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

In the Matter of	)	
	)	
The Boeing Company	)	File No. SES-MOD-20120403-00326
	)	
Application for Modification	)	
of Earth Station License	)	

REPLY OF IRIDIUM SATELLITE LLC

On June 15, 2012, Iridium Satellite LLC ("Iridium") filed a Petition to Dismiss the above-captioned application filed by The Boeing Company ("Boeing"). On June 28, 2012, Boeing filed an Opposition, and on July 9, 2012, Boeing supplemented its prior filings with a technical analysis.[1] Iridium hereby replies to Boeing's Opposition.

Iridium filed its Petition to Dismiss because Boeing had not addressed, as is required by Section 25.203(k) of the Commission's rules, the potential for Boeing's proposed operations to cause unacceptable interference to Iridium's non-geostationary satellite orbit ("NGSO"), mobile satellite service feeder links and TT&C links in the 29.25-29.3 GHz band. Based upon the information subsequently submitted in Boeing's Supplemental Engineering Showing, Iridium no longer has an objection to a grant of

[1] Letter from Bruce A. Olcott to Marlene H. Dortch, SES-MOD-20120403-00326 (July 9, 2012), and an attached "Analysis of Potential Interference to the Iridium Feeder Links" ("Supplemental Engineering Showing").

Boeing's application.[2] Iridium wishes, however, to clarify certain matters that bear on Boeing's Supplemental Engineering Showing and on future showings that may be made.

Potential interference to Iridium's other feeder link/TT&C link facilities. Boeing's interference analysis is limited to the potential impact on Iridium's operations in Tempe, Arizona, even though there are several additional locations in North America at which feeder link/TT&C link facilities are operated that communicate with Iridium's satellite system. Iridium does not believe, given the location of Boeing's earth station, that taking these additional facilities into account would have had a material impact on Boeing's technical analysis. That may not be true, however, for analyses submitted by Boeing or other applicants in the future.

Analysis should not be limited to C/I. Carrier-to-Interference ratio (C/I) should not be the only criterion considered with respect to potential interference to NGSO systems; Interference-to-Noise ratio (I/N) is also important. In this particular case, the received interference power densities in Boeing's table are about equal to Iridium's satellite noise density numbers, *i.e.*, I/N=0 dB (or $\Delta T/T$=100%). This level of interference is considerable, but Iridium has determined, based on the geographic separation between earth stations and on other factors, including the limited duration of the interference events, that Boeing's proposed operations are unobjectionable.

[2] In discussions with Boeing, Iridium had requested that Boeing file a technical analysis and had explained that it did not regard the certification Boeing had filed, which formed the basis for Boeing's Opposition, as responsive to Iridium's concerns.

Discrepancies in the C/I ratio and other figures. Iridium does not agree with all of the parameters and other figures used in Boeing's Supplemental Engineering Showing. For example, Boeing's C/I analysis makes assumptions that the nominal Iridium received signal at the satellite is identical to the maximum received signal. Moreover, the analysis assumes a C/I criterion of 15 dB, but Iridium uses a C/I ratio of 19 dB. Iridium does not believe these discrepancies had a material impact on the outcome here. Iridium wishes to make clear, however, that future applicants and parties coordinating with Iridium should not assume that the Boeing inputs are acceptable to Iridium.

Cumulative effects. Boeing's interference analysis is based on the potential for interference presented by transmissions from a single earth station. Interference, however, is cumulative. Iridium's feeder links are subject to interference from various sources, including the earth station that is the subject of the above-captioned application and earth stations that are operated by other licensees.

Multiple sources of interference can cumulate both in power and time. In the case of power, main beam transmissions from gateway earth stations and/or user terminals can be aggregated into Iridium's satellite antenna sidelobes. In the case of time, main beam transmissions from gateway earth stations and/or user terminals can generate interference events that are limited in time individually but are significant in the aggregate. Both types of cumulative interference are a concern.

Because interference is cumulative, analyses such as the one provided by Boeing are only a starting point. In the future, Iridium may need to object to proposed operations that are not, by themselves, predicted to cause interference to Iridium's feeder links, but that are predicted to cause such interference when viewed in combination with other interference sources.

Respectfully submitted,

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July 11, 2012

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing **REPLY OF IRIDIUM SATELLITE LLC** was sent by first class mail, postage prepaid, this 11th day of July, 2012, to each of the following:

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