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BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

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In the Matter of)
)
 Redesignation of the 17.7-19.7 GHz Frequency)
 Band, Blanket Licensing of Satellite Earth)
 Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz)
 Frequency Bands, and the Allocation of)
 Additional Spectrum in the 17.3-17.8 GHz and)
 24.75-25.25 GHz Frequency Bands for)
 Broadcast Satellite-Service Use)

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

IB Docket No. 98-172
RM-9005
RM-9118

To: The Commission

**REPLY COMMENTS
OF THE
AMERICAN PETROLEUM INSTITUTE**

AMERICAN PETROLEUM INSTITUTE

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TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	ii
I. REPLY COMMENTS	2
A. The Commission Should Adopt a Modified Band Plan	2
B. The Commission Should Order Grandfather Provisions for Incumbent Fixed Service Systems	6
C. Incumbent Fixed Service Licensees Must be Afforded Relocation to Comparable Replacement Systems and Reimbursement for All Costs	7
D. Reasonable Spectrum Efficiency Standards Must Be Required for Satellite Services	8
II. CONCLUSION	9

SUMMARY

The American Petroleum Institute (“API”) in Comments filed in this matter offered recommendations to improve the process of reallocating the 18 GHz band for use by the fixed services (“FS”) and satellite services. Many of API's recommendations are similar to those made by other commenting parties, including its proposals that the Commission eliminate sharing with blanket licensees, implement band segmentation for incompatible services, limit sharing of certain compatible services, re-evaluate the need for particular allocations to satellite services, and require grandfathering with reasonable modification and relocation rights that include negotiation provisions and adequate compensation.

API also supports the following views and proposals offered by other participants in this matter: (1) the Commission should adopt a band plan that adequately protects FS spectrum and eliminates further erosion of FS allocations; (2) a sunset of grandfather rights is appropriate, provided that a sufficiently long period of time to sunset is established; (3) principles in the *Emerging Technologies* and *Cost Sharing* proceedings are appropriate for relocated FS facilities; and (4) reasonable spectrum efficiency standards should be required of satellite services.

However, API strongly opposes the suggestions of some commenters that look toward the further reduction of spectrum available for FS use in the 17.7-18.14 GHz and

19.26-19.7 GHz bands. API is also opposed to extending grandfather rights only to existing FS licensees or, in the alternative, that the FCC shift the cost of relocation to FS licensees. These proposals are inappropriate and are contrary to the public interest.

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REPLY COMMENTS
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The American Petroleum Institute ("API"), by its attorneys and pursuant to Section 1.415 of the Rules and Regulations of the Federal Communications Commission ("Commission" or "FCC"), respectfully submits the following Reply Comments in regard to Comments filed in this matter in response to the *Notice of Proposed Rule Making* ("Notice") that initiated this proceeding.^{1/}

^{1/} 63 Fed. Reg. 54100 (October 8, 1998). The date for filing these Comments was extended from November 5 to November 19, 1998 by Order, Chief, International Bureau; November 2, 1998 (DA 98-2231).

I. REPLY COMMENTS

A. The Commission Should Adopt a Modified Band Plan

1. API has reviewed the various band plans described in the comments of other participants; and, as expected, the positions of satellite and fixed services ("FS") interests are incompatible in many respects. Although nearly all commenters supported the concept of band segmentation, there is simply not enough spectrum available to meet the expressed needs of all parties. API is foremost concerned with maintaining primary status of FS in the paired bands 17.7-18.14 GHz and 19.26-19.7 GHz. This paired spectrum is heavily utilized by FS users, including API members, for point-to-point microwave links. Any change in the allocation of one portion of the paired band affects the corresponding portion of the band. It is imperative that the Commission maintain FS as "primary" in these bands to protect the critical operational safety functions performed by petroleum and natural gas companies, and preserve this spectrum for systems relocated from other bands.

2. Three aspects of the Commission's band proposal have a potentially serious impact on API members' use of this spectrum: (1) allocation of the 19.26-19.3 GHz portion of the band to NGSO/FSS on a primary basis; (2) allocation of 17.7-17.8 GHz to BSS on a co-primary basis with FS; and (3) sharing with MSS/FL in the 19.3-19.7 GHz portion of the band.

3. As the Telecommunications Industry Association's Fixed Point-To-Point Communications Section ("TIA-FPTP") explained in its comments, the loss of 19.26-19.3 GHz segment under the Commission's proposal would cause the loss of the corresponding paired frequencies at 17.7-17.74 GHz.^{2/} Similarly, KaStar's suggestion to shift the CARS/PCO allocation down 30 MHz, from 18.142-18.58 GHz to 18.112-18.55 GHz, would result in a loss of 60 MHz of paired spectrum for FS point-to-point services.^{3/} These changes, if implemented, would cause significant and totally unacceptable erosion of already limited FS spectrum.

