



Industrial Telecommunications Association, Inc.

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May 23, 1995

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

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THIS DATE
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F.C.C.
OFFICE OF SECRETARY

Re: PR Docket No. 92-235; Replacement of Part 90 by
Part 88 to Revise the Private Land Mobile Radio
Services;

DA 95-741; Inter-Category Sharing of Private
Mobile Radio Frequencies in the 806-821/
851-866 MHz Bands

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Notice of Ex Parte Presentation

MAY 24 1995

Dear Mr. Caton:

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

On this date, Mark Crosby, Sharpe Smith and I met with Lisa
B. Smith, Legal Advisor to Commissioner Barrett, to discuss ITA's
policy positions regarding competitive frequency coordination and
the consolidation of radio services in PR Docket No. 92-235. We
also discussed issues already addressed in the ITA's Request for
Clarification filed April 13, 1995 in the Inter-Category Sharing
proceeding, DA 95-741.

With respect to Docket No. 92-235, we discussed matters
relating to the consolidation of radio services addressed in the
enclosed "White Paper."

In accordance with Section 1.1206(a)(2) of the Commission's
rules, I am filing the original and one copy of this Notice of Ex
Parte Presentation with the Secretary's office.

Sincerely,

Frederick J. Day

Frederick J. Day
Executive Director,
Government Relations

Enclosure

No. of Copies rec'd 021
List A B C D E

cc: Lisa B. Smith, Esq.

White Paper
on
Radio Service Consolidation

Industrial Telecommunications Association
1110 N. Glebe Road, Suite 500
Arlington, Virginia 22201
May 23, 1995

Introduction

After almost five years, the spectrum refarming proceeding appears to be coming to a close in the Federal Communications Commission's June meeting. As part of refarming, the FCC proposed consolidating the 19 radio services in the UHF and VHF private wireless spectrum. The Industrial Telecommunications Association has taken a strong stand in favor of radio service consolidation.

ITA, previously known as the Special Industrial Radio Service Association (SIRSA), is the national advocate and service organization for more than 7,800 private land mobile radio licensees. ITA is the FCC's designated frequency coordinator for the Special Industrial Radio Service and the Industrial/Land Transportation Pools at 421-430 MHz and in the 800/900 MHz bands. ITA is also one of three FCC-certified frequency coordinators for the 800 MHz General Category Pool. Through management agreements and affiliations, ITA provides frequency coordination on behalf of the Alliance of Motion Picture and Television Producers, the Newspaper Association of America, the Petroleum Frequency Coordinating Committee and the Telephone Maintenance Frequency Advisory Committee.

The Formation of Radio Services

In 1934 ... the Federal Communications Commission created the Emergency Service (public safety related), Geophysical Service, Agriculture Aviation, Private Coastal, Experimental, Fixed Private and Temporary Services.

In 1937 ... the Federal Communications Commission created the Police, Forestry, Mobile Press and Motion Picture radio services

In 1945 ... spectrum in the 25-44 MHz and 108 MHz to 30 GHz bands was allocated to the Forestry and Conservation, and Utilities radio services. At the end of 1945, the FCC converted the Railroad Radio Service from experimental stature to an official radio service.

In 1946 ... 72-76 MHz spectrum was allocated to the Urban Transit, Power (Utilities) and Petroleum Radio Services, among others.

In 1949 ... the FCC implemented rules governing the Industrial Radio Services. One of those services was the Special Industrial Radio Service, which covered agriculture, heavy construction, fuel oil delivery and specialized services to the petroleum industry. That same year, the FCC created the Land Transportation Radio Services.

In the late 1940s and 1950s ... the FCC began to allocate spectrum in the 150-174 MHz and 450-470 MHz bands to these and other radio services.

In 1958 ... while reducing channel spacing in the 450-470 MHz band, the Commission established the Manufacturers Radio Service. Telephone Maintenance Radio Service and Business Radio Services.

