

BEFORE THE  
**Federal Communications Commission**

DOCKET FILE COPY ORIGINAL

WASHINGTON, D.C. 20554

**RECEIVED**

JUL 12 1999

In the Matter of )  
 )  
Virtual Geosatellite, LLC )  
 )  
Petition for Rule Making to Make )  
Available C-Band Spectrum for )  
Non-Geostationary Fixed-Satellite )  
Service Gateway Operations in the )  
U.S. )

**RM-9650**

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

**To: The Commission**

**STATEMENT IN OPPOSITION  
TO  
PETITION FOR RULE MAKING  
OF THE  
AMERICAN PETROLEUM INSTITUTE**

The American Petroleum Institute, by its attorneys and pursuant to Section 1.405 of the Rules and Regulations of the Federal Communications Commission ("Commission" or "FCC"), 47 C.F.R. § 1.405, hereby respectfully submits this Statement in Opposition to the above-captioned Petition of Virtual Geosatellite LLC ("Virtual").<sup>1/</sup> Virtual's proposal looks toward the adoption of rule changes that would permit use of

<sup>1/</sup> FCC Public Notice Report No. 2334 (June 11, 1999).

No. of Copies rec'd 0+9  
List ABCDE

C-band spectrum<sup>2/</sup> for co-primary operations of Non-Geostationary Fixed Satellite Service ("NGSO FSS") gateways.

## I. PRELIMINARY STATEMENT

1. API is a national trade association representing approximately 350 companies involved in all phases of the petroleum and natural gas industries, including exploration, production, refining, marketing, and transportation of petroleum, petroleum products and natural gas. Among its many activities, API acts on behalf of its members as spokesperson before federal and state regulatory agencies. The API Telecommunications Committee is one of the standing committees of the organization's Information Systems Committee. The Telecommunications Committee evaluates and develops responses to state and federal proposals affecting telecommunications facilities used in the petroleum and natural gas industries.

2. API's members hold FCC authority in the terrestrial fixed microwave service ("FS") for the operation of links in the 6 GHz band. Many of these licensees operate multiple links in the 6 GHz band. These links comprise principally "backbone" systems, as well as spurs off of long-haul microwave systems. Thus, a pipeline licensee

---

<sup>2/</sup> The C-band is comprised of spectrum at 3700-4200 MHz (space-to-earth) and 5925-6725 MHz (earth-to-space). API members are authorized in the 6 GHz portion of the C-band, and API limits its Opposition only to that spectrum.

that utilizes a 6 GHz band long-haul system may also employ these links from its backbone to a field office, refinery, central production facility, or city gate. As a result, these 6 GHz links form an integral part of the overall production, refining and transportation processes used in day-to-day operations. During an emergency (such as a pipeline rupture), these communications facilities potentially play a vital role in alerting public safety officials, coordinating response activities, and minimizing the impact of an incident upon workers and the general public.

3. The communications systems operated by API members are capable of monitoring and controlling a host of important variables, including pipeline pressures, temperatures, flow rates, volume and alarm sensors. These systems are designed to detect abnormalities so that centralized dispatchers may remotely adjust valve settings and other parameters, thereby maintaining safe operating conditions. These critical safety features are employed throughout tens of thousands of miles of pipeline in this nation. Information from these Supervisory Control and Data Acquisition ("SCADA") systems, common throughout the industry, is transmitted over a variety of communications circuits, including 6 GHz microwave links. Without this reliable information, the likelihood and/or impact of pipeline ruptures, with their attendant health and environmental consequences, would be increased dramatically.

4. The Virtual petition proposes modification of the Commission's rules which presently permit shared use on a co-primary basis of the 5925-6725 MHz ("6 GHz band")<sup>3/</sup> between geostationary fixed satellite service ("GSO FSS") and the terrestrial fixed service ("FS"). NGSO FSS operation is currently permitted only on a secondary basis in the C-band. API opposes opening the 6 GHz portion of the C-band to NGSO FSS operations because the spectrum is already heavily used by GSO FSS and FS systems, and additional users will result in spectrum congestion and hamper future growth for currently allocated services. Should the Commission decide, nonetheless, to allow NGSO FSS use of the C-band, rules must be adopted that fully protect the reliability of 6 GHz microwave systems operating within the general vicinity of gateways, and allow for future growth, expansion and relocation of the FS.

