



**STATEMENT BY THE SQUARE KILOMETRE ARRAY OBSERVATORY**

The 62<sup>nd</sup> session of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space

**AGENDA ITEM 7: National legislation relevant to the peaceful exploration and use of outer space**

**Read by: Andrew Macpherson** (SKAO LOW Legal Manager)

**Date :** 24 March 2023

Check against delivery.

Chair and distinguished delegates,

Thank you for allowing me the floor. On behalf of the Square Kilometre Array Observatory (SKAO), I am pleased to address this Session.

Chair,

The SKAO welcomes recognition by the UN COPUOS, in paragraph 182 of the *Report of the Committee on the Peaceful Uses of Outer Space 65<sup>th</sup> Session*, that astronomical observations for both optical and radio astronomy are an essential aspect of space activities and should be protected from interference. As a permanent observer in UN COPUOS, the SKAO is ready to collaborate with the committee in matters related to the sustainable use of space and especially the protection of the dark and quiet skies. The SKAO also endorses the sentiment expressed in paragraph 91 of the *Report of the Legal Subcommittee on its sixty-first session* that it is important to regularly exchange information on developments in the area of national space-related regulatory frameworks.

Chair,

Radio astronomy instruments are extremely sensitive to artificial radio signals from terrestrial, aerial or space born transmitters. To avoid interference, radio astronomy relies upon narrow spectrum bands protected by the Radiocommunication Sector of the ITU, which are of utmost importance for specific observations and calibrations. Technological advancements have allowed radio observatories, such as the SKAO, to cover much wider frequency bands to increase their sensitivity and enable new scientific research. These observatories must be further protected from interference by locating their instruments in areas as remote as possible, and ideally protected by national legislation as “radio quiet zones”. Further to the *Schematic Overview of National Regulatory Frameworks for Space Activities* we note:

- SKAO works in close partnership with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in Australia and the South African Radio Astronomy Observatory (SARAO) in South Africa to build and operate the

Observatory and its telescopes. CSIRO already operates the ASKAP telescope at the SKA site in Western Australia, and SARA0 operates the MeerKAT telescope at the SKA site in South Africa. The two sites have been chosen due to their radio quietness.

- In the Commonwealth of Australia this is regulated via the *Radiocommunications (Mid-West Radio Quiet Zone) Frequency Band Plan 2011* created under section 32 of the *Radiocommunications Act 1992 (Cth)*. The *Australian Communications and Media Authority (ACMA)* have also issued *Radiocommunications Assignment and Licensing (RALI) No. MS32*, taking effect on 19 December 2014, and which requires the coordination of transmitters and radio astronomy receivers in the radio quiet zone.
- South Africa has promulgated a national legislation, the *Astronomy Geographic Advantage Act of 2007*, followed by national regulations to preserve the pristine environments for radio and optical astronomy sites in South Africa.

Chair,

The rapid development of large constellations of satellites is posing additional challenges for professional astronomy because of their impact on observations at radio, optical, and infrared wavelengths. Furthermore, reflections from sunlight can adversely affect the night sky, with potentially serious impact on cultural heritage. In the case of the SKA Project, the radio emissions by these constellations risks the loss of observations in some important frequency ranges. Current national regulations do not adequately protect these radio quiet zones from low Earth orbit satellite constellations. It is in this regard that we look forward to the Symposium next week organized by the International Institute of Space Law and the European Centre for Space Law on the theme ‘Legal aspects of a dark and quiet sky’.

I thank you, chair.