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PUBLIC SAFETY "BACKBONE" ALLOCATION: State, county and local governmental entities of the United States were allocated the equivalent of a nationwide television channel in the 800 MHz band, for the exclusive use of their public safety operations on July 24, 1986 by the Federal Communications Commission.

The FCC's action came in a 4-to-1 vote of the Commissioners in a highly politicized confrontation between public safety and commercial interests over spectrum in the 800 MHz "land mobile reserve bands." The commercial interests, with the active participation of one segment of the National Aeronautics & Space Administration, had mounted an intensive lobbying campaign to get the Commission to earmark the spectrum involved for a "Mobile Satellite Service."

The Canadian government, with the US State Department indicating interest in its position at times, had also pushed for allocation of 800 MHz frequencies for the commercial service.

The satellite interests did not come away from the FCC meeting empty-handed, however, as the Commission allocated a healthy serving of the spectrum for their commercial use -- 27 MHz in the 1545-1559 and 1646.5-1660.5 MHz "L-Band" Aeronautical Mobile-Satellite Service frequencies.

The specific allocation for public safety use is 821-824 and 866-869 MHz -- which is 2 MHz short of the allocation which the public safety interests had urged in the land mobile "reserve" proceedings.

In other decisions made at the July 24 session:

-- The 896-901 and 935-940 MHz bands went to private land mobile services other than public safety.

-- The 901-902 and 940-941 MHz bands were marked for a "General Purpose Mobile Radio Service accessible to all mobile users."

-- Ten megahertz were allocated for cellular radio systems (824-825, 945-846.5, 869-870 and 890-891.5 MHz for non-wireline carriers and 846.5-849 and 891.5-894 MHz for wireline carriers).

-- 4 MHz (849-851 and 894-896 MHz) were held in reserve "temporarily, pending a further proposal to consider the viability of using this spectrum for a variety of possible uses, including terrestrial services such as a basic exchange service for rural use and a possible joint Canadian/US mobile satellite system to be used as an adjunct to an L-Band system."

With respect to the latter, the Commission's initial notice elaborated:

"This would entail negotiations with the Canadian government. . . .However, these negotiations would only be one of the many elements in the ultimate allocation decision. As a general allocation matter, the Commission held that a mobile satellite service should be operated in the L-Band. However, because the Canadian government has stated its desire to provide a system to its citizens which employs some UHF spectrum, out of comity to Canada and because of a long history of bilateral cooperation, it stated it was willing to consider the proposal."

APCO had been one of the principal advocates of the nationwide allocation of the 800 MHz space for public safety, with other organizations joining in the effort including the International Association of Chiefs of Police; International Association of Fire Chiefs; Forestry, Conservation Communications Association; American Association of State Highway & Transportation Officials; Major Cities Chiefs of Police; National League of Cities; Eastern States Public-Safety Radio League; and the Land Mobile Communications Council. Dozens of individual State and local government agencies also supported the effort.

The new frequency spectrum is the largest "block" of channels ever allocated for public safety use on a nationwide basis.

The new frequencies will not be available for immediate assignment from the now-expanded 800 MHz "Public Safety Pool", however. The Commission emphasized in its initial announcement of its allocation action that "this spectrum will be used to develop a National Plan to meet the needs of public safety," and "Details of the National Plan will be addressed in a further proceeding."

This approach is in keeping with the approach advocated by APCO in the land mobile reserve proceedings.

A number of geographic areas of the country are already out of 800 MHz frequencies for public safety operations and some have "waiting lists" for more channels than could be accommodated within the new channels if they were authorized on a "first-applied for, first-granted" basis. The "National Plan" is expected to take into account both existing public safety frequencies and the new channels, to accommodate all public safety requirements now and for a number of years in the future, to the extent possible.

The new public safety channels are being made available on a 25 KHz channel spacing basis, as are the current 70 channels in the frequency-adjacent "Public Safety Pool." On that spacing, the new 6 MHz of Public Safety Pool frequencies will yield 120 new channels, or a total of 190 channels exclusively for public safety use throughout the country.

