

ORIGINAL

**IMPULSE**

**Impulse Telecommunications Corporation**

12720 Hillcrest Road, Suite 1020  
Dallas, Texas 75230  
(214) 490-8847 • FAX (214) 490-9061

RECEIVED

JUN - 5 1992

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

June 4, 1992

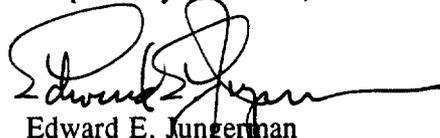
Ms. Donna R. Searcy  
Secretary  
Federal Communications Commission  
Room 222  
1919 M Street, N.W.  
Washington, D.C. 20554

Re: Comments in the matter of Redevelopment of Spectrum to  
Encourage Innovation in the Use of New Telecommunications  
Technologies (ET Docket No. 92-9)

Dear Ms. Searcy:

Enclosed are comments in support of the proposals of the Commission in the referenced matter. We strongly support the Commission's proposal to establish frequencies in the 1.85 to 2.2 GHz band for emerging technologies. Studies that our firm has undertaken on behalf of our clients provide data that validate several of the Commission's key premises in this proceeding. Some of these are summarized in the enclosed comments.

Respectfully submitted,

  
Edward E. Jungertman  
President

EEJ/ss

Enclosures:

Original & 4 copies per the Commission's rules  
5 copies for the Commissioners

No. of Copies rec'd  
List A B C D E

0 + 9

ORIGINAL

Before the  
**Federal Communications Commission**  
Washington, D.C.

RECEIVED

JUN - 5 1992

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

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

To: The Commission

Comments of  
**Impulse Telecommunications Corporation**

Impulse Telecommunications Corporation ("Impulse") hereby submits its comments on the above captioned rule making. We strongly support the Commission's proposal to establish frequencies in the 1.85 to 2.2 GHz band for emerging technologies. We believe that this would not only benefit the American public, it would also help strengthen U.S. competitiveness with other countries.<sup>1</sup> Several studies that Impulse has undertaken on behalf of its clients have resulted in conclusive data that supports several of the Commission's key proposals.

Impulse Telecommunications Corporation is a six-year-old strategic telecommunications consulting and engineering firm. One principle focus of our consulting and engineering practice is the area of wireless personal communications. The firm provides strategy development, market research, business planning, marketing program development, service offering and product definition, network and system-level design and engineering, and PCS experimental program development and management services for clients including major telecommunications equipment manufacturers, carriers and service providers.

These comments in support of the Commission's proposals in this proceeding, uphold the following positions:

---

<sup>1</sup>The compelling national policy considerations mandating the rapid deployment of new wireless services are discussed on pages 1.05 through 1.08 in the *Spectral Zone Coordination: Fast Track to PCN? Strategic Insight Report* described below.

- a. Spectrum sharing has been shown to be technically and economically feasible in the 1850-1990 MHz band and is believed to be technically and economically feasible in the other bands proposed.
- b. The proposal to permit new users to undertake free negotiations with existing users to obtain access to the spectrum is both workable and economically sound.
- c. The 1850 to 1990 band should be allocated for PCN on a co-primary basis, and the other bands should be allocated for other proposed services because of the nature of the public need and the technical requirements of the frequency spectrum needed to accommodate other proposed services.

The basis for these comments is provided below.

### **1. Spectrum Sharing is Feasible**

As evidenced by the reports entitled *Spectral Zone Coordination: Fast Track to PCN?* subtitled *Strategic Insight Report and Engineering Reference and Study Findings*, provided for review by the Commission by Viacom International Inc. ("Viacom"), in conjunction with its Pioneer's Preference filing,<sup>2/</sup> it was determined that spectrum sharing is both technically and economically feasible in the 1850-1990 MHz fixed point-to-point microwave band. These reports are based upon a study which examined, in conjunction with Comsearch who provided the microwave path data base and engineering review, all of the microwave paths in the 299 MSA's in the continental United States. This study identified a limited number of instances on a national basis where there was no remaining frequency for PCN. The expected cost for resolving each of these situations by relocating selected paths to a higher band was determined to be nominal.

