

BEFORE THE
Federal Communications Commission

WASHINGTON, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Redevelopment of Spectrum to) ET Docket No. 92-9
Encourage Innovation in the)
Use of New Telecommunications)
Technologies)

In the Matter of)
)
Federal Spectrum Usage of the) NTIA TR 92-285
1710-1850 and 2200-2290 MHz)
Bands)

To: The Commission

**COMMENTS
OF THE
AMERICAN PETROLEUM INSTITUTE**

The American Petroleum Institute ("API"), by its attorneys and pursuant to the invitation extended by the Federal Communications Commission ("Commission")^{1/} respectfully submits the following Comments relating to the Report of the National Telecommunications and Information Administration ("NTIA") on "Federal Spectrum Usage of the 1710-1850 and 2200-2290 MHz Bands."

^{1/} FCC Public Notice (Mimeo # 22951), dated May 4, 1992. Comments were required to be filed on June 5, 1992 and reply comments on July 6, 1992.

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List A B C D E

I. PRELIMINARY STATEMENT

1. The American Petroleum Institute is a national trade association representing over 200 companies involved in all aspects of the oil and gas industries, including exploration, production, refining, marketing and pipeline transportation of petroleum, petroleum products and natural gas. Among its many activities, API acts on behalf of its members as a representative before federal and state regulatory agencies and legislative bodies. The API Telecommunications Committee is one of the standing committees of API's General Committee on Transportation. The committee evaluates and develops responses to state and federal proposals affecting telecommunications facilities employed in the oil and gas industries.

2. The Telecommunications Committee is API's primary committee concerned with telecommunications regulatory matters. It is supported and sustained by licensees that are authorized by the Commission to operate, among other telecommunications facilities, point-to-point microwave systems in the Private Operational-Fixed Microwave Service (OFS). These telecommunications facilities are used to support the search for and production of oil and natural gas. These systems are also utilized to ensure the safe pipeline transmission of natural gas, crude oil and refined petroleum products, and for the processing and refining of

these energy sources, as well as for their ultimate delivery to industrial and residential customers. The facilities licensed to API's members are thus essential to the provision of our nation's energy sources.

3. API's members utilize operational-fixed microwave frequencies in the 1-3 GHz range to serve a variety of vital point-to-point telecommunications requirements, including communications between oil and gas exploration and production sites, communications to and within refineries, and to extend circuits to pipeline pump and compressor stations. Use of these frequency assignments by oil and gas entities has increased in recent years. The frequency allocation issues under consideration in ET Docket No. 92-9 are therefore of extreme concern to API's member companies. Accordingly, API appreciates this opportunity to submit the following Comments regarding the NTIA Report.

II. COMMENTS

4. The NTIA Report focuses on federal government use of two frequency bands that are currently allocated exclusively for use by federal agencies, 1710-1850 MHz and 2200-2290 MHz. From API's perspective, the most significant and relevant conclusions reached in NTIA's Report are as follows:

a. 1710-1850 MHz

1. There are 5,539 total federal government frequency assignments in this band nationwide.
2. The great majority of these assignments (87%) are in the fixed service.
3. Frequency assignments are increasing at the rate of approximately 400 per year.
4. There is considerable military use of the band for command and control networks, space telemetry, and mobile applications such as airborne telemetry and air-to-air and air-to-ground video and data.
5. The largest concentration of government stations operating in this band occurs in the western portion of the United States.
6. On a state-by-state basis, the heaviest government utilization occurs in the states of California, Arizona, New Mexico, Colorado, Nevada, Texas, and Utah.
7. In the majority of states comprising the continental United States (thirty out of forty-eight), there are fewer than 100 frequency assignments.

b. 2200-2290 MHz

1. There are 2,170 total federal government frequency assignments in this band nationwide.
2. The majority of these assignments (51%) are for mobile operations. Other uses include space tracking and space telemetry.
3. Frequency assignments are increasing at the rate of approximately 80 per year.
4. Approximately 77% of the total use of this band is attributed to the military services. Predominant military uses include satellite telemetry, telecommand and control, and

terrestrial telemetry such as airborne weapons testing, aircraft flight testing and experimental projects.

5. There appears to be no region of the country that has a particularly large concentration of federal stations.
6. On a state-by-state basis, the heaviest government utilization occurs in the states of California, New Mexico, Florida, and Montana.
7. In the vast majority of states comprising the continental United States (forty out of forty-eight), there are fewer than 50 frequency assignments.

5. Based on the information presented in the NTIA Report, API is not in a position to assess conclusively whether the federal government bands at 1710-1850 MHz and 2200-2290 MHz could accommodate emerging technologies. Nonetheless, API does believe that the usage data presented in the NTIA Report strongly suggests that both of these bands could support, on a co-primary basis, non-government terrestrial fixed systems.

6. API believes that the analysis presented in the Report of federal usage in each state of the Union is revealing. Many states have only a very modest number of existing systems in either band. To illustrate, in the entire state of Texas, there are approximately 200 existing facilities in the band 2200-2290 MHz. By comparison, non-government usage of the private radio band at 1850-1990 MHz

tends to be particularly heavy in nearly all portions of Texas. In the city of Houston alone, there are approximately 123 microwave stations authorized in the 1850-1990 MHz band.

