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**WRC-2003 ADVISORY COMMITTEE**

**DRAFT PRELIMINARY VIEWS ON WRC-03**

**WRC-2003 Agenda Item 1.37:** to consider the regulatory and technical provisions for satellite networks using highly elliptical orbits;

**ISSUES:**

1. Categorization of highly elliptical orbits (HEOs) as a type of non-GSO and definition of the technical and operational parameters of satellite networks/systems using these orbits.
2. Sharing between non-GSO systems using HEOs and circular orbit non-GSOs, such as low earth orbit (LEO) and medium earth orbit (MEO) systems, including mitigation techniques and coordination criteria.
3. Sharing between non-GSO systems using HEOs and GSO networks in bands where the epfd limits in Article S22 do not apply.

**BACKGROUND:**

The ITU-R has been considering the sharing aspects of HEO satellite systems (occasionally referred to as “quasi-geostationary” systems) in a number of contexts over the last several years. Several existing study questions within the ITU-R address this type of system, and sharing among non-GSO FSS systems (including HEO non-GSO FSS systems) is currently being studied under the terms of Resolution 137 (WRC-2000).

A subcategory of non-GSO systems, HEO systems are intended for operation or are already operational in several FSS bands above 3 GHz, as well as in BSS (sound) bands at around 2 GHz. In certain configurations, HEO systems offer promise in terms of their ability to facilitate the introduction of large numbers of such co-frequency non-GSO FSS systems, as well as in terms of their potential ability to co-exist successfully with GSO networks and terrestrial systems.

To date, several categories of non-GSO orbits that are encompassed within the term “highly elliptical” have been identified within the ITU-R. The characteristics of HEO systems are under evaluation, as is the ability of the various HEO systems to share with each other, with other types of non-GSO systems, with GSO systems (at least in bands outside of the bands where equivalent power-flux density (epfd) limits were adopted by WRC-2000 for the non-GSO FSS/GSO FSS and non-GSO FSS/GSO BSS sharing cases), and with terrestrial services. Much of the study activity to date has focused on HEO-type non-GSO FSS systems, but there is no question that space services other than the fixed-satellite service use or plan to use non-GSO systems in HEO orbits.

**PRELIMINARY VIEW:**

1. The U.S. favors the identification of mitigation techniques and sharing criteria which may facilitate coordination between and successful co-frequency operation of non-GSO FSS systems, including HEOs.
2. The U.S. agrees that satellite networks using HEOs are non-GSOs. These networks should continue to be considered to have the same regulatory standing as other types of non-GSOs, such as MEOs and LEOs.
3. ITU-R studies on sharing between non-GSO systems using HEOs and GSO networks should continue, especially in bands for which efd limits were not adopted by WRC-2000, to ensure the protection of GSO FSS and GSO BSS networks from non-GSO FSS systems.
4. Understanding of the results of studies being conducted for WRC-03 agenda item 1.37 will be improved by the use of common definitions in ITU-R Recommendations. There is, however, no need to modify the terms and definitions in the Radio Regulations to accommodate HEO-type non-GSO operations.

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