It is expected that in the areas of most immediate need and urgent shortages the regional planning which will collectively lead to the projected National Plan will necessarily include the contemplated use of channels separated by 12.5 KHz, thus reflecting the availability of 240 new channels in an area, plus the derivation of 70 additional new channels from the existing Public Safety Pool frequencies.

As the Commission's recognized Coordinator for the 800 MHz Public Safety Pool, APCO will be playing a major role in the development of the National Plan and the APCO Frequency Coordination System will be following the National Plan in recommending the use of the frequencies.

It is expected that the Commission will be requiring that the newly available public safety channels be used for trunked radio systems.

A video tape of the FCC's July 24 Agenda Meeting and subsequent press conference will be shown at APCO's upcoming Annual National Conference, August 18 - 21 in Milwaukee and key FCC officials will be on hand to further discuss the matter. These will include FCC Private Radio Bureau Chief Bob Foosaner and FCC Chief Engineer Tom Stanley.

The lone Commissioner to favor the commercial satellite interests over public safety at 800 MHz in the Commission's 4-to-1 vote was Commissioner James Quello, who said he would be issuing a dissenting statement, although that was not immediately available following the July 24 meeting.

Another Commissioner--Mimi Weyforth Dawson--dissented to a brief section of the still-to-be released documents with respect to the 4 MHz being held "temporarily" in reserve.

Of the other Commissioners--Chairman Mark Fowler, Dennis Patrick and Patricia Dennis--two issued separate statements with the initial announcement of the actions.

Chairman Fowler stated:

"Today we are allocating one our Nation's most valuable natural resources--a resource that becomes more valuable everyday. Unfortunately we're giving it away for free and without much of a good sense why. This resource-spectrum-is finite. But the uses to which it may be put are exploding, fueled by technological advance. As spectrum becomes more and more valuable the administrative process as a means of allocating and assigning it becomes increasingly suspect and as the stakes rise so do lobbying energies and expenses. It's as if some people actually believe that the longest string of adjectives like 'essential' or 'critical' or 'vital' somehow constitutes the most compelling public policy rationale for an assignment. 'Allocation by adjective' does not serve any of us well. It is political judgment in a markeplace vacuum.

"What are the alternatives? One is flexibility. Since the current process doesn't give economically relevant information, I think it's important to broaden the scope of services that can use the frequencies and let users provide that information. The frequency holder will have very strong incentives to discover possible uses. And he will generally be able to act faster than we or the politicians.

"Despite these advantages, we are caught in a dilemma. There is, I believe, immediate need for new frequencies. Allocations must be made quickly. At the same time we are shackled by outmoded licensing techniques. I'm persuaded that the drawbacks of assigning licenses through the lottery process, together with the ability to give private and cellular licensees greater freedom, argue against making most of the allocation to a 'flexible service.' For this reason, I support the compromise we have reached. It provides the advantages of the traditional allocation method by meeting the immediate needs of the cellular, private radio, public safety and mobile satellite communities. At the same time, it gives important efficiency benefits of the flexible approach by eventually giving licensees a wider range of technical and mobile uses for channels. I think the inclusion of important doses of flexibility in the definition of the rights we are assigning is, from a long run public interest standpoint, likely to be more important than the narrow uses to which we are allocating spectrum today.

"I also want to take this opportunity to reiterate my plea to Congress to give us legislative authority for auctions. What would the Congress say if the Secretary of the Interior gave away $2 billion in federal lands with oil reserves on them? Would it support harvesting timber on federal lands for free, or the allocation, for free, of the use of national parks for business uses? It is nothing less than a national sin to give away for free this extraordinarily valuable resource -- expecially in these times of fiscal austerity.