In summary, through the years, six separate radio services were devoted to public safety groups, including Local Government, Police, Fire, Highway Maintenance, Forestry Conservation and Special Emergency. Nine different radio services were created to serve industrial radio needs, such as Power, Petroleum, Forest Products, Motion Picture, Relay

Press, Special Industrial, Business, Manufacturers and Telephone Maintenance. Land Transportation includes four radio services, namely Motor Carrier, Railroad, Taxicab and Automobile Emergency

800 MHz Band Allocation Marks New Private Wireless Era - Allocation Pools

In 1974, the FCC moved away from the multiple-radio service approach and allocated spectrum in the 800 MHz band on the basis of technology. Two hundred channel pairs were allocated for trunked systems and 100 channel pairs were slated for conventional systems. In 1978, the FCC allocated another 50 channel pairs for conventional systems. The 200 channel pairs are now the SMR allocation in the upper portion of the 800 MHz band. The 150 conventional channel pairs are now known as the General Category frequencies and are available to all applicants.

In 1982, the Commission adopted the pool approach which ITA believes provides the model for transitioning the 150/450 MHz bands to efficient spectrum utilization. The agency allocated 250 channel pairs for either trunked or conventional use, with 80 channel pairs designated for specialized mobile radio use, 70 channel pairs for public safety use, 50 channel pairs for industrial/land transportation use and 50 channel pairs for business use. Intercategory-sharing rules were instituted to allow an entity from one radio pool to access frequencies in another pool, if all of the frequencies in the applicant's home pool in the desired area are

already assigned. This policy serves to adjust spectrum-use anomalies between the radio pools and is a self-correcting mechanism.

A similar pool approach was also implemented in the private allocation in the 900 MHz band.

Refarming Sets Stage For New Private Wireless Era - Allocation Pools?

In its Refarming initiative, the FCC has proposed sweeping changes in the Private Land Mobile Radio Service rules. The industry received a plan to introduce digital technologies in the 421-430 MHz, 450-470 MHz and 470-512 MHz bands. The channels in the 72-76 MHz and 150-174 MHz bands would be similarly impacted. Along with increasing spectrum efficiency, the Commission suggested that the current regulations be streamlined. The FCC asked the industry if the current structure of 19 radio services should be consolidated.

ITA, the Council of Independent Communication Suppliers (CICS) and the Telephone Maintenance Frequency Advisory Committee (TELFAC) could not be more in agreement. The radio service decisions that the FCC made over the last 60 years are outdated. ITA, CICS and TELFAC recommend that the optimum number of pools is three for traditional, private wireless licensees, specifically, Private Industrial, Business/General Category and Public Safety. Other "special use" pools, such as a low-power, itinerant use category may also be beneficial to recognize the growing demand for such systems.

Spectrum Allocation Inequities

The evolution of the industrial marketplace has resulted in inequities in the spectrum allocated to the private wireless radio services. In its *Notice of Proposed Rule Making*, the Commission noted that it had studied usage across the 19 radio services and had found disparate system deployment. In a study of its licensing database, the FCC found "very wide variations in usage, often exceeding factors of ten, for channels in the same frequency band designated for different radio services."

Joint Comments in the refarming proceeding, filed by ITA, CICS and TELFAC, said, "Over time, the demand for frequencies in some services has diminished while the demand in other services has increased. The intensity of channel use today varies significantly among the services."

A study of the 1993 FCC licensing database provides proof of the disparities that have evolved over the years (See Appendix). ITA examined the total number of frequencies allocated to each service in the 30-50 MHz, 150-174 MHz and 450-470 MHz bands and compared them with the total number of transmitters in operation in 1993. ITA then computed the average number of transmitters per frequency in each of the nineteen radio services.

The radio service with the most intensive use was Business with 202 total frequencies and more than 21,000 transmitters per frequency. Local Government had in excess of 10,000

transmitters per frequency. Special Industrial ranked third with more than 8,000 transmitters per frequency. As can be seen from an examination of the data included in the Appendix, several radio services had ratios of less than 3,000 transmitters per frequency.