7. The number of government assignments authorized for the bands 1710-1850 MHz and 2200-2290 MHz, a combined total of 7,709 stations, pales in comparison to the non-government use of 1850-1990 MHz.^{2/} To further put the government usage in perspective, at the growth rates cited in the NTIA Report, it would take more than 57 years of constant growth for the government's use of the band 1710-

^{2/} API is aware of the recent statements by the Acting Director of NTIA, Thomas Sugrue, indicating that the government spectrum at 1710-1850 MHz is heavily congested. See, e.g., "NTIA Opposes Big Private User Shift to Federal Spectrum," Communications Daily, June 4, 1992. Mr. Sugrue has suggested in his statements that there is a considerable amount of classified military use of the band and that this use is not reflected in NTIA's Report. The Report itself mentions only that "(t)he total assignment count excludes temporary assignments used by the Army to support their area-wide command and control network system." Report, at page 4-3. Without more precise information as to these other non-documented military uses, API is constrained to address the federal government use of the bands 1710-1850 MHz AND 2200-2290 MHz as that use is portrayed in NTIA's Report.

1850 MHz to approximate the current utilization figures for the band 1850-1990 MHz.^{3/}

8. Given these usage statistics, API reaches the inevitable conclusion that the band 1710-1850 MHz is ripe for accommodating a large portion of the private microwave systems which stand to be displaced by the possible reallocation of spectrum in the 1-3 GHz range for emerging technologies. This same conclusion applies with even greater strength to the government band at 2200-2290 MHz.^{4/}

9. In view of the overwhelming disparity in the relative utilization levels for the non-government band at

^{3/} Nationwide, there are more than 29,000 stations authorized for the 140 megahertz of spectrum available in the frequency band 1850-1990 MHz. Since the federal government band at 1710-1850 MHz also amounts to 140 megahertz of spectrum, the comparison drawn between the two bands seems particularly appropriate. The comparison assumes that each "assignment," as that term is used in the NTIA Report, is equivalent to one non-federal frequency assignment or station.

^{4/} To amplify the statistical comparison drawn above, there are 90 megahertz of spectrum available for government assignments in the band 2200-2290 MHz. This band thus contains 64% as much spectrum as the band 1850-1990 MHz. If, for purposes of comparison, the band 1850-1990 MHz were to be reduced to the equivalent of 90 megahertz, and the number of authorized stations in that band remained proportionately the same, the band would be supporting approximately 18,642 non-government stations. This total equates to 16,472 more assignments than for the government's 2200-2290 MHz band. At NTIA's stated growth rate of 80 assignments per year, it would take at least 205 years for the government assignments in the band 2200-2290 MHz to reach equivalency with the current non-government utilization of the band 1850-1990 MHz.

1850-1990 MHz and the two federal government frequency bands discussed in NTIA's Report, API strongly urges the Commission to carefully consider the bands 1710-1850 MHz and 2200-2290 MHz as viable candidates for accommodating the private operational fixed microwave systems which may be displaced from 1850-2200 MHz. From the perspective of the Commission and private microwave licensees as well as potential licensees of emerging technology systems, this alternative offers several significant benefits. First and foremost, the two government bands would afford existing users identical propagation characteristics. As a result, the costs of relocation would be minimal, a factor which would greatly promote the Commission's "buyout" strategy for relocation of existing systems.

10. The designation of 1710-1850 MHz and 2200-2290 MHz as reaccommodation spectrum would also ease the pressure on private and common carrier bands higher in the spectrum, which are already congested in many areas of the country. Because of the current levels of use for the bands 3700-4200 MHz, 5925-6425 MHz, 6525-6875 MHz and other higher bands identified in the Commission's Notice of Proposed Rule

Making in this proceeding,^{5/} coordination of displaced systems may well prove to be difficult in many cases.^{6/}

III. CONCLUSION

11. API believes that the NTIA Report data demonstrates that non-government terrestrial fixed systems could co-exist in these federal bands on a co-primary basis. Both the federal government band at 1710-1850 MHz and the private operational-fixed microwave band at 1850-1990 MHz contain the equivalent 140 megahertz of spectrum. A basic mathematical analysis of use data for these bands demonstrates that federal use, as represented in NTIA's Report, is several orders of magnitude less than private microwave utilization -- indeed, as elaborated earlier, it would take 57 years of constant growth for the federal

^{5/} Notice at paragraph 20.

^{6/} To illustrate just one potential problem, the Comments filed by API in GEN Docket No. 90-314 included an analysis of the potential difficulties in relocating systems in the band 1850-1990 MHz to the common carrier band at 3700-4200 MHz. This analysis concluded that the links at 1850-1990 MHz could not routinely be converted to 3700-4200 MHz simply by changing antenna feeds, waveguide and radios. Rather, with the prevailing level of congestion at 3700-4200 MHz, in many cases it would be necessary to install conical horn antennas to eliminate the threat of harmful interference from existing systems. However, most existing towers used for 1850-1990 MHz systems are not designed to support the bulkier conical horn antennas, and therefore, new and larger towers would likely have to be constructed. These new towers would represent the largest single expense in the relocation effort.

government's utilization of its band to match the private microwave concentration.

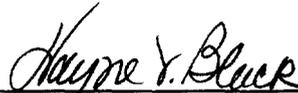
12. Therefore, API urges the Commission to carefully and favorably consider designation of the federal bands 1710-1850 MHz and 2200-2290 MHz as reaccommodation spectrum for private operational-fixed systems that may be displaced from the band 1850-2200 MHz as a result of this proceeding.

WHEREFORE, THE PREMISES CONSIDERED, the American Petroleum Institute respectfully urges the Commission to take further action in the ET Docket No. 92-9 proceeding consistent with the views expressed in the foregoing Comments.

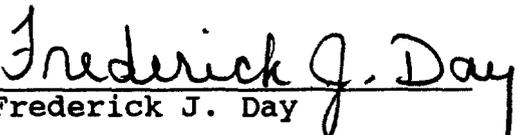
Respectfully submitted,

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