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December 20, 1993

Mr. William F. Caton  
Secretary  
Federal Communications Commission  
Room 222  
1919 M Street, N.W.  
Washington, DC 20036

Re: Docket No. 93-235

Dear Mr. Caton:

Enclosed are an original and five copies of reply comments by Forest Industries Telecommunications in the above referenced rulemaking proceeding.

Sincerely,

*James H. Baker*  
James H. Baker  
Executive Vice President

JHB/klc

enclosures: Reply comments for Docket No. 93-235

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Before the

Federal Communications Commission FCC - MAIL ROOM

Washington, D.C. 20554

In The Matter of )  
 )  
Amendment of Parts 15 and 90 )  
of the Commissions Rules to )  
Provide Additional Frequencies )  
For Cordless Phones )

ET Docket No. 93-235

To: The Commission

**Reply Comments of  
Forest Industries Telecommunications**

Forest Industries Telecommunications, hereby respectfully submits these reply comments in response to those filed in the above captioned matter.

**Background**

Forest Industries Telecommunications (FIT) is a national trade association representing the Forest Products Radio Service and for more than 40 years has been recognized by the Commission as the Frequency Coordinator for the Forest Products Radio Service. FIT Has nearly 2,000 members, many of which would be adversely affected by the Commission's proposal. The initial comments of FIT concerning this matter were filed with the Commission on December 1, 1993.

In its comments, FIT highlighted the importance of reliable two-way radio for communication involving day-to-day harvesting activities, pulp and paper manufacturing and primary wood manufacturing as well as the more important function radio fulfills in the event of a forest fire, emergency or life threatening accident.

FIT also pointed out that while most harvesting activity takes place in rural forested areas, these areas are often adjacent to metropolitan areas, contrary to the general assumption of the Notice. FIT explained that the two-way systems employ high powered repeaters and base stations that not only could receive interference from cordless phones on the channels, but could cause disruptive interference to the phone user as well.

The conclusion of FIT was that the addition of a secondary, low power use on primary land mobile, high power channels is not compatible and that to do so will cause serious interference to users and licensees leading to innumerable complaints and dissatisfied users.

### **PLMRS UNANIMITY OF POSITION**

The comments of FIT were strongly supported by the American Petroleum Institute (API), and the Utility Telecommunications Council (UTC). Both of these two national trade associations cautioned the Commission against adopting the proposal, citing the same operational/production and life safety/emergency concerns as FIT. Additionally, they expressed their concern that customer dissatisfaction with the cordless phones will occur as a result of receiving interference from the PLMRS licensees.

The comments of FIT, API and UTC represent the majority of the currently licensed PLMR primary users of the frequencies in question and the concern of cordless phone interference to their systems is valid and realistic, as is their recognition that interference to cordless phone users from the PLMRS licensees. The resulting interference will lead to increased complaints to the Commission Field Offices who will be forced to explain to the cordless phone user that they are powerless to handle the complaint because of the secondary nature of the use, and concurrently will not be able to assist the PLMRS licensee in their legitimate complaint because of lack of staff and resources and the unlicensed, unidentified source. FIT predicts a public relations "nightmare" for the Commission if the proposal is adopted.

### **MOST COMMENTORS AGREE THAT INTERFERENCE WILL OCCUR**

Other parties filing comments included the manufacturers and representatives of the cordless phone industry and various other electronics industry groups. They also fear interference from the PLMRS and to a lesser extent interference to the PLMRS. Additionally, they express fear of interference to television reception due to the 43 MHz frequencies falling in the pass band of a television receiver IF<sup>1</sup>/. The

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<sup>1</sup>Comments of Zenith Electronics Corporation at 1, "...significant potential interference concerns are presented by the proposal..."

Comments of Thompson Consumer Electronics "The conditions most likely to cause interference to occur when a cordless phone is placed or used very near a TV or VCR."

manufacturing's group is so fearful of this occurrence they suggest to the Commission language for warning labels on the cordless telephone equipment. While it is likely many consumers will read these warnings, it is also likely that many will not heed them.