Pooling of Frequencies

The FCC has already consolidated some of the radio services, providing spectral efficiency. For example, Film and Video shares six frequencies with Special Industrial and four frequencies with Relay Press. When individual frequencies are shared by different radio services, frequency coordinators consult with each other before recommending a frequency for use in a given area. To illustrate, the frequency 153.365 MHz is available on a shared basis to users in four different radio services: Special Industrial, Forest Products, Petroleum, and Manufacturers. Before recommending this frequency for use by a concrete company, for example, ITA must obtain the concurrence of the frequency coordinators for the other three radio services that share the frequency. In general, the concurrence process has worked well.

Interservice Sharing Is Not Efficient

The interservice sharing rule, Section 90.176, was adopted by the Commission in 1981. The purpose of interservice sharing was to promote more efficient use of frequencies among the different radio services. By definition, interservice sharing was limited to

situations where there were no satisfactory frequencies available within an applicant's own radio service in the desired area of operation. In such circumstances, a frequency coordinator was permitted to request the use of frequencies allocated to other radio services.

The interservice sharing rule has achieved only moderate success. Three factors have limited its effectiveness:

- 1) administrative encumbrances;
- 2) artificially imposed constraints; and
- 3) the assessment of multiple fees.

The interservice sharing process is inherently cumbersome. When ITA is unable to recommend a suitable frequency allocated to the Special Industrial Radio Service, it undertakes a preliminary inquiry with other frequency coordinators to determine if there are any frequencies in other services that would be available. If the results of the preliminary inquiry are favorable, ITA will notify the applicant and request it to forward a check in payment of the out-of-service coordinator's fee. Upon receipt of the applicant's check, ITA will forward the application and check to the out-of-service coordinator that will be recommending a frequency. This process is inherently time consuming.

There is a vast difference among frequency coordinators in the degree of enthusiasm for interservice sharing requests. Some frequency coordinators seek to discourage interservice sharing by applying very rigid standards when evaluating such requests. Other

coordinators are more receptive. The differences among coordinators in terms of their receptivity to interservice sharing requests limits the effectiveness of the rule and produces inefficiencies in frequency use. Finally, the fact that applicants have to pay an extra coordination fee for the privilege of interservice sharing represents a further impediment to the rule.

In ITA's view, the interservice sharing rule has not worked as well as originally intended due to the inherent inefficiencies in the process.

Competitive Frequency Coordination

A healthy side effect of radio service consolidation is competitive frequency coordination. Historically, one of the chief complaints against the frequency advisory committees was that some of them have monopolies in their radio services. It would seem that applicants or their agents prefer choice. With the marketplace dictating performance from coordinators, the FCC will spend less time and money in its oversight role. In recent years, the Commission has worked hard to encourage competition as a benefit to the consumer.

Another problem with having multiple radio services below 800 MHz is interservice sharing. When all of an area's frequencies are assigned in one radio service, an applicant can access channels in another radio service. However, the applicant must pay the coordination fees of its primary coordinator and of the coordinator of the other radio service's channels.

There may be multiple coordinators for this spectrum, so coordination costs may run higher than necessary. Plus, the process is quite time-consuming. With a pool arrangement and competitive coordination, the inefficiencies of interservice sharing will be eliminated.

Conclusion

In the process of creating regulatory parity between Enhanced SMRs and cellular carriers, the FCC is removing regulatory barriers to foster competition and to benefit public consumption of communication services. Many of the barriers between the 19 private wireless radio services are also no longer relevant in today's marketplace. Even if the 150/450 MHz spectrum were redistributed to revamp the present 19-service configuration, it would become obsolete again, as industrial, business, land transportation and even public safety industries continue to evolve through either individual growth, consolidation or extinction. The viable solution is to simplify and afford maximum flexibility.