"Finally, as to the spectrum we do not allocate today, let me say that, as a general allocation matter, a mobile satellite service belongs above 1 GHz. That is why we've given such a generous amount in the L band. However, for reasons of international comity, I'm willing to consider the use of this valuable UHF mobile satellite use by the U.S. and Canada. I look forward to our discussions."

Chairman Fowler reported that Commissioner Patrick would serve as the Commission's negotiator with the Canadian government. Commissioner Patrick issued the other separate statement --a strong endorsement of public safety's position in the allocation proceedings.

He said:

"The allocations approved today significantly advance the public interest.

"First, it is clear to me that the most compelling case for spectrum from the 900 MHz reserve has been made by the private land mobile community and, in particular, by public safety. Commission records show that during the 5 year period 1979-1984 there has been an average growth rate of approximately 6.5% in the number of authorized private land mobile stations. At the end of 1984, nearly 950,000 authorized stations using almost 8 million transmitters were operating in the private landmobile service. Today, there are now over 1.2 million authorized stations, or an increase of 26% over the 950,000 stations authorized at the end of 1984. Many commenters in this proceeding indicated that in several major cities there are no unused channels available for assignment. By allocating an additional 10 MHz to private land mobile (non-public safety), the Commission is working to help satisfy not only the current shortage of spectrum in the major cities, but also projected future needs.

"I agree with some of the critics that more spectrum is only part of the solution. Private land mobile must implement new technologies and use spectrum more efficiently. For that reason, I endorse the recommendation by the staff to require 12.5 kHz narrowband channeling in the private land mobile (non-public safety) spectrum and trunking on all channels in the SMR pool.

"Similarly, the staff report released last August shows the future telecommunications requirements of public safety to be substantial: after accounting for the effect of new technologies, the report estimates net major projected shortfalls by the year 2000 for the 21 major metropolitan areas. Already, Commission records indicate that 11 of the top cities have no unassigned 800 MHz channels in the public safety pool.

"Congress has directed the Commission to give top priority to public safety when frequency allocations are made. Congress has also directed that we consider the current and future needs of public safety in light of suitable, commercially available equipment and that we consider the need for a nationwide contiguous frequency allocation for public safety. I wholeheartedly agree with the priorities reflected in these congressional directives.

"The 6 MHz block allocated to public safety today specifically meets these concerns. The spectrum allocated is contiguous and, as such, existing equipment can be used and only one radio will be needed to access both the current allocation and the new spectrum. The Commission has also resolved to develop a plan for public safety that uses this spectrum on a nationwide basis. We envision a national plan providing for mutual aid with existing 800 MHz systems and interoperability among local, state and national public safety services. Our goal will be to provide public safety with the communications flexibility it may require to address any calamity or need, regardless of jurisdictional limitations.

"I also endorse the Commission's action today of allocating 2 MHz of spectrum for a General Purpose Mobile Service. While retaining our responsibility to allocate spectrum for broad categories of use, by this action the Commission grants licensees greater flexibility in serving the public. Such flexibility well serves the public interest. The best mechanism for determining the relative value to society of alternative uses of a scarce resource is competition in a free marketplace. In this sense, markets do best what we, at the Commission do worst -- they measure the relative demand. The flexible approach adopted in the General Purpose Mobile Service incorporates market incentives and thereby allows spectrum to gravitate to consumers' most highly valued use. Moreover, flexibility can accommodate different demand in different markets, and the changes in demand that occur from time to time. Fixed and narrow allocations by the Commission, by contrast, are broad and static. They do not accommodate variations in local demand nor changes over time.

"In the General Purpose Mobile Service, licensees will be free to use their assignment for alternative mobile uses. With signals generated by the price system to guide them, licensees should select that mix of services which will maximize the value of the band to society."

Commissioner Patrick's reference to the "interoperability among local, State and National public safety services" is consistent with the work being done by APCO under contract with the Federal Emergency Management Agency.

