



**National Radio Astronomy Observatory**

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Re: RM-11697

In the Matter of Iridium Constellation LLC Petition for Rulemaking to Promote Expanded Mobile Satellite Service in the Big LEO MSS Band

**Interests of the National Radio Astronomy Observatory in proceeding RM-11697**

The National Radio Astronomy Observatory (NRAO) operates nearly all of the US radio astronomy facilities currently observing in the spectrum band 1610.6 – 1613.8 MHz that is shared with the mobile satellite service: more specifically, these are the Jansky Very Large Array in New Mexico, the Green Bank Telescope in West Virginia and the 10 VLBA antennas at sites stretching between Hawaii and St. Croix. NRAO has watched the progress of this proceeding with considerable interest. In light of the Protective Order recently issued by the Commission and the prospect that future developments might not be readily accessible, NRAO respectfully takes this opportunity to express its concerns.

*i) Radio astronomy interaction with Globalstar operations*

In this proceeding, Globalstar has discussed the constraints placed on its operations by the obligation to protect radio astronomy operations in the shared band 1610.6 – 1613.8 MHz. Globalstar has also noted the much greater burden that this obligation would place on its operations were it to lose the use of the spectrum that Iridium has requested be transferred to its own use.

NRAO benefits from the constraints under which Globalstar operates and is thankful to the Commission and to Globalstar for maintaining the interference-free environment under which the 1610.6 – 1613.8 MHz band is shared. NRAO is however concerned that the obligation to protect radio astronomy might have to be relaxed in order to maintain Globalstar's commercial viability were it to lose the use of the spectrum requested by Iridium.

*ii) Iridium operations with a lower band edge much closer to the 1610.6 – 1613.8 MHz radio astronomy band*

Iridium operations down to 1616.0 MHz will greatly increase the potential for interference into the radio astronomy band at 1610.6 – 1613.8 MHz. Iridium presently operates down to 1617.775 MHz and the interference from its unwanted emissions in the radio astronomy band is a matter of public record in ECC Report 171 and ECC Draft Report 226. According to calculations that Iridium has recently shown in Europe, the operations of its next-generation constellation must be confined above 1620 MHz to protect radio astronomy in a manner that is consistent with the 2% dataloss criterion described in ITU-R Recommendation RA. 1513.

Respectfully submitted,

A handwritten signature in blue ink that reads "Harvey S. Liszt". The signature is written in a cursive style with a small dot above the 't'.

Harvey S. Liszt ([hlist@nrao.edu](mailto:hlist@nrao.edu))  
Scientist & Spectrum Manager