, 2035, and requested that the International Committee for Weights and Measures (CIPM) consult with the ITU, and other organizations that may be impacted by this decision in order to, *inter alia:*

- propose a new maximum value for the difference (UT1-UTC) that will ensure the continuity of UTC for at least a century;

- prepare a plan to implement by, or before, 2035 the proposed new maximum value for the difference (UT1 – UTC);

- draft a resolution including these proposals for agreement at the 28th CGPM (2026),

1 to confirm is defined in Resolution 2 of the 26th CGPM (2018) as indicated in *recognizing c)* and produced and maintained by BIPM;

2 to give a view to CIPM that the increase of the maximum value for the difference (UT1 – UTC) as indicated in recognizing *d)* should be implemented in, or before, 2035 with a certain and sufficient transition period

invites the ITU Radiocommunication Sector

1 to cooperate further with BIPM, CIPM, and CGPM in response to the consultation in *recognizing d)*, including a new maximum value for the difference (UT1 – UTC) and a transition period ;

2 to initiate studies with a view to revising Recommendation ITU-R TF.460-6, taking into consideration the definition of UTC and the decision as indicated in *recognizing c)* and *d)* respectively,

instructs the Director of the Radiocommunication Bureau

to report to WRC-27 on the progress of the consultation between CIPM and ITU as indicated in recognizing *d)*,

invites administrations

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

instructs the Secretary-General

to bring this Resolution to the attention of CGPM, CIPM and BIPM.

**Reasons:** The work originally called for in Resolution **655 (WRC-15)** is complete. Meanwhile, in parallel with the work in ITU-R since WRC-15, the following development was made in the General Conference on Weights and Measures (CGPM):

* the adoption of the definition of the UTC in Resolution 2 of the 26th CGPM (2018),
* the decision by Resolution 4 of the 27th CGPM (2022) to increase the maximum value for the difference (UT1 – UTC) by 2035. This value is serving as the trigger to activate the leap second adjustment. Increasing the maximum value from the current value of 0.9 seconds can avoid leap-second adjustments in UTC for at least a century.

In addition, Resolution 4 (CGPM, 2022) has requested the International Committee on Weights and Measures (CIPM) to consult with ITU and other organizations to prepare proposals of the new maximum value and when to implement it (i.e. the duration of the transition period) for the agreement at the 28th CGPM (2026).

It is proposed to modify Resolution **655 (WRC-15)** to reflect these CGPM decisions. Specifically, the *resolves* part is modified to replace the reference with CGPM Resolution 2 (2018) instead of Recommendation ITU-R TF.460-6. The *invites ITU-R* part is modified to invite ITU-R to initiate studies on a consequentially required revision of Recommendation ITU-R TF.460-6, which contains a description of the UTC time scale and the procedure for introducing a leap second.