FCC Chief Engineer Thomas Stanley, presenting an "overview" of the allocation items prior to the Commission vote at the July 24 meeting, pointed out that the staff of his Office of Engineering and Technology "has carefully studied and analyzed the proposed allocations" for a Mobile Satellite Service at UHF and L-Band, and "Our technical and economic analyses indicate that a full complement of MSS services can be offered at L-Band at costs that will be attractive to many potential users."

On the recommendation to allocate 6 MHz to public safety, Dr. Stanley noted that the Commission "in a subsequent proceeding" plans to use this spectrum "in the development of a National Plan to meet public safety's needs." He added that the upcoming item "will address a nationwide channeling plan as well as appropriate technical requirements to maximize efficiency in use of this allocation."

Recapping, the FCC Chief Engineer explained that "the next phase in the disposition of the 800-900 MHz reserve consists of a series of NPRMs along the following lines:

1. A "notice" proposing details of the National Plan for public safety.

2. A "notice" proposing final disposition of the 4 MHz temporary reserve to a variety of possible services.

3. A "notice" implementing the General Purpose Mobile Radio Service.

4. Two "notices" proposing deregulatory actions giving licensees in the cellular area and in the private land mobile area more operational and technical freedom.

He said "We look to the five NPRMs in the Fall-Winter time frame to begin to implement these allocations."

In other sections of its initial public announcement, the Commission said:

"In authorizing additional spectrum for Private Land Mobile Radio Services other than public safety, the Commission noted that the 10 MHz in the 896-901/ 935-940 MHz bands would be divided among three pools as follows: 5 MHz for Specialized Mobile Radio (SMR) systems, 2.5 MHz for Industrial and Land Transportation Radio Services and 2.5 MHz for the Business Radio Service. Interpool sharing among the three will start 36 months after the first radio system license is granted in this band. The FCC also adopted a 12.5 kHz channeling plan with provision of technical flexibility for the 896-901 and 935-940 MHz bands.

"For more efficient utilization of this spectrum, the Commission said trunking on all channels in the SMR pool would be required. Since the efficiency of a trunked system improves with an increase of channels, SMR applicants will be allowed to apply for 10 channels maximum, rather than being limited to 5 channels as was imposed in the last 800 MHz release. Waivers of trunking requirements will be considered on a case-by-case basis for operational configurations shown to be at least as spectrum efficient as trunking.

"In allocating 2 MHz of spectrum for a General Purpose Mobile Radio Service, the Commission said it had proposed such a service as an alternative to allocating 12 MHz each to cellular and private radio services. The alternative would pool the frequencies and permit licensees to use their assignments for any mobile purpose. Although the Commission decided to allocate spectrum for the cellular and private radio services, it determined that the General Purpose Mobile Radio Service had merit. The FCC pointed out that this new service would be economically efficient because use of this 2 MHz of spectrum would be determined by market forces....

"For the 28 MHz of available L-band spectrum, 18 MHz will be shared on a co-primary basis between the Aeronautical Mobile-Satellite Service and the Mobile Satellite Service; 9 MHz is designated as primary for Aeronautical Mobile-Satellite, with secondary operation permitted for Mobile Satellite; and 1 MHz will remain exclusively primary for Aeronautical Mobile-Satellite. Thus, both services may be able to share the same satellite....."

It is anticipated that there will be areas of the country where public safety operations will not require the full 190 (or 380) channels in the 800 MHz band in addition to public safety frequencies lower in the spectrum to meet their foreseeable communications requirements. It is expected that after plans which will meet the full requirements within and adjacent to those areas, have been adopted, any excess space can be released for other (non-public safety) uses.

It is fully expected that these 190 (or 380) channels in the 800 MHz band be the "backbone" of a national public safety communications system and that the local government agencies across the country will in time, if not immediately, migrate to these channels to take advantage of consolidated emergency response communications systems, economy of operation, interoperability, and advanced technical features in equipment possible in this band, and move off the channels lower in the spectrum that they may be now using. One future possibility is that "refarming" of some of the space lower in the spectrum may spur the move to the 800 MHz band.