4. The Commission's proposal for co-primary sharing with BSS in the band 17.7-17.8 GHz is premature, at best. Implementing this proposal would result in the additional loss of the paired frequencies up to 19.36 GHz, due to the difficulties of sharing with ubiquitously deployed satellite earth stations. Many commenters agree that such sharing is unworkable, and would result in a complete loss of this spectrum to FS.^{4/} BSS is currently allocated 400 MHz of unencumbered spectrum from 17.3-17.7 GHz. It seems reasonable that BSS has sufficient time to develop equipment that will meet greater efficiency standards, similar to the development of terrestrial-based HDTV, thus

^{2/} Comments of TIA-FPTP at 13.

^{3/} Comments of KaStar Satellite Communications Corp, *et al.* ("KaStar"), at 10.

^{4/} See, e.g., Comments of AirTouch Communications, Inc. ("AirTouch") at 8-9; TIA-FPTP at 6 and Appendix A at 4-5; and SBC Communications, Inc. ("SBC") at 7.

eliminating the need for an additional 100 MHz of spectrum at 17.7-17.8 GHz.^{5/} Some of the satellite comments go well beyond the Commission's plan in suggesting that new FS users either immediately cease licensing or be designated "secondary" in the 17.7-17.8 GHz band, and grandfathered FS become secondary after April 1, 2007.^{6/} This policy would be catastrophic for FS interests in that the corresponding 100 MHz at 19.26-19.36 MHz would also be lost to FS. API strongly opposes this suggestion because it completely ignores incumbent rights, would result in uncompensated loss of FS spectrum and represents disregard for the needs for additional FS spectrum.

5. Several commenters are in agreement with API that co-primary sharing between FS and MSS/FL in the upper portion of the band may be possible if certain limits are established. First, the number of MSS/FL stations must be limited.^{7/} TIA-FPTP discussed numerous additional requirements that should be adopted, including restricting earth station location to remote areas, 360 degree internal shielding of at least 25 dB for protection from FS transmitters, and elimination of full-band/full-arc

^{5/} Comments of SkyBridge L.L.C. ("SkyBridge") at 3, state that "technologies are simply evolving too rapidly to allow an accurate prediction of what will be the most efficient use of a band of spectrum in 2007."

^{6/} Comments of DirecTV Enterprises, Inc. ("DirecTV") at 9-10.

^{7/} See Comments of AirTouch at 13 (limit number of MSS/FL systems to ten); WinStar Communications, Inc. ("WinStar") at 10 (same).

coordination.^{8/} With these limitations in place, co-primary sharing may be possible. Otherwise, the Commission should consider the option of making MSS/FL secondary to FS in the 19.3-19.7 GHz band, or co-primary with another satellite service such as NGSO/FSS, as suggested by SBC.^{9/}

6. API supports Commission adoption of the band plan proposed by TIA-FPTP. This band plan establishes the most reasonable balance between the needs of FS and satellite services. As API pointed out in its comments, the 17.7-18.14 GHz and 19.26-19.7 GHz bands are needed to satisfy current FS needs, as well as accommodate relocated FS systems from other portions of the 18 GHz band (because of the instant proceeding), and the 1.8 GHz and 2.1 GHz bands. If availability of this spectrum is diminished, it will be nearly impossible to coordinate new facilities, modify existing facilities or relocate systems from other bands. The burden of spectrum reallocation should be borne by all services on an equitable basis which the TIA-FPTP band plan represents. Under the TIA-FPTP's plan, 1120 MHz will be dedicated for satellite services, 440 MHz for CARS/PCO, and 880 MHz for FS.

^{8/} Comments of TIA-FPTP at 15-16.

^{9/} Comments of SBC at 5.

B. The Commission Should Order Grandfather Provisions for Incumbent Fixed Service Systems

7. API supports the adoption of grandfather rights for FS systems in all bands where FS services will no longer be designated primary or co-primary. Grandfathering serves the important purposes of limiting unnecessary disruption of FS and allowing relocation to proceed in an orderly manner. Numerous commenters addressed the issue of what would constitute an appropriate period of time after which grandfathered FS compensation rights would sunset.^{10/} API strongly recommends a period of 15 years, after which grandfathered licensees in the 18 GHz band will become secondary or be subject to relocation without compensation. This sunset period is appropriate in the 18 GHz band, given the normal depreciation of microwave equipment, the long period of time before satellite systems will be fully deployed, and the uncertainty that market demand for 18 GHz satellite services will ever develop. It does not make sense for FS to prematurely vacate the band on the prospect that demand for satellite services will materialize. Satellite services may not need FS spectrum for a period of 10-15 years, but the incumbent should still be compensated for relocation expenses for systems forced to vacate prior to that time.

