Federal Communications Commission
Washington, D.C. 20554

April 30, 2012

Todd Stansbury, Esq.
Wiley Rein, LLP
1776 K Street, N.W.
Washington, DC 20006

Re: Spectrum Five, LLC,
IBFS File No. SAT-AMD-20111223-00247
(Call Sign: S2777)

Dear Mr. Stansbury:

On December 23, 2011, Spectrum Five LLC (Spectrum Five) filed an amendment to its pending petition for declaratory ruling seeking U.S market access for a planned Netherlands-licensed 17/24 GHz Broadcasting-Satellite Service (BSS) space station, Call Sign: S2777, to be located at the 119.25° W.L. orbital location. In the amendment, Spectrum Five seeks to conform its pending application to the technical rules and information requirements adopted by the Commission in the *17/24 GHz BSS Second Report and Order*.[1] Pursuant to Section 25.111(a) of the Commission's rules,[2] we request Spectrum Five to provide, by amendment, additional information to facilitate the processing of the petition for declaratory ruling.

Section 25.264(a) of our rules requires applicants to provide the predicted antenna off-axis gain information for each transmitting antenna in the 17.3-17.8 GHz band.[3] In its amendment, Spectrum Five has provided predicted antenna data for the CONUS beam and 53 spot beams over the required angular ranges, in both polarizations and at three measurement frequencies. The data provided for each beam is measured in dBW, however, and thus appears to be a measurement of power (or e.i.r.p.) rather than antenna gain as required by our rules. While the antenna gain may be calculated from the e.i.r.p. -- assuming that the transmit power is known -- Spectrum Five provides no such discussion or additional information to facilitate this calculation in the amendment.

We note that in the case of the 53 spot beams (although not the CONUS beam), each cover sheet includes a value labeled "cf" that is measured in dBW (*e.g.*, for spot beam 01, this value is 6.6 dBW). We believe this may be some sort of factor to be used in converting between the graphed data and the predicted antenna gain data. Spectrum Five, however, has not provided any

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[1] The Establishment of Policies and Service Rules for the Broadcasting-Satellite Service at the 17.3-17.7 GHz Frequency Band and at the 17.7-17.8 GHz Frequency Band Internationally, and at the 24.75-25.25 GHz Frequency Band for Fixed Satellite Services Providing Feeder Links to the Broadcasting-Satellite Service and for the Satellite Services Operating Bi-directionally in the 17.3-17.8 GHz Frequency Band, *Second Report and Order*, IB Docket No. 06-123, FCC 11-93, 26 FCC Rcd 8927 (2011) (*17/24 GHz BSS Second Report and Order*).

[2] 47 C.F.R. § 25.111(a).

[3] 47 C.F.R. § 25.264(a)

explanation of this term or its function in the amendment. Moreover, these "cf" values do not appear to correlate with the effective output power values provided in Table S7(l) of Schedule S[4] for each of the 53 spot beams.[5] For example, in Table S7(l) of Schedule S, the effective output power for beam SP01 is 5.6W or 7.48 dBW, and is not consistent with the "cf" value of 6.6 dBW associated with the Spot Beam 01 data in the amendment.

We request Spectrum Five to clarify what information is provided in its attached graphs, and to explain how the required antenna gain data may be determined from the information in the graph. We also ask Spectrum Five to clarify the meaning of the "cf" values provided with each antenna spot beam, and to explain further if and how these values might relate to the output power levels provided in Table S7(l) of Schedule S. In addition, we ask Spectrum Five to provide a "cf" value for the CONUS beam, if that value is needed to determine the antenna gain.

On the second page of the data packages for each beam, Spectrum Five includes a table in which it calculates a maximum allowable e.i.r.p to meet the threshold pfd limit of -117 $dBW/m^2/100kHz$. Spectrum Five determines this value to be 15.4 dBW for each spot beam.[6] For each beam, however, Spectrum Five also includes information pages at the start of the sections containing predicted data in the –X axis and again for data in the +X axis. These pages, among other things, include a statement comparing the graphed data levels to the calculated e.i.r.p. value from the table. In some cases, Spectrum Five compares the graphed data levels with the calculated e.i.r.p. of 15.4 dBW and in other cases with an e.i.r.p of 20.9 dBW as shown below.

Beam(s)	Max EIRP in Table	-X axis page value	+X axis page value
CONUS	15.5 dBW	15.5 dBW	15.5 dBW
01-19	15.4 dBW	20.9 dBW	20.9 dBW
20-42	15.4 dBW	15.4 dBW	20.9 dBW
43	15.4 dBW	20.9 dBW	20.9 dBW
44-53	15.4 dBW	15.4 dBW	20.9 dBW

We request Spectrum Five to explain how it determined the value of 20.9 dBW and to explain further why it used one value in some instances and a different value in other instances in the above table. We note too that Spectrum Five's comparison of the graphed data with a calculated maximum allowed satellite e.i.r.p. (*e.g.*, 15.4 dBW) is only valid if the graphed data represents e.i.r.p. values that were determined using the maximum output power for each beam as submitted in Schedule S.

Finally, in the portion of its amendment containing CONUS Beam data, Spectrum Five does not provide a –X axis data page for : $\varphi = 60°$, LHCP, f_{tx}= 17.7 GHz (immediately following p. 87).

[4] See Schedule S attachment to SAT-LOI-20081113-00216.

[5] Spectrum Five does not provide a "cf" value is provided in the case of the CONUS beam.

[6] For the CONUS beam the value is 15.5 dBW.

We find two +X axis data pages (p. 173-174) for: $\varphi = 60°$, LHCP, f_{tx}= 17.7 GHz, in which only the peak values of -2.7 dBW and -1.54 dBW are labeled differently. Although we suspect that one of these may be the misplaced –X axis data page, we cannot be certain, nor can we know which one of the two is the correct +X axis data page. We ask Spectrum Five to provide the missing –X axis $\varphi = 60°$, LHCP, f_{tx}= 17.7 GHz data, and to clarify which is the correct data page for the +X axis $\varphi = 60°$, LHCP, f_{tx}= 17.7 GHz.

We request Spectrum Five to provide, by amendment, responses to the items addressed in this letter by May 30, 2012. Please send a copy of the amendment to Mark Young of my staff (Mark.Young@fcc.gov). Failure to do so may result in dismissal of the petition for declaratory ruling as amended, pursuant to Section 25.112 and 25.152(b) of the Commission's rules.[7]

Sincerely,

Fern J. Jarmulnek

for Robert G. Nelson
Chief, Satellite Division
International Bureau

[7] 47 C.F.R. § 25.112 and 25.152(b).