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APPENDIX 1

**Private Land Mobile Radio Frequency Allocations By Radio Service
(Figures Shown Indicate The Number of Frequencies
Allocated To Each Radio Service By Frequency Band)**

Public Safety	30-50 MHz	150-174 MHz	450-470 MHz
Local Government	30	58	35
Police	153	66	41
Fire	53	28	24
Highway Maintenance	33	33	19
Forestry Conservation	40	50	19
Special Emergency Medical Emergency	24	18	36
Totals:	333	253	174

Industrial/Land Transportation

Power	64	49	20
Petroleum	77	37	18
Forest Products	59	37	17
Film and Video	0	10	0
Relay Press	0	4	2
Special Industrial	63	25	15
Manufacturers	0	30	24
Telephone Maintenance	2	2	18
Motor Carrier	59	48	15
Railroad	0	91	10
Taxicab	0	14	12
Automobile Emergency	0	15	4
Totals:	324	362	155

Business	39	20	143
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Notes Pertaining to APPENDIX I Frequency Chart

In the 450-470 MHz band, the frequencies are generally used in a paired mode, with one frequency assigned for base station transmissions and another frequency, 5 MHz removed, being assigned to the same system for transmissions by mobile units. This same paired configuration also applies to the frequencies in the 150-174 MHz band allocated to the Taxicab Radio Service. Where the frequency allocations are designed to accommodate paired operations, each pair of channels has been counted as the equivalent of a single frequency.

In counting the number of frequencies allocated to each radio service, the following types of frequencies were excluded:

1. frequencies that are available only in a very limited geographic area, e.g., the frequencies designated by limitation (5) under Section 90.21 and the frequencies designated by limitation (28) under Section 90.67(b).
2. frequencies that are available in a radio service only on a secondary basis, e.g., the frequencies designated by limitation (5) under Section 90.67(b).
3. frequencies that are available only for telemetry operations, e.g., the frequencies designated by limitation (15) under Section 90.73(c).
4. frequencies that are available only for control or radio call box transmissions, e.g., the frequencies 453.025 MHz and 458.025 MHz under Section 90.17(b).
5. frequencies that are available only for a very limited purpose, e.g., the frequency 173.075 MHz, which is available under Section 90.19(d) only for stolen vehicle recovery systems.

APPENDIX 2

Public Safety	Total Number of Frequencies Allocated by Service in the 30-50 MHz, 150-174 MHz and 450-470 MHz Bands	Total Number of Transmitters in Operation (from FY 1993 FCC Annual Report)
Local Government	123	1,327,976
Police	260	1,472,233
Fire	105	787,202
Highway Maintenance	85	300,489
Forestry Conservation	109	316,278
Special Emergency Medical Emergency	78	426,516
Totals:	760	4,630,694

Industrial/Land Transportation		
Power	133	731,369
Petroleum	132	343,207
Forest Products	113	123,141
Film and Video	10	10,622
Relay Press	6	22,563
Special Industrial	103	868,930
Manufacturers	54	293,580
Telephone Maintenance	22	149,061
Motor Carrier	122	182,613
Railroad	101	739,586
Taxicab	26	123,983
Automobile Emergency	19	38,162
Totals:	841	3,626,817

Business	202	4,345,517
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APPENDIX 3

Public Safety	Number of Transmitters Per Frequency Allocated
Local Government	10,797
Police	5,662
Fire	7,497
Highway Maintenance	3,535
Forestry Conservation	2,902
Special Emergency Medical Emergency	5,468
Average:	6,093

Industrial/Land Transportation	
Power	5,499
Petroleum	2,600
Forest Products	1,090
Film and Video	1,062
Relay Press	3,761
Special Industrial	8,436
Manufacturers	5,437
Telephone Maintenance	6,776
Motor Carrier	1,497
Railroad	7,323
Taxicab	4,769
Automobile Emergency	2,009
Average:	4,313

Business	21,512
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