## II. OPPOSITION

### A. The Virtual Petition Should Be Dismissed or Denied Because the 6 GHz Band Is Unable to Accommodate Additional Services

5. The 6 GHz portion of the C-band is already heavily used by the FS and GSO FSS, and demand for this spectrum is growing. Moreover, the Commission previously identified the 6 GHz band as a primary band for relocation of 2 GHz

---

<sup>3/</sup> 5925-6425 MHz is commonly referred to as the lower 6 GHz band; 6525-6875 MHz as the upper 6 GHz band. In this Opposition, the lower and upper 6 GHz bands will be referred to as the 6 GHz band.

(1850-1990 MHz) incumbents and, eventually, 2.1 GHz incumbents (reported to be operating more than 11,000 links, including private and common carrier licensees).<sup>4/</sup> Permitting NGSOs in the C-band would inappropriately add another service to an already congested band.

6. The addition of NGSO FSS gateways in the 6 GHz band would foreclose large geographic areas to the FS, because NGSO FSS earth stations tend to “sterilize” surrounding areas from future use by the FS, resulting in inefficient spectrum utilization. This sterilization is a result of a policy allowing satellite earth stations to coordinate on a full-arc, full bandwidth basis, regardless of the amount of spectrum actually needed. Once a satellite earth station is coordinated, it is very difficult for the FS to expand or add new systems. If NGSOs are permitted in the 6 GHz band, it will be much more difficult to find available spectrum for expansion of existing systems and relocation of 2 GHz and 2.1 GHz licensees.

7. Virtual has failed to explain in its Petition why it needs to utilize an already heavily encumbered band. Virtual should evaluate alternatives to the 6 GHz band. Virtual’s proposed NGSO FSS gateway operations could potentially be supported

---

<sup>4/</sup> See Second Report and Order, *Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies*, ET Docket No. 92-9 (Aug. 13, 1993), ¶ 28, stating “that 6 GHz will be the primary relocation band for 2 GHz licensees.”

domestically by other satellite bands, such as the Ku-band or Ka-band, instead of the C-band. The Virtual proposal for use of the 6 GHz band should be denied.

**B. Should the Commission Decide to Open the 6 GHz Band to NGSOs, it Must Ensure Complete Protection of the FS for Current Operations, Future Growth, and Relocated Licensees**

8. API is fundamentally opposed to sharing the 6 GHz band with NGSOs.

API is concerned that, if a rule amendment allowing NGSO FSS expansion is, nonetheless, to be considered, strict limits must be included to prevent the band from being inundated by NGSOs, as was the case at 3700-4200 MHz by GSO FSS earth stations. Virtual's Petition and its Application<sup>5/</sup> claim that Virtual will impose no noticeable degradation to the quality of service or availability of terrestrial links, impose no operational constraints on terrestrial operators, or constrain future growth. These filings, however, fail to set out any details as to how such sharing of the 6 GHz band would be accomplished. To the contrary, this unsubstantiated claim is at odds with the experience of the FS in many other bands, and with recent Commission policy in the 18 GHz band, where band segmentation was proposed.<sup>6/</sup> Both the fixed service and

---

<sup>5/</sup> Virtual Geosatellite filed on March 1, 1999 an *Application for Authority to Launch and Operate a Global Fixed-Satellite Service System Employing Non-Geostationary Satellites in Sub-Geosynchronous Elliptical Orbits in the Ku-Band and C-Band*, File No. SAT-LOA-19990108-00007 ("Application").

<sup>6/</sup> Notice of Proposed Rule Making, *Redesignation of the 17.7-19.7 GHz Frequency Band*, IB Docket No. 98-172 (Sept. 18, 1998).

satellite services agreed in comments filed in the 18 GHz proceeding that band segmentation is preferable to co-frequency sharing.

9. Should the Commission decide to consider allowing NGSO FSS operations in the 6 GHz band, any resulting rules need to: (1) provide stringent protection to existing FS licensees; (2) allow for the unhindered expansion of existing systems; and (3) ensure there is no loss of spectrum available for new fixed microwave systems, including relocated licensees.

10. At a minimum, the Commission should impose severe restrictions on the numbers and locations of gateways, implement appropriate coordination procedures rather than adopting GSO FSS coordination procedures, require collocation of gateways in the C-band and other bands where feasible, require full shielding of gateway antennas, set minimum antenna sizes, and limit NGSOs to spectrum where there is not already a significant FS presence.