^{10/} See, e.g., Comments of Teledesic LLC ("Teledesic") at 14 (January 1, 2004); DirecTV at 10 (April 1, 2007); Loral Space & Communications Ltd. ("Loral") at 4; Lockheed Martin Corporation ("Lockheed Martin") at 12-13; Telecommunications Industry Association Spectrum and Orbit Utilization Section ("TIA-SOUS") (April 1, 2007).

8. Numerous satellite commenters have also suggested the Commission grandfather only FS systems that are licensed as of September 18, 1998, and that all applications be dismissed for spectrum where FS will not be either primary or co-primary.^{11/} This is patently unfair to applicants who may have spent considerable time and resources in planning and applying for authorizations, and are merely awaiting coordination and approval, which may take up to several months. In addition, equipment channelized for the 18.58-18.82/18.92-19.16 GHz band is currently unuseable in the 17.7-18.14/19.26-19.7 GHz band, which means that without waiver, only 40 MHz equipment channelized for 1560 MHz spacing would be able to be installed under the proposed licensing restrictions and not be subject to secondary status. For these reasons, API strongly supports Commission adoption of grandfather provisions for applicants for proposed new systems, as well as existing FS licensees in all portions of the 18 GHz band currently allocated to FS.

C. Incumbent Fixed Service Licensees Must be Afforded Relocation to Comparable Replacement Systems and Reimbursement for All Costs

9. Should satellite services determine they need spectrum where grandfathered FS are located, the new entrants should be required to fully compensate incumbents for the full cost of comparable replacement systems, along with associated

^{11/} See, e.g., Comments of Lockheed Martin at 10-11; PanAmSat Corporation ("PanAmSat") at 5-6; Pegasus Development Corporation ("Pegasus") at 7-8; Hughes Electronics, Inc. ("Hughes") at 26-27.

relocation costs, consistent with principles set forth in the *Emerging Technologies*^{12/} and *Cost Sharing*^{13/} proceedings. Teledesic filed comments proposing to erode Commission precedent by compensating grandfathered FS licensees only the unamortized cost of existing equipment plus 2% for engineering and installation, further reducing relocation compensation 33% for each time a license is renewed, and eliminating compensation for equipment replaced after the date of the NPRM in this proceeding.^{14/} The net effect of accepting this proposal would result in shifting nearly the entire cost of relocation to existing licensees. Teledesic's proposals are contrary to FCC relocation policies that have worked well in other proceedings; it must be rejected. If satellite service providers wish to use encumbered spectrum, they must pay the full costs for incumbent relocation to comparable facilities.

D. Reasonable Spectrum Efficiency Standards Must Be Required for Satellite Services

10. API agrees with those commenters that have urged the Commission to impose reasonable spectrum efficiency standards on satellite services.^{15/} Such standards

^{12/} *Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies*, ET Docket No. 92-9.

^{13/} *Amendment of the Commission's Rules Regarding a Plan for Sharing the Cost of Microwave Relocation*, WT Docket No. 95-157.

^{14/} Comments of Teledesic at 11-21.

^{15/} See Comments of GTE Service Corporation ("GTE") at 5-6; TIA-FPTP at 11-12;

(continued...)

will allow satellite services to function with less spectrum than currently demanded, and will ultimately result in lower costs for all spectrum users. FS users have been subject to efficiency standards in many bands which has resulted in accommodating more users in less spectrum. In many cases, proposed satellite services will compete with similar terrestrial based services; for example, wireless Internet appears to be the most promising service offering. Current FCC spectrum policy generally allows flexibility for spectrum use, with the "market" being the determining factor for technology choices. But, permitting satellite services to be spectrally inefficient, while mandating high spectral efficiency for FS systems is tantamount to promoting one service or technology over the other. It might be argued that higher spectral efficiency requirements would increase the cost for satellite operators because of more complex modem design, and so it may. However, this same argument is true for FS equipment. Effective management of scarce spectrum mandates the highest spectral efficiency for all services. While API does not propose a specific standard for satellite services, the Commission should address these issues thoroughly before allocating large blocks of spectrum to satellite services.

II. CONCLUSION

11. API commends the Commission's efforts to balance the interests of fixed services and satellite services in the 18 GHz band. However, in doing so the Commission

^{15/} (...continued)

Fixed Wireless Communications Coalition ("FWCC") at 12-13.

is asked to remain aware of the importance of protecting critical communications systems operated by API member companies and others that promote efficient operations of vital industries and potentially affect public safety. API urges the Commission to thoroughly consider the comments and reply comments filed in this proceeding, with a view toward implementing efficient spectrum management measures that recognize the value of existing and growing terrestrial wireless communications networks as critical to the public interest.

WHEREFORE, THE PREMISES CONSIDERED, the American Petroleum Institute respectfully urges the Federal Communications Commission to act in a manner fully consistent with the views expressed herein.

Respectfully submitted

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