The major concern of FIT, UTC and API is the potential for interference to the PLMRS from the cordless telephone operation and the impact it may cause to the primary service, especially in the event of an emergency. As API pointed out many of their licensees operate within and around major metropolitan areas<sup>2/</sup> and hazardous circumstances can occur at refineries, well heads or distribution facilities<sup>3/</sup>. UTC utilities providing electric-gas-water services to consumers are currently licensed on these frequencies through inter-category sharing<sup>4/</sup>. FIT provided data on ten population centers where forest products licensees heavily utilize the selected frequencies either in or nearby these cities<sup>5/</sup>. While the frequencies may appear to be lightly loaded when compared to "tens of millions" of cordless phones, the loading is by design and necessity, through the cooperative efforts of the respective PLMRS frequency coordinators to ensure the licensees have reliable communications for their daily needs and emergency situations. To add an uncontrollable factor in the form of unlicensed cordless telephones will be to ruin the best efforts of the involved frequency coordinators past 40 plus years work.

### **INCOMPLETE AND INACCURATE DATA ASSUMED BY THE CORDLESS TELEPHONE INDUSTRY**

The comments filed in support of the proposal by AT&T are an excellent example of the level of misunderstanding and incomplete information that the cordless telephone supporters have in regards to the PLMRS use of the selected frequencies. PLMRS licensees do use the frequencies in and around major metropolitan areas. PLMRS usage is not necessarily less at nights and weekends<sup>6/</sup>. Furthermore, to expect the Commission to enforce the definition of secondary operation as AT&T suggests<sup>7/</sup>, is pure fantasy.

Many of the commenters in support of the cordless telephone usage take great pains to explain that the method of automatic channel selection will avoid interference to the PLMRS licensees. Others make unsupported claims that "...cordless telephone

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Comments of Association for Maximum Service Television and Public Broadcasting Service "MSTV and PBS believe that the proposed allocation of the 43-44 MHz band for cordless telephone operation will result in harmful interference to television reception because consumers will often operate cordless telephone base stations in close proximity to home television receivers."

<sup>2</sup>Comments of API at 16.

<sup>3</sup>Comments of API at 3.

<sup>4</sup>Comments of UCT at I.

<sup>5</sup>Comments of FIT at II.

<sup>6</sup>See Comments of American Telephone and Telegraph (AT&T), pages 2-3

<sup>7</sup>Comments of American Telephone and Telegraph (AT&T), page 3

operations will be virtually transparent to the land mobile user"<sup>8</sup>/. The simple fact is, even at low power levels, cordless telephone devices will interfere with the PLMRS licensees. There is absolutely no way to control the placement and operation of cordless telephone devices, some, perhaps many will be in the receiver range of PLMRS stations which often have a sensitivity of 0.5 microvolts which is a power level of approximately -113 dbm. A 25 microwatt signal from a cordless telephone is approximately -27 dbm, leaving a "fade margin" of approximately 94 dbm. Calculated in free space at 49 MHz, a path loss of 94 dbm equates to a potential effective range of well over one mile from the cordless phone to a PLMRS receiver with 0.5 microvolt sensitivity<sup>9</sup>/.

Several commenters cautioned the Commission that a PLMRS station would interfere with the cordless phone system. FIT supports that contention and predicts that the level of interference will be much more severe than the supporters assume. Consider a 100 watt station, base or repeater, which typically would be either located at a high mountain top or on a 200-400 foot tower for maximum coverage. 100 watts equals a power level of +50 dbm. The free space path loss at 49 MHz is approximately 100 db at 30 miles, resulting in a receiver signal strength of approximately 711 microvolts/meter (power level of -50 dbm). Any cordless telephone within that 30 mile radius of the 100 watt transmitter with a receiver sensitivity less than 711 microvolts/meter will intercept and detect the PLMRS signal. At sixty miles, the received signal strength will still be 355 microvolts/meter (-56 dbm). It is suspected that the cordless telephone instruments will have a receiver sensitivity of at least five microvolts or less. The number of potential cordless telephones in a 60 mile radius of a 100 watt PLMRS station potentially could be very significant. They would indeed receive (and have to accept without complaint or recourse) interference from the PLMRS operation.

The potential of interference from PLMRS licensees is acknowledged by the comments of Cobra Electronics Corporation in a departure from the industry line of de minimus interference, professed by the other equipment manufacturers<sup>10</sup>/.

