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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of

Request for Special Temporary Authority

Iridium Constellation, LLC and
Iridium, US LP

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) Policy Branch
) International Bureau
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SAT-MSC-200305015-00089
SES-MSC-200305015-00666

To: Deputy Chief, Satellite Division, International Bureau

Int'l Bureau

JUN 16 2003

Front Office

COMMENTS OF CORNELL UNIVERSITY

Cornell University, by its attorney, hereby submits comments in response to the request for special temporary authority ("STA") filed on June 9, 2003 by Iridium Constellation LLC and Iridium US LP ("Iridium"), for use of additional spectrum. While Cornell recognizes the importance of supporting the communication needs of U.S. forces in the Middle East, Cornell urges the Commission to continue to be mindful of the potential harmful impact of Iridium's use of expanded frequencies on passive users of the same band whose rights are protected by FCC rules and private agreements with Iridium. However, Cornell does not oppose the grant of the proposed 30 day STA, as long as such operations do not cause prohibited interference to the Arecibo Observatory, and Cornell continues to receive service of and an opportunity to comment on such STA requests in the future.

I. Background

As noted previously in Comments in response to the Commission's May 16, 2003 Order to Show Cause (the "Order") on the Iridium licenses, Cornell has a substantial

interest in this proceeding, as it operates the Arecibo Observatory (“Arecibo”) in Arecibo, Puerto Rico. Arecibo is part of the National Astronomy and Ionosphere Center (“NAIC”), a national research center operated by Cornell under a cooperative agreement with the National Science Foundation (“NSF”).

Arecibo regularly makes observations in the 1.6 GHz band, a band which has great importance to radio astronomy. Due to the importance of such observations, the Commission has established certain inter-service coordination requirements for satellite systems operating in the 1610-1626.5 MHz band. These requirements are contained in Section 25.213 of the FCC’s Rules and Regulations, and Section 25.213(a)(2) states:

“Mobile Satellite Service space stations transmitting in the 1613.8-1626.5 MHz band shall take whatever steps necessary to avoid causing harmful interference to [list of radio astronomy observatories, including Arecibo] during periods of observation.”

At the encouragement of the Commission, and in order to facilitate coordination of Iridium’s responsibility to avoid interfering with observations at Arecibo along with Arecibo’s obligation to avoid scheduling radio astronomy observations during peak MSS traffic periods to the greatest extent practicable, the previous Iridium licensees and Cornell negotiated and signed a Coordination Agreement in March of 1998.¹ In granting MSS licenses to Iridium, the FCC made Iridium’s fulfillment of the terms of that Agreement an express condition of the MSS licenses.

¹ That Agreement was updated to reflect the Commission’s grant of the licenses to the current Iridium licensees.

II. Cornell Does Not Oppose the Grant of the STA as Long as Such Operations Do Not Cause Prohibited Interference, and Cornell Continues to Receive Service of Any Such STAs in the Future.

As was noted above, Cornell recognizes the importance of supporting the communication needs of U.S. forces in the Middle East. Nevertheless, as was noted in Comments responding to the *Order*, Cornell was and still is concerned about receiving advanced notification of grants of temporary expanded frequency use by Iridium. Cornell was pleased that it finally received advanced notification in this case, and assumes that in the future it will continue to receive a copy of STA requests when they are filed with the Commission, so as to have an opportunity to comment on that request.

Cornell continues to have serious concerns about the possibility of interference to radio astronomy observations from Iridium's use of the expanded frequencies previously authorized in STAs and in the proceeding resulting from the *Order*. Given the short time between the publication of the *Order* and the present time, Arecibo's staff has not had a chance to fully analyze the impact, if any, of Iridium's use of expanded frequencies on radio astronomy observations at 1.6 GHz. However, as noted in the Comments responding to the *Order*, one review of recent data showed increased unwanted signal at 1612/1613 MHz. Arecibo is continuing to analyze the relevant data to determine if Iridium's temporary operations have resulted in violations of the interference provisions of the Coordination Agreement or Section 25.213(a) of the Rules.

Cornell takes this opportunity to comment on an assertion made in Iridium's Request for STA. In page 3 of its Request, Iridium states that "the radio-astronomers do not claim to have experienced any interference and future interference is unlikely to

result from grant of this request because it seeks to use the channel furthest from the radio-astronomy band.” While Iridium’s use of Channel 9 may make it less likely to create interference in the RAS band at 1610.6-1613.8 MHz than use of Channel 8, it is not true that “radio astronomers” have disclaimed experiencing any interference resulting from Iridium’s use of expanded frequencies. Arecibo is still evaluating the impact, if any, of Iridium’s expanded frequency operations. Furthermore, the National Radio Astronomy Observatory (“NRAO”) expressed concern in response to the Commission’s *Order*, and Cornell does not believe that NRAO therein made a definitive statement as to whether or not it had experienced interference resulting from Iridium’s use of expanded frequencies.²

Lastly, Cornell restates its unease with granting Iridium temporary use of expanded frequencies while a proceeding on a permanent grant of such use is pending.³ While Cornell finds grant of an STA to be preferable to modification of Iridium’s permanent licenses, it assumes that any grant of STA will be made without

² Iridium also asserts, on page 4 of its Request, that “the radio-astronomers acknowledge that existing coordination agreements with Iridium are the appropriate mechanism to address their interference concerns.” It is true that compliance with the coordination agreements is the first place to look, from the perspective of radio astronomers, in reviewing the propriety of Iridium’s use of expanded frequencies. However, if a radio astronomy signatory to one of the agreements were to conclude that Iridium is violating the interference provisions of that agreement, and the parties were unable to resolve the matter informally, Cornell believes that “the appropriate mechanism to address [such] interference concerns” would be to bring the matter to the Commission for resolution. As noted above, Iridium has certain obligations under Section 25.213(a) of the Commission’s rules, and Iridium’s compliance with the coordination agreements was made a condition of its MSS licenses. However, Cornell is not asserting at this time that there is a problem requiring Commission resolution.

³ See, Notice of Proposed Rulemaking, Review of Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands, FCC 03-15, released February 10, 2003 (“*MSS Spectrum Sharing NPRM*”).

prejudice to Commission action in the *MSS Spectrum Sharing* proceeding. Cornell also assumes that the Commission will fully evaluate the record created in the *MSS Spectrum Sharing* proceeding regarding Iridium's actual demonstrated permanent need for the additional spectrum, and the impact of such use of additional frequencies on other services and users, without regard to Iridium's current temporary use of the expanded frequencies.

In sum, Cornell does not oppose the grant of STA for expansion of Iridium's authorized frequencies, as long as such operations do not cause prohibited interference to Arecibo, and Cornell continues to be served with a copy of any such future STA request, so as to have an opportunity to comment on that request.

Respectfully submitted,

CORNELL UNIVERSITY

A handwritten signature in blue ink that reads "Paul J. Feldman". The signature is written in a cursive style with a long horizontal flourish extending to the right.

Paul J. Feldman
Its Attorney

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June 11, 2003

CERTIFICATE OF SERVICE

I, Joan P. George, a secretary in the law firm of Fletcher, Heald & Hildreth, do hereby certify that a true copy of the *Comments of Cornell University* was sent this 11th day of June, 2003 by hand where indicated and via United States First Class Mail, postage prepaid, to the following:

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