The total expected cost for resolution of these frequency blockages on a national basis was conservatively estimated to be less than \$25 million. In the Viacom Pioneer's Preference filing, the estimated cost of resolving frequency blockages in San Francisco was less than \$2,240,000. An actual frequency coordination for relocation of the paths causing the blockage

---

<sup>2/</sup> Viacom International Inc. Request for a Pioneer Preference in Personal Communications Network Services under Docket No. 90-314 (PP-78).

was commissioned by Viacom to be run by Comsearch, and from that analysis, it was determined that the actual cost would be only approximately \$300,000, obviously much less than the conservative cost estimates used in the study.<sup>3</sup>

## **2. Sharing and Negotiated Relocation is Acceptable**

As part of its experimental activity in support of its Pioneer's Preference filing, Viacom conducted interviews with representatives of all but one of the microwave users in the San Francisco MSA. Without exception, the user representatives that were interviewed stated that they would be will be willing to share the band provided that they were protected from harmful interference. In addition, they all expressed willingness to relocate to another band, generally subject to the provision that they be fully compensated for the cost and that they be allowed to approve the equipment and frequency band for the alternate service. This validates the Commission's hypothesis of the acceptability of spectrum sharing and the feasibility of a process of voluntary negotiations between the new licensees and the incumbent users to resolve any conflicts. Furthermore, the sharing methodology incorporated in the Spectral Zone Coordination technology only requires relocation of a tiny fraction of the existing users. This overall process supports the Commission's desire to minimize impact on existing users of the band.

## **3. The 1850-1990 MHz Band Should be Allocated to PCN**

PCN, as used here, means an advanced technology, low power cellular telephone system, with two-way calling, cell-site hand-off, continuous coverage within urban and suburban geographic areas, and enhanced Signaling System #7-based feature sets. Both the Viacom Pioneer's Preference filing<sup>4</sup> and the Spectral Zone Coordination reports<sup>5</sup> describe in detail why 25 MHz should be allocated for each of two PCN service providers (for a total of 50 MHz). Considering the bands that are the subject of this proceeding, only the 1850-1990 MHz is wide enough to accommodate this public interest requirement. However, an initial analysis, although not exhaustive, indicates that the other commonly discussed personal communications services,

---

<sup>3</sup>The basis for the conservative estimates and the actual cost of resolution are contained in the Viacom Pioneer's Preference petition. Op. Cit. Exhibits C and E.

<sup>4</sup>Viacom Pioneer's Preference filing, pp. 18, 47-48.

<sup>5</sup>*Spectral Zone Coordination: Fast Track to PCN? Strategic Insight Report* pp. 2.03-2.05.

i.e., wireless PBX, wireless LANs, CT-2/Telepoint, etc. can be accommodated in the other 20 MHz bands that are the subject of this proceeding.

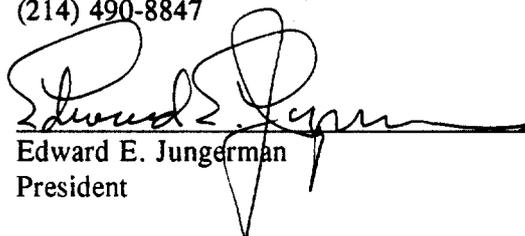
### **Conclusion**

Numerous participants in the various PCS proceedings have testified to the public interest needs that can be satisfied by providing frequencies for new personal communications services on an expeditious basis. The proposals of the Commission in this rule making not only show an intent to meet those needs, but may well be the only way to meet those needs in a timely manner. Research undertaken by Impulse and its clients establishes the validity of these Commission proposals.

For these reasons, Impulse recommends that the Commission adopt the rule making as proposed.

Respectfully submitted,

**Impulse Telecommunications Corporation**  
12720 Hillcrest Road, Suite 1020  
Dallas, Texas 75230  
(214) 490-8847



Edward E. Jungerman  
President

June 4, 1992