## **FOREST PRODUCTS RADIO SERVICE PREDICTS BUSINESS, LIFE/SAFETY IMPACTS**

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<sup>8</sup>Comments of Uniden at 4.

<sup>9</sup>The comments of the Telecommunications Industry Association (TIA) in footnote 7 estimate the end-of range of the cordless device to be only about 1000 feet (0.2 miles) even under the "best of conditions". While this is true to a certain extent between two cordless devices, with typically a "lossy" antenna it does not take into consideration the fact that most PLMRS systems are installed and optimized for the "best conditions" by installation on tall towers and utilizing gain antennas (between 3-12 db), thus improving the effective receive range. Range reduction is most commonly achieved by the cordless device through an inefficient antenna in the receive mode resulting in a "numb" receiver, however transmit power allowances for these devices are measured at microvolts per meter, at 3 meters from the instrument in the transmit mode (FCC 15.233 c) and it is assumed the manufacturers have optimized their designs to deliver the maximum, or near maximum transmit power.

<sup>10</sup>See Comments of Cobra Electronics Corporation page 3

The Forest Products radio service licensees are sensitive to their "public relations" due to the increasing focus on environmental issues. Having to explain to users of cordless telephones that it is not the fault of the PLMRS licensee when a cordless system is being interfered with, creates an additional public relations burden. In addition, Forest Products Radio Service licensees, being sensitive to the need for reliable communications in the event of an accident or emergency, do not want to be faced with the fact that someone died when a FPRS licensee keyed up and inadvertently interfered with a cordless telephone that was in use, calling 911, resulting in a blocked or failed cordless telephone call.

Given the above scenario, FIT questions whether or not the cordless manufacturers should not first consult with the Consumer Product Safety Commission about the advisability of producing and marketing a communication device that they acknowledge in advance will be subject to interference<sup>11/</sup> and unreliable in an emergency. If the Commission adopts the proposal, FIT respectfully recommends that cordless phones be so labeled to the extent that the consumer fully understands that the cordless telephone is not to be used in the event of an emergency.

Additionally, as indicated in its comments, the American Radio Relay League<sup>12/</sup> quite accurately points out that telephone users "...often treat interference free telephone service as a basic entitlement". Cobra Electronics Corporation<sup>13/</sup> questions the implementation of the automatic channel monitoring system and suggests a thorough study. Disrupted communications on cordless telephones will lead to customer dissatisfaction, complaints to distributors and retail chains and could lead to negative use or growth of the service as a result.

Rather than spending time on trying to foist on the consumer a product that the cordless telephone industry recognizes will (1) receive interference from PLMRS licensees, (2) has the potential to cause harmful interference to the licensed users in the PLMRS and (3) will cause interference to nearby television/VCR receivers. FIT believes the cordless telephone industry would be better off developing a new cordless system in another frequency band without these negative impacts.

#### SUMMARY

The Commission should carefully weigh the existing and important needs of the Forest Products, Petroleum and Power Radio Service PLMRS licensees for reliable communications in the 49 MHz band against the dubious reliability of the secondary usage of these frequencies that is being proposed to simply satisfy the marketing goals of a handful of cordless telephone manufacturers. A thorough analysis of the facts will show that the PLMRS does make effective and essential use of these frequencies throughout all of the US, in rural and populous areas, the potential for interference to

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<sup>11</sup>Comments of AT&T Page 4, Uniden America Corporation at 8, Telecommunications Industry Association (TIA) at 7

<sup>12</sup>See Comments of The American Radio Relay League at 3

<sup>13</sup>See Comments of Cobra Electronics Corporation page 3

the PLMRS is much greater than imagined, the cordless phones will receive much more interference from the PLMRS than initially thought and the FCC does not have resources to effectively investigate and enforce the Rules when it begins to receive the legitimate complaints of the PLMRS from these devices.

For the above stated reasons, Forest Industries Telecommunications respectfully urges the Commission to immediately conclude this proceeding into the Amendment of Parts 15 and 90 by declining to authorize the utilization of 43 and 49 MHz frequencies on a secondary basis for cordless telephones.

Respectfully submitted by:

**Forest Industries Telecommunications**

By: 

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Dated: December 20, 1993