### III. CONCLUSION

11. Virtual's Petition should be dismissed or denied for the following reasons: (1) the 6 GHz band is already congested; (2) the 6 GHz band has been designated a relocation band for the FS; (3) FSS earth stations sterilize large geographical areas;

(4) Virtual has failed to demonstrate that co-frequency sharing is feasible; and (5) there are other suitable bands for the proposed operations.

**WHEREFORE, THE PREMISES CONSIDERED,** the American Petroleum Institute respectfully urges the Federal Communications Commission to dismiss or deny the Petition for Rule Making of Virtual Geosatellite, LLC.

Respectfully submitted,

**AMERICAN PETROLEUM INSTITUTE**

By: Wayne V. Black  
Wayne V. Black  
Peter A. Saari  
Keller and Heckman LLP  
1001 G Street, N.W.  
Suite 500 West  
Washington, D.C. 20001  
(202) 434-4100  
Its Attorneys

Dated: July 12, 1999

## CERTIFICATE OF SERVICE

I, Patt Meyer, a secretary with the law firm of Keller and Heckman LLP, do hereby certify that a copy of the foregoing STATEMENT IN OPPOSITION TO PETITION FOR RULE MAKING OF THE AMERICAN PETROLEUM INSTITUTE was served this 12th day of July, 1999 on the following persons by first class United States mail, postage prepaid:

Raul R. Rodriguez, Esquire  
Stephen D. Baruch, Esquire  
David S. Keir, Esquire  
Leventhal, Senter & Lerman, P.L.L.C.  
Suite 600  
2000 K Street, N.W.  
Washington, D.C. 20006  
Attorneys for Virtual Geostaellite, LLC

\*Thomas Tycz, Chief  
Satellite and Radiocommunication  
Division  
International Bureau  
Federal Communications Commission  
Room 6A665  
445 12th Street, S.W.  
Washington, D.C. 20554

\*Cassandra Thomas  
International Bureau  
Federal Communications Commission  
Room 6A668  
445 12th Street, S.W.  
Washington, D.C. 20554

\*Harry Ng  
International Bureau  
Federal Communications Commission  
445 12th Street, S.W.  
Room 6A668  
Washington, D.C. 20554

\*Fern Jarmulnek  
International Bureau  
Federal Communications Commission  
445 12th Street, S.W.  
Room 6A523  
Washington, D.C. 20554

\*Ronald Repasi  
International Bureau  
Federal Communications Commission  
445 12th Street, S.W.  
Room 6A505  
Washington, D.C. 20554

\*Julie Garcia  
International Bureau  
Federal Communications Commission  
445 12th Street, S.W.  
Room 6B554  
Washington, D.C. 20554

\*Cecily Holiday  
International Bureau  
Federal Communications Commission  
445 12th Street, S.W.  
Room 6A760  
Washington, D.C. 20554

\*Karl Kensinger  
International Bureau  
Federal Communications Commission  
445 12th Street, S.W.  
Room 6A663  
Washington, D.C. 20554

\*Kim Baum  
International Bureau  
Federal Communications Commission  
445 12th Street, S.W.  
Room 6B540  
Washington, D.C. 20554

Phillip L. Spector, Esquire  
Jeffrey H. Olson, Esquire  
Diane C. Gaylor, Esquire  
Paul Weiss Rifkind Wharton & Garrison  
Suite 1300  
1615 L Street, N.W.  
Washington, D.C. 20036-5694

Joseph P. Markoski, Esquire  
Squire Sanders & Dempsey L.L.P.  
Royex House  
Aldermanbury Square  
London EC2V 7HR  
UNITED KINGDOM

W. Theodore Pierson, Jr., Esquire  
Pierson & Burnett, L.L.P.  
Suite 801  
1667 K Street, N.W.  
Washington, D.C. 20006

Mark A. Grannis, Esquire  
Harris Wiltshire & Grannis, LLP  
Suite 1012  
1025 Connecticut Avenue, N.W.  
Washington, D.C. 20036

David A. Nall, Esquire  
Herbert E. Marks, Esquire  
Bruce A. Olcott, Esquire  
Squire Sanders & Dempsey L.L.P.  
1201 Pennsylvania Avenue, N.W.  
Washington, D.C. 20044

Gary M. Epstein, Esquire  
John P. Janka, Esquire  
Arthur S. Landerholm, Esquire  
Latham & Watkins  
Suite 1300  
1001 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004

  
Patt Meyer

\* Indicates hand-delivery.