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| U.S. Radiocommunication Sector  Fact Sheet | |
| **Working Party:** ITU-R WP 7D | **Document No:** USWP7D\_25-01\_NC |
| **Ref.** | **Date:** 7 February 2025 |
| **Document Title:** Draft Liaison Statement to Working Party 7B: Preserving the SZM for radio astronomy under WRC-27 agenda item 1.15 | |
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| **Purpose/Objective:** To address the protection of frequencies for radio astronomy on the lunar surface and/or lunar orbit under WRC-27 agenda item 1.15 | |
| **Abstract:** Working Party (WP) 7B is the responsible group for WRC-27 agenda item 1.15. WP 7D requests the protection of frequencies for radio astronomy observations in the shielded zone of the Moon as relevant to this Agenda Item. | |

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| DRAFT liaison statement to Working partY 7B on wrc-27 Agenda item 1.15 | |
| Preserving the SZM for radio astronomy under WRC-27 agenda item 1.15 | |

**Introduction**

Working Party (WP) 7B is the responsible group for agenda item 1.15, to consider studies on frequency related matters, including possible new or modified space research service (space-to-space) allocations, for future development of communications on the lunar surface and between lunar orbit and lunar surface, in accordance with Resolution 680 (WRC-23). WP 7D requests that WP 7B, in conducting its studies under this agenda item, develop a procedure for notification of radio astronomy spectrum usage.

**Attachment**

ATTACHMENT

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| **Preserving the SZM for radio astronomy under WRC-27 agenda item 1.15** | |

Working Party (WP) 7D addresses WP 7B regarding the need to create a procedure for notification of radio astronomy spectrum usage in accordance with WRC-23 Resolution 680. WP 7D requests that such a procedure be developed as part of the studies to be undertaken under agenda item 1.15.

As described in ITU-R RA.479, the shielded zone of the Moon (SZM) provides a unique environment for astronomy, free from terrestrial transmissions over the whole frequency spectrum. The lack of a lunar ionosphere as well as the lack of appreciable water vapor and oxygen in the lunar environment enable scientific observations that are not possible from Earth.

A number of radio astronomy missions for the SZM have been proposed and are expected to be carried out well within this and the next decade. While some transmitters in lunar orbit and on the lunar far side will be necessary for communications for missions operations, these transmissions could potentially contaminate the unique SZM environment, interfering with the ability to make astronomical observations in certain bands.

The Radio Regulations (RR) Article 22, Nos. 22.22-22.25 establish the requirements for the protection of the radio astronomy service (RAS) and other passive services in the SZM.

WP 7B is the responsible group for agenda item 1.15. To protect lunar radio astronomy, procedures must be developed that will require administrations to demonstrate adherence to RR 22.22-22.25.

ITU-R Recommendations and Reports relevant to the protection of radio astronomy on the Moon are listed below.

# Relevant ITU-R Recommendations and Reports

ITU-R Recommendations:

RA.314– *Preferred frequency bands for radio astronomical measurements* identifies preferred radio frequency bands for astronomy observations, including both emission lines dictated by nature and broadbands.

RA.479 – *Protection of frequencies for radioastronomical measurements in the shielded zone of the Moon* references the Radio Regulations (RR) Article 22, Nos. 22.22-22.25, and recognizes the necessity of maintaining the SZM as an area of great potential for observations by RAS and by passive space research and consequently should be as free as possible from transmissions.

RA.[SZM] –*Radio astronomy facilities on the Moon* contains details on currently planned and operational radio astronomy facilities on the Moon.

WP 7D kindly requests that WP 7B keep it informed on the progress of the studies impacting notification of radio astronomy spectrum usage under WRC-27 agenda item 1.15.

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| **Status